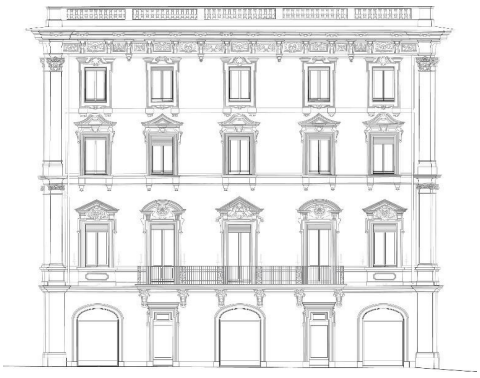
SAPIENZA
UNIVERSITÀ DI ROMA

Safety and maintenance course for industrial systems

A construction site safety plan

Palace saved mellini

Drafted under Art 100 and Annex XI and XV of D. Lgs. 81/2008



Ch.mo Prof. Lorenzo Fedele

A.A. 2019/2020

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1. Work

(point 2.1.2, letter a, paragraph 1, Annex XV of D.Lgs. 81/2008 and s.m.i.)

GENERAL FEATURES OF THE WORK:	
Nature of the Work:	**Opera Building**
Object:	**WORKS OF STRIP-OUT, RESTORATION FACADES AND GEOGNOSTIC SURVEYS IMMOBILE PALAZZO SALVIATI MELLINI**
Presumed Amount of Jobs:	**3,000,000 euros**
Number of companies in the pipeline:	**8 (expected)**
Maximum number of workers:	**100 (maximum alleged)**
Alleged work entities:	**6,250 men/day**
Job start date:	**15/04/2020**
Work End Date (presumed):	**15/04/2021**
Duration in days (presumed):	**360**

SITE DATA:	
Address	**St. Marcello Square 4**
Zip code:	**00187**
City:	**Rome**

2. Client

CLIENT DATA:	
Name:	**Domus Sideris Ltd.**
Address:	**Carlo Mirabello Square 2**
Zip code:	**20121**
City:	**Milan**
Phone / Fax:	**02/76360230**

3. Responsible

(point 2.1.2, letter b, paragraph 1, Annex XV of D.Lgs. 81/2008 and s.m.i.)

Designer:	
First and Last name:	**Starching Ltd.**
Qualification:	**Architect c/o STARCHING Ltd.**
Address:	**Ripa of Porta Ticinese 75 c/o STARCHING Ltd.**
Zip code:	**20143**
City:	**Milan (MI)**
Phone / Fax:	**02/87283000 – 02/87283067**

Director of Works:	
First and Last name:	**Mauro Angeletti**
Qualification:	**Architect c/o STARCHING Ltd.**
Address:	**Via Antoniotto Usodimare 46 c/o STARCHING Ltd.**
Zip code:	**00154**
City:	**Rome (RM)**
Phone / Fax:	**06/57278246 – 02/87283067**
E-mail address:	**mauro.angeletti@starching.it**

Responsible for Jobs:	
First and Last name:	**Stephen Tripepi**
Qualification:	**Engineer c/o STARCHING Ltd.**
Address:	**Via Antoniotto Usodimare 46 c/o STARCHING Ltd.**
Zip code:	**00154**
City:	**Rome (RM)**
Phone / Fax:	**06/57278246 – 02/87283067**
E-mail address:	**stefano.tripepi@starching.it**

Design-time Security Coordinator:	
First and Last name:	**Andrea Maria Peco**
Qualification:	**Engineer c/o STARCHING Ltd.**
Address:	**Ripa of Porta Ticinese 75 c/o STARCHING Ltd.**
Zip code:	**20143**
City:	**Milan (MI)**
Phone / Fax:	**02/87283000 – 02/87283067**
E-mail address:	**andrea.peco@starching.it**

Security Coordinator at run time:	
First and Last name:	**Andrea Maria Peco**
Qualification:	**Engineer c/o STARCHING Ltd.**
Address:	**Ripa of Porta Ticinese 75 c/o STARCHING Ltd.**

Zip code:	**20143**
City:	**Milan (MI)**
Phone / Fax:	**02/87283000 – 02/87283067**
E-mail address:	**andrea.peco@starching.it**

4. Businesses

(point 2.1.2, letter b, paragraph 1, Annex XV of D.Lgs. 81/2008 and s.m.i.)

To be determined during the tendering process.

5. Documentation

5.1. DOCUMENT DRAFTING AND MODALITY

Reference Exhibit 4 PSC Chapter 1 GENERAL CHARACTER INFORMATION p. 5

5.2. SECURITY ADMINISTRATIVE REQUIREMENTS

Reference Exhibit 4 PSC Chapter 8 ADEMPIMENTS AND PROCEDURES p. 32

6. USEFUL NUMBERS

Carabinieri
112

Police
113

Firefighters
115

Aid
118

ASL ROMA 1 (SPRESAL SECTOR SERVICE PREVENTION AND WORKPLACE SAFETY)

Via Fornovo 12, 00192 Rome
Tel. 06/68353063

Electricity ENEL fault reporting Headquarters of (Milan)
Tel. 800 900 860

Design-time security coordinator (CSP) or Assistant Tel. 02/87283000

Run-time security coordinator (CSE) or assistant
Tel. 02/87283000

Director of works
Tel. 06/57287146

Responsible for Jobs
Tel. 06/57287146

Site manager
Tel.

Responsible for prevention and protection
Tel.

7. DESCRIPTION OF THE CONTEXT IN WHICH THE SITE AREA IS LOCATED

(point 2.1.2, letter a, paragraph 2, Annex XV of D.Lgs. 81/2008 and s.m.i.)

The building is located in the municipality of Rome (RM), with access from Piazza San Marcello 4. The building has ate on Piazza San Marcello, Via del Corso, Via del Humility and St. Marcello Street, as well as on the internal courtyard that borders the adjacent church of San Marcello.
The building consists of a basement, the ground floor and five floors above ground and is the subject of a
Permission to build for the change of use from a credit institution to a hotel-accommodation.
The entrances to the property are on Piazza San Marcello, Via dell' Humility and St. Marcello Street.
The building can be reached by rescue vehicles mainly from Piazza San Marcello and Via del Corso

Figure 1. AREA PHOTOPLAN

Figure 2. PRINCIPAL INGRESSO St. Marcello Square

Fig.3. AREA EXTERNAL INGRESSO – St. Marcello Square

Figures4. VIABILITY LIMITROFA CARRABILE – Way of the

Figure 5. PROSPECTUS – Way of the course

Figures6. OUTSIDE AREA – Way of Humility/Oratory Square

Figure of Humility - Way of Humility

Figure 8. FIBER TO REMOVE COUNTERSOFFICTS

Figure 9. CONTROSOFFICTS IN METALLICS SLATS TO REMOVE

Fig.10. FLOOR IN LINOLEUM TO REMOVE

Fig.11. INTERNAL CORTE - Church side of St. Marcello

Figure 12.

Fig.13. INTERNAL COURT GROUND FLOOR (ACCESS TO TANKS)

Fig.14. TERRACE ON THE 4TH FLOOR WITH LIFTS TO BE REMOVED

Fig.15. TERRAZZA ON PLAN 5th WITH RESAST TO REMOVE

Fig.16. FACCIATE ON SAN MARCELLO FROM RE STABILITIES

Fig.17. FACCIATA SU VIA DEL CORSO DA RESTAURARE

Fig.17. FACCIATA SU VIA DELL'UMILTA' DA RESTAURARE

Figure 18. FACADE ON SAN MARCELLO FROM RE STABILITIES

8. SUMMARY DESCRIPTION OF THE WORK

(point 2.1.2, letter a, paragraph 3, Annex XV of D.Lgs. 81/2008 and s.m.i.)

The works inside the property consist of light demolitions and plant removals of strip-outs in preparation for future general renovations of the entire property owned.

DEMOLITIONS AND BUILDING REMOVALS

- Removal of mobile and fixed furnishings
- Removal of internal linoleum flooring (object of previous characterization)
- Removal of elevated internal flooring
- Removal of interior flooring in ceramic and marble material
- Removing ceramic coatings
- Removal of internal hogs of various materials
- Demolition of existing sub-funds
- Demolition of internal masonry partitions and entrance compass (glass and aluminum)
- Demolition of plasterboard walls and moving walls
- Removal of PVC, wood, carpet and similar interior coverings
- Removal of existing ceilings (drywall, metal slats, grills, etc.), natural fiber modules - Removal of internal windows (wooden, glass and metal)
- Removal of sanitation equipment
- Reclamation and disposal of diesel tanks present in the inner cloisters on the ground floor

REMOVALS AND STRIP-OUT MECHANICAL/ELECTRIC SYSTEMS

- Removal of surface (mechanical and electrical) equipment after dissecting lines.

NB: PRELIMINARY ACTIVITIES IN PREPARATION FOR THE EXECUTION OF THIS CONTRACT:

BONIFICHE AND RIMOTIONS OF MATERIAL AND MANUFATTI MCA AND LANE MINERALI (after campaign of investigations on suspicious materials and actual feedback)

- Workplace confinement (on ASL indications)
- Removal of materialsfollowing procedures contained in PDL(art 34 of D.lgs.15)
- Removal of materials removed from the site

He reminds the foster company:

- the need to always carry out appropriate segregation of the areas affected by the activities and the surrounding areas (including the underlying plans if necessary).
- to communicate the measures that will be taken in order to manage the dust lift (in the
  (demolition) both to protect the respiratory system of workers and to protect the external environment

RESTORATION FACADES WITH PLASTERS

- Realization of material withdrawals
- Injections of filler adhesives
- Mechanical removal of consistent deposits of considerable thickness such as black crusts or carbonate layers - plastering of falling layers of plaster
- Pre-packaged lime plastering
- Surface protection by protective product application

RESTORATION FACADES WITH STUCCO

- Injection of hydraulic mortars, stickers or stickers/fillers
- Disinfestation by applying biocide and manual removal of superior vegetation
- Removal of inconsistent or partially consistent and dry-stick surface deposits
- Mechanical removal of depositsby low-pressure water wash
- Microstuccature with mortar in cases of micro-sanitation, microfracture and scaling
- Pre-packaged lime plastering, antique surface veiling
- Surface protection by protective product application

RESTORATION FACADES WITH STONE ELEMENTS

- Disinfestation by applying biocide and manual removal of superior vegetation
- Removal of consistent deposits using moising
- Mechanical and/or chemical removal of grouting performed during previous interventions

EXTERNAL FIXTURES

- Removing existing fixtures
- Installing new fixtures

GEOGNOSTIC SURVEYS

- Outdoor drilling activity (St. Marcello Square) with probe up to 40 ml
- Internal drilling activity with probe up to 20ml

The foster company is required to act in order to protect the windows of existing windows, from accidental impacts due to material handling duringprocessing.

9. SITE AREA

9.1. Concrete risk identification, analysis and assessment

(point 2.1.2, letter c, Annex XV of D.Lgs. 81/2008 and s.m.i.)

9.2. Design and organisational choices, procedures, preventive and protective measures

(point 2.1.2, letter d, paragraph 1, Annex XV of D.Lgs. 81/2008 and s.m.i.)

10. SITE AREA FEATURES

(point 2.2.1, letter a, Annex XV of D.Lgs. 81/2008 and s.m.i.)

The site area related to strip out activities and geognostic surveys will be almost entirely concentrated within the spaces of the property except the area on Piazza San Marcello (for which the occupation of public land has been authorized) in front of the entrance to Civic No.4
For the work related to the restoration of the facades is planned the installation of scaffolding on Piazza San Marcello, Via del Corso, Via dell' Humility and St. Marcello Street with relative demand for public land occupation.

10.1. Airlines

For the installation of scaffolding on the facades overlooking Piazza San Marcello, Via del Corso, Via del Humility and St. Marcello Street, the existing areas related to the public lighting system will need to be taken into account, so a prior coordination with the body that manages this plant will be necessary in addition to the necessary safety checks in favor of the operators who will use the scaffolding.

10.2. Underground and sewerage pipes

At the basement there are load and wastewater and waste lines, fire engines, electrical systems, data and specials.
Within this floor, the work involves extensive demolitions of the screeds and sub-bottoms, so during processing there may be a risk of collision with some plant line. In the event of interference with the features, they must be moved or diverted in advance in order for the underlying areas to be cleared of any kind of impediment. It will be necessary to agree with the operator of the facilities of the property any intervention that is necessary

for the movement or interruption of these lines. It will be the responsibility of the company to check the absence or placement of any sub-services present in the areas undergoing demolition and various removals.

10.3. Materials and "special" elements

Currently there is no mapping of any artefacts containing asbestos (MCA) and possibly carcinogenic mineral wools (FAVs) with a first identification and classification of the substances present.
In this regard, the elements that will be the subject of mapping and investigation by taking samples:

- vinyl flooring/linoleum
- mineral ceilings
- plant insulation
- waterproofing sheaths
- insulated pipes inside quarries that are not visible/reachable today

The company in charge will have the burden of:

- identify those materials
- produce specific relationship
- work plan to be submitted to the relevant ASL for approval (in case of confirmation and classification of hazards of sampled materials)

Before carrying out any processing in the vicinity of harmful materials (asbestos, eternit etc.) the company will have to provide and identify within the contract a specific work plan and consequent procedure of disposal of such materials (to be entrusted to a specialist company with the authorizations to carry out such activity).

Preventive measures and general protective:

1) Asbestos: presence detection;

Organizational Requirements:

Before undertaking demolition or maintenance work, the employer adopts, even asking for information from the owners of the premises, any necessary measures to identify the presence of materials with potential asbestos content.

Regulatory References:

D.Lgs. 9 April 2008 n.81, Art. 248. 2) Asbestos: risk assessment;

Organizational Requirements:

The employer assesses the risks of dust from asbestos and asbestos-containing materials in order to determine the nature and degree of exposure and the preventive and protective measures to be implemented. In cases of sporadic and low-intensity exposures, and provided that it is clear from the risk assessment that the limit value of asbestos exposure is not exceeded in the working environment air, there is no obligation to notify the supervisory body responsible for the territory, the requirement for specific health surveillance and the registration of workers on the register of exposure to carcinogenic substances, for the following activities: **a)** short non-continuous maintenance activities during which work is carried out only on non-friable materials; **b)** removal without deterioration of non-degraded materials in which asbestos fibres are firmly linked to a matrix; **c)** encapsulation and confinement of asbestos-containing materials in good condition; **d)** surveillance and air control and sampling for the detection of the presence of asbestos in a given material.

Regulatory References:

D.Lgs. 9 April 2008 n.81, Art. 249. 3) Asbestos: processing floor;

Organizational Requirements:

The demolition or removal of asbestos work can only be carried out by companies that meet the requirements of Article 30, paragraph 4, of D.Lgs. 5 February 1997, No 22. The employer, before the start of demolition or removal of asbestos or asbestos-containing materials from buildings, structures, appliances and plants, as well as from transport, prepares a work plan. A copy of the work plan must be sent to the supervisory board, at least 30 days before work begins.

Regulatory References:

D.Lgs. 9 April 2008 n.81, Art. 256.

Specific risks:

1) Asbestos;
   Damage to workers' health caused by exposure to dust from asbestos or asbestos-containing materials in work.
2) Inhaling powders, fibers;
   Injuries to the respiratory system and in general to the health of the worker resulting from exposure for the direct use of materials in small grain, powder or fibrosis and/or resulting from processing or operations that result in its emission.
3) Skin irritations, allergic reactions;

Skin irritations and allergic reactions caused by contact with solvents, detergents, cement mortars, resins or, more generally, with substances capable of allergizing actions.

10.4. Technical plants

In the basement there are technical rooms serving all the facilities of the property:

- MT/BT transformer
- central air conditioning system
- thermal power plant
- local counters

Additional plan frameworks are present in each floor of theproperty.

*Specific***risks:**

1) Electrocution;

Electrocution by direct or indirect contact with parts of the electrical system in tension or electrocution due to falling lightning near the worker.

10.5. Neighboring buildings

Around the lot being active there are buildings with mixed use, including the following sectors:

St.Marcello's Church at the Course
Residentialresidenziale
Tertiary services

Preventive measures and general protectivemeasures:

1) Artifacts:
organizational
measures

Organizational Requirements:

For work in the vicinity of artefacts, but which do not directly affectthe latter,ithe possible risk of collision by means of work (cranes, trucks, etc..), must be avoided by appropriate reporting or provisional and protective works. The measures can differ substantially in their design, which must take into account the specific constraints required by the presence of the particular environmental factor.

Specific risks:

1) Fall of material from above or at the level;
2) Investment, tipping;
3) Shocks, blows, impacts,compressions.

11. EXTERNAL FACTORS THAT POSE RISKS TO THE SITE

(point 2.2.1, letter b, Annex XV of D.Lgs. 81/2008 and s.m.i.)

11.1. Roads

The roads surrounding the property are active on an ordinary basis and will not be disrupted.
The primary and main access road to the real estate complex (Via del Corso, Via del Humility, St. Marcello Street) presents promiscuity with the driveway of the construction vehicles.

Preventive measures and general protective:

1) Roads:
organizational
measures;

Organizational Requirements:

For work in the vicinity of roads, the risks of surrounding traffic must be avoided by adopting the appropriate procedures provided by the Road Code.
Particular attention should be given to the choice, given the type of road and local traffic situations, the type and mode of delimitation of the construction site, the most appropriate signage, the type of lighting (at night and in case of poor visibility), the size of the diversions and the type of manoeuvres to be performed.

Regulatory References:

D.P.R. 16 December 1992 n.495, Art.30; D.P.R. 16 December 1992 n.495, Art.31; D.P.R. 16 December 1992 n.495, Art.40; D.Lgs. 9 April 2008 81, Exhibit 6, Point 1.

Specific risks:

1) Investment, tipping;
   Injuries caused by investment by operating machines or as a result of overturning.
2) Shocks, blows, impacts, compressions;
   Injuries to blows, impacts, full-body or hand compressions for contact with tools, tools or manual equipment or as a result of impacts with objects of any kind present on the site.

11.2. Other construction sites and maintenance

At present there is a construction site for renovations in the property overlooking St. Marcello Street and the property covered by this Safety and Coordination Plan.
In this regard, the activities of the two sites will have to be coordinated according to the progress of the activities and the usability of the necessaryareas.

11.3. Third-party meddling in site areas

The driveway gate on The Street of Humility and access from St. Marcello Street constitute further gates to the complex beyond the main one on Piazza San Marcello where there is also the area of public land occupation. These, if not properly manned could result in the entry of unauthorized third-party personnel with the consequent risks to the site (investment, falls, stumbles etc.)

Preventive measures and general protective:

1) Prohibition of access tostrangers.

Organizational Requirements:

The approach, stopping and transit of persons who are not involved in the work is prohibited.

12. RISKS THAT SITE PROCESSING POSES FOR THE SURROUNDING AREA

(point 2.2.1, letter c, Annex XV of D.Lgs. 81/2008 and s.m.i.)

The strip-out work that develops completely within the property does not create risks and direct interference with the activities of the surrounding buildings.

12.1. SURROUNDING AREAS AND PRIVATE SPACES

The processing developed in a mixed-use area (tertiary, residential, place of worship), could create slight interference due to the noise of the processes and the exit of the construction equipment in limited promiscuous areas.
If necessary, it may be necessary to agree with the utilities of the first neighbouring properties (especially for neighbouring residential properties) of the time slots within which work will be carried out that involve high noise and significant emission of dust and fumes (demolition subfonds).

The scaffolding for the work on the facades will have to be equipped with special dust containment sheets on the entire development of thefacades.
Preventive measures and general protective:

1) Noise and dust: organizational measures;

Organizational Requirements:

In relation to the specific activities carried out, all necessary measures must be taken to avoid or minimise the emission of noise and dust.
In order to limit noise pollution, it can be both to reduce the time of use of the noisiest machines and systems and to install barriers against the spread of noise. If the activities carried out involve high noise must be authorized by the Mayor. Dust-forming processes should be used to reduce and contain as close to the source as possible.

Specific risks:

1) Inhaling powders, fibres;
   Injuries to the respiratory system and in general to the health of the worker resulting from exposure for the direct use of materials in small grain, powder or fibrosis and/or resulting from processing or operations that result in its emission.

12.2. SAFE PLACES

Given the presence of neighbouring active buildings, all their safe places should be preserved, avoiding leaving construction equipment in areas that are not allowed.
Linked to this requirement, it underlines the need to ensure the complete usability of all the internal routes used as a VV track. F. (in fire emergencies).
Compared to the above timetable, it is necessary for the company to plan the arrival of the most important vehicles (truck for body load, new supply, etc.) in the early morning hours and still far from peak hours.

Preventive measures and general protective:

1) Noise and dust: organizationalmeasures.

Organizational Requirements:

In relation to the specific activities carried out, all necessary measures must be taken to avoid or minimise the emission of noise and dust.
In order to limit noise pollution, it can be both to reduce the time of use of the noisiest machines and systems and to install barriers against the spread of noise. If the activities carried out involve high noise must be authorized by the Mayor. Dust-forming processes

should be used to reduce and contain as close to the source as possible. In construction activities it is sufficient to moisten the dusty material, segregate the processing area to contain the dust felling in blasting work, for loading silos, the moving air must be collected and conveyed to a dusting plant, etc.

Specific risks:

1) Investment, tipping;
Injuries caused by investment by operating machines or as a result of overturning.

12.3. PEDESTRIAN ROUTE DISRUPTION VIA DEL CORSO

A phase of the construction site will include the installation of the scaffolding on the Corso Road. To allow this, it is necessary to temporarily stop pedestrians from passing at the pavement below the scaffolding for the only time necessary for the first assembly of the same and secured. Apart from more restrictive requirements (provided by the local police and emergency services, special assembly times, etc.), it will be necessary to divert the path of pedestrians by temporary yellow horizontal signage on the oppositepavement.

Preventive measures and general protective:

1) Site fence, access and signaling: organizational measures.

Organizational Requirements:

Access to the areas corresponding to the site must be prevented by a robust and long-lasting fence, equipped with signs recalling the prohibitions and dangers.
When the full fence is virtually un achievable due to the nature of the environment or the extension of the site, it is necessary to at least provide barriers and signals at any access routes to the prohibited area and fences at fixed workplaces, facilities and depots that may pose danger.
For construction sites and workplaces which have a progressive extension, road construction sites must be taken measures that follow the progress of the work and include, depending on the case, material means of segregation and signalling, or, men with the function of signallers or supervisors.
Fences, barriers, signposts, signs and protections must be of a nature that are constantly visible. If natural lighting is not sufficient, they must be artificially illuminated; Lighting must still be provided for the night hours.

Specific risks:

1) Inhaling powders, fibers;
2) Investment, tipping;
3) Fall of material from above or at the level.

13. DESCRIPTION HYDROGEOLOGICAL FEATURES

(point 2.1.4, Annex XV of D.Lgs. 81/2008 and s.m.i.)

Due to the small number of current light demolition operations and the current absence of excavations to be carried out, hydrogeological features do not adversely affect site activities.

14. SITE ORGANIZATION

14.1. Concrete risk identification, analysis and assessment

(point 2.1.2, letter c, Annex XV of D.Lgs. 81/2008 and s.m.i.)

14.2. Design and organisational choices, procedures, preventive and protective measures

(point 2.1.2, letter d, paragraph 2, Annex XV of D.Lgs. 81/2008 and s.m.i.)

The foster company will also be able to propose alternative solutions that improve on the basis of its technical and organizational choices and on the basis of the equipment and means used that it intends to use.

14.3. Identifying and coding existing plant lines

The foster company, before the start of the strip-out work will have the burden of verifying the type of installations present in the property distinguishing between:

ACTIVE PARTS

- MEDIUM/LOW VOLTAGE ELECTRICAL SYSTEMS, DATA NETWORKS, WATER AND FLUID ADDUCTION, FUNNELS

DEACTIVATED PARTS

- MEDIUM/LOW VOLTAGE ELECTRICAL SYSTEMS, DATA NETWORKS, WATER AND FLUID ADDUCTION, FUNNELS

In view of the verification of this, the company will have to highlight the results of the mapping carried out with the results of these plant analyses. This process will be necessary and binding in order to proceed to the correct work sequence to carry out the removals and demolitions planned in the project.

14.4. Contaminated materials MMMF and ASBESTO

At present, there is no specific mapping of elements containing asbestos, asbestos and dispersal fibres.
However, given the date of construction of the property, however, some elements and component parts that may contain parts that can be classified as "dangerous" and that will have to be treated, removed and disposed of according to specific "work plan" can be reported.

- vinyl/linoleum flooring with related gluing maches
- mineral ceilings
- plant insulation
- waterproofing sheaths
- insulated pipes inside quarries that are not visible/reachable today
- Intumescent plaster on metal beams

Verified and confirmed the actual hazard of the materials by analyzing the withdrawals made and assigning the respective classification, The foster company, before carrying out all the demolitions and demolitions planned contractually, will have the burden of preparing through company/specialist firm in the sector registered to the disposal and waste management category 9 and 10 B, an in-depth analysis of the above materials and harmful/carcinogenic artifacts/elements that will be removed and/or cleared.

The *UNIDENTIFIED STATE* of the transit of other operators/companies not directly involved in the clean-up/disposal operations in both processing areas and temporary storage sites is reiterated. They will have to be confined and segregated according to the legal procedures. The specific phase (with possible and further finds of contaminated artefacts, additional inspections of the ASL, etc.) as best specified in the note relating to the specific work item of the GANTT, could result in lengthening of some related work phases and consequent time changes of the general work program.

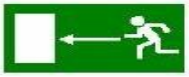
The resumption of the remaining activities in the previous areas will only be able to resume as a result of the positive certificate of the release of the environments by the ASL or as a result of the positive feedback of the environmental analyses carried out (from the laboratory authorized by the institution or directly by the specialist company if in possession of the required requirements).

14.5. General signage planned at the site

The signage must be compliant with D.Lgs. 81/08 (formerly 493/96) in particular by type and size. The signs should be arranged so that there is no excessive concentration and in a position of full visibility. If necessary (e.g. at night) the signals must be equipped with emergency lighting, in

order to be clearly visible in all circumstances (signals indicating transit routes or specific hazards and/or operational means at rest ref. external fence and perimeter to the property). The main signs are as follows:

CARTELLO					
INDICAZIONE	vietato sostare o transitare nel raggio di azione della autogrù	vietato sostare o transitare nel raggio di lavoro della macchina	divieto di accesso al personale non autorizzato	divieto utilizzo fiamme libere	divieto di gettare materiale dai ponteggi
COLLOCAZIONE	area posizionamento autogru	area cantiere	ingresso cantiere	presso depositi - stoccaggio materiali	presso i ponteggi
N° PREVISTI					

	[S1] Divieto di accesso alle persone non autorizzate.		[S9] Calzature di sicurezza obbligatorie.
	[S2] Vietato ai pedoni.		[S10] Guanti di protezione obbligatoria.
	[S3] Carichi sospesi.		[S11] Protezione obbligatoria del corpo.
	[S4] Pericolo generico.		[S12] Passaggio obbligatorio per i pedoni.
	[S5] Pericolo di inciampo.		[S13] Protezione obbligatoria del viso.
	[S6] Protezione obbligatoria per gli occhi.		[S14] Percorso/Uscita emergenza.
	[S7] Casco di protezione obbligatoria.		[S15] Percorso da seguire (segnali di informazione addizionale ai pannelli che seguono).
	[S8] Protezione obbligatoria dell'udito.		[[S16] Estintore.

14.6. Site fence and access control

The construction site fence will be built with the following type:

Modular panels in the zinc mesh mesh on concrete perforated plinths for the remainder of the site perimeter in the area on Piazza San Marcello, subject to public land occupancy authorization.

The type of fence will have to be left in place even after the end of thestrip-outactivities.

Further site closures (of the temporary type for interdiction of operator passage) can be carried out by wooden carpentry, pallets and plastic chains for any temporary delimitations of the interior floor rooms.

The protruding corners of the permanent perimeter fence should be properly highlighted using white and red stripes painted at full height.
At night, the fence will be highlighted by red perimeter lights, powered in low voltage (max 24 V).
IMPORTANT NOTE:
Before the vehicles are spilled from the site area, the correct loading methods should be checked in order to eliminate the risks of falling materials on public road and the propagation of dirt resulting from what is removed (traces of oils, calnacci powders, etc.)

14.7. Toilet care

Toilet
For this purpose, after confirmation of the availability of the toilets already present inside the property (orientively a bathroom block for each floor) is identified. Clearly, before all the blocks (removal of plants and sanitary equipment for the time-based progress of the site per floor) the company will have to prepare an adequate number, based on the maximum number of operators on site, of external chemical services.
The minimum amount of services is 1 toilet pot for every 10 operators present and washbasers in the size of one appliance for every 5. Under UNI EN 16194, which has been in force since 12 April 2012, the provision should be provided where possible for every two floors.

SERVICES
The areas intended for the site's dressing room, an area used for eating meals, can be identified internally. As per the floor plan in the early stages of the construction site, these have been located as they have all the

sanitary requirements (natural airing, paving surface, etc.). They can then be moved as the site progresses. In the dressing area, first aid facilities must be maintained at the site: first aid box, dressing package. First aid boxes should also be distributed in multiple locations near the main processing areas.

UFFICI OF CANTIERE On the ground floor, the area with a footfall on Piazza San Marcello, Via del Corso and Via del Humility that will not be the subject of any processing, will be intended to accommodate the construction office (which will have to be equipped with lighting, driving force and air conditioning/cooling even temporary).

FIRE EXTINGUISHERS AND FIRE EXTINGUISHERS
Each floor must necessarily be served by at least 4 fire extinguishers that are easily accessible according to ongoing activities. The contractor will have to guarantee for the duration of the site the maintenance and maintenance of the same. The hydrants in the stairwells on each floor should always be protected from damage and reachable for possible extraordinary emergencies.

14.8. Accessibility and main roadway of the site

Pedestrian access to the building of the construction staff will take place from the street of Humility from the access manned by the guardian, while the driveway access will be in the area on Piazza San Marcello (subject of O.S.P.) as per identification in plan. This will avoid mixing and promiscuity between construction equipment and construction site personnel in the entrance on foot.
The driveway should be opened only at the time of entry and exit of the vehicles and necessarily manned in order to eliminate the risk of intrusion by third party personnel.

Periodically, a check of the health of site surveys (including a driveway gate) must be carried out by constant verification.

Pedestrian viability
The main pedestrian access of the construction site will be via humility.

Timing and mode for relevant storage of materials, inbound or outbound equipment will have to be agreed, in order to minimize possible interference during the most critical time slots (part of the surrounding streets).

It is therefore advisable to carry out such movements in the early morning hours in accordance with the pre-existing constraints.

Preventive measures and general protective:

1) Site fence, access and signaling: organizational measures;

Organizational Requirements:

Access to the areas corresponding to the site must be prevented by a robust and long-lasting fence, equipped with signs recalling the prohibitions and dangers.
When the full fence is virtually un achievable due to the nature of the environment or the extension of the site, it is necessary to at least provide barriers and signals at any access routes to the prohibited area and fences at fixed workplaces, facilities and depots that may pose danger.

2) Access of material means of supply: organizational measures;

Organizational Requirements:

Access to material supply. Access to the means of supply of materials must always be authorised by the foreman who will provide the appropriate drivers with information about any hazards present on the site. The contractor will have to identify supervisory staff during the supplier's stay on site.

3) Main site viability: organizational measures;

Organizational Requirements:

Access to the construction site. Routes must be provided for access to the construction site and, where controlled and safe means of access are needed, separated from those for pedestrians.
Traffic rules. Within the construction site, the movement of vehicles and self-propelled cars must be regulated with rules as similar as possible to those of traffic on public roads, the speed must be limited depending on the characteristics and conditions of the routes and vehicles.
Security features. Roads must be able to withstand the transit of the means of use, with adequate slopes and curves, and be maintained constantly in satisfactory conditions. The width of the roads and ramps must be such that a franc of at least 0.70 metres is beyond the maximum footprint of the vehicles. If the franc is limited to one side, pitches or shelter niches must be made at intervals of no more than 20 metres from each other.

Specific risks:

1) Investment, tipping;
   Injuries caused by investment by operating machines or as a result of overturning.

14.9. Electrical, water, gas, etc.

DRIVING FORCE SYSTEMS

Given the nature of the works to be carried out inside, and the limited absorption of the various equipment used within the site, the company will have to equip itself with its own electrical system of construction site, dislocating main QEG upstream of the plant and asC-derived paintings and accessories in sufficient numbers in the various floors of the buildings. The possibility of connection to the existing electric cab in the basement should be assessed.
Additional plan singers or main ASCs may therefore be deployed in order to enable the activities to be fully autonomous.

As a matter of this, all plug-ins on the site will have to comply with the EEC Euronorm specifications (CEI 23-12), with the following minimum degree of protection:
IP 44, against the penetration of solid and liquid bodies
IP 67, when used outside

All components of the site's electrical system (machinery, equipment, cables, electrical panels, etc.) must have been built in accordance with the rules and, therefore, must bear the marks of the relevant Certification Bodies. In addition, the assembly of these components must also be carried out according to the correct rule of art. Once the site is ready, the company will have to issue a design and compliance certification signed for subsequent approval and maintenance of the site in the site offices.

The construction and maintenance on electrical systems and devices must be carried out exclusively by companies or specialized personnel.
The protective devices against indirect contacts will have to or stop the circuit so that contact and step voltages do not occur, both inside and outside the user's system, above the limits of the CEI Standard table.
The distribution of conductors or electrical cables will follow special installation conditions; In particular, they:

- they do not have to be of the flying type to avoid the dangers of shearing (preferable to positioning with bracketing in a high position);
- must have adequate section in relation to the distance, the currents to be transmitted to the utilities, in relation to the possible currents of overload

and short circuit, in relation to the protective devices installed and in relation to the permissible voltage drops;
- they must be equipped with insulation between phases and towards land along the route in relation to environmental conditions;
- they must be protected against damage with appropriate metal covers when passing through heavy goods vehicles;
- flame must be self-extinguishing in the event of a fire.

GROUND SYSTEMS AND ATMOSPHERIC DISCHARGES

All metal masses located inside the site must be connected to the main ground plant, and in particular:
- metal structures that can be put on the ground in the event of a failure (ref. external site platform)

The main elements that make up the ground plant are:
- dispersers;
- the ground conductor; its section will respect the minimum size:
- 50 mm2 for iron or galvanized steel conductors (rods, saucers),
- 16 mm2 for copper conductors;
- protective conductors;
- Giunzioni.

A ground plant must be set up on site in full compliance with CEI 64-8 (user electrical systems) and CEI 81-1 (protection of structures against lightning) with the following characteristics
- The plant will be verified, and maintained in perfect efficiency over time through checks of qualified personnel
- the currents of failure and dispersion will be sustained without damage.

Grounding systems and atmospheric discharge protection devices will be reported to the ISPESL site responsible for the appropriate checks to be carried out on site by their technicians.

LIGHTING SYSTEMS

The site areas will need to be illuminated by suitable power light points located in the immediate vicinity of the service modules and along the fence. The lighting system must also be set up inside the buildings and internal quarries in order to ensure adequate lighting of escape routes from the property (especially stairs and escape routes to the outside).
These plants, in the different areas of the construction site, will have to be built taking into account the environmental characteristics and sized according to the voltage, power and distance of the delivery point.

SITE WATER SYSTEMS

The supply of drinking water is possible by linking to an existing drift near the site. Existing toilets are already connected to a sewage collector to public sewerage.
Derivatives of the water system will have to be prepared with at least 2 water points per floor, in order to allow the spraying of rubble resulting from construction demolitions (walls, screeds, plasters and materials similar to the white ground). A further and suitable spraying plant will have to be placed in close proximity to the driveway accesses in order to be able to clean the wheels of the construction vehicles before the exit to the public external roadway.

OTHER IMPLANTS

The site does not require fuel gas or any other gas supply lines.

14.10 Ground and atmospheric discharge protection systems
The property is equipped with the atmospheric discharge protection system with regular complaint and approval (mod. At 34333 on 12/18/91) and connected to the grounding system (mod. B 72591 of 18/12/91).

14.11. Site Logistics Areas
The site logistics will be able to contemplate (ref. plans):

- areas intended for storage of the removed materials (provisionally located on the ground floor pending permanent removal)
- possible use of mini-gateways for internal removals
- Alternative installation of possible lifts/site platform or similar equipment for vertical handling of bulky materials
- installation of conveyors to dump rubble down
- equipped areas inside the property to be used for dressing room, toilets, canteen for operators and construction offices

The storage areas of special materials (ref. big-bag bags containing MCA or FAV) must be delimited and marked by appropriate signage. Access should be restricted to authorized staff and provided with all IPR provided. Fences and protections will have to be installed to prevent someone from accidentally coming into contact with such materials.
The storage of highly flammable or fire-prone or sudden fires or triggers should be placed far from other flammable materials and possibly placed in areas at low risk of fire propagation and away from areas exposed to persistent sunlight (ref. combustible cylinders and oxygen used to cut

through flames and oxycetilenic barrels). These depots should be inaccessible to workers if not to those involved in their use and handling.

On the ground floor there will be the placement of containers for the different materials to be removed (building part unloaded by conveyors separate from the mixed one moved mainly with external lifts).
The placement of the same should not involve interference between pedestrian and emergency routes even if waiting for the final load for removal for the subsequent delivery to the PPs. DD. The site must be supervised by specially trained personnel and to record and control the access of vehicles and operational personnel. It is therefore planned to place a guardian at the entrance of the site from the street of Humility.

PRESIDIO REAL ESTATE CONSTRUCTION SITES

In order to ensure the supervision of all work areas and the fulfilment of all obligations and burdens of monitoring and verification of the safety conditions of operational areas, the appointment of a unique supervisor who will relate to the CSE for ordinary coordination meetings is required. In addition to the ordinary obligations to which the supervisor will have to refer, in possession of the appropriate certificate of training, he must:

- Check the timetable of the general work of the site and the respective detail programmes for the safety of the activities in view of the possible interference between different companies
- coordinate any spatial interference that might occur with regard to the external storage of the materials and their handling
- share any operational procedures or alternative proposals for activities that need to be

14.12. General requirements for strip-outs
Outside of the next specific points, prior to the beginning of general activities, the foster company will have to issue a "removal programme" and separate working procedures for the type of activities that will have to be implemented and consider the following:

- check the conditions of preservation and stability of the structures on which any operational means will be used.
- As a result, the necessary strengthening and proping works must be carried out in accordance with the prior technical report signed by a licensed technician.
- the areas below the mechanized removals (e.g. screeding) should be pre-emptively banned, delimiting the area with special confinements
- pre-remove all ceilings at altitude in order to check for any movement of the slab prompted by the dynamic load of the minimacchine used

- absolute prohibition on throwing demolition material from above. Instead, it must be transported or conveyed in special channels whose lower end must be less than 2 metres above the level of the collection floor.

On the basis of these operational guidelines and requirements, the company will have to draw up a specific chapter of the POS which will describe:

- chronological order of removal operations
- collective protection devices to be installed
- training methods of all companies present on any requirements or prohibitions to be respected
- planned means and machines

During the loudest processing, the contractor will have to make all subcontractors operating in neighbouring areas edible and provide additional otoprotectors and any additional IPR that is necessary.

Specific risks:

1) Fall from above;
   Injuries due to falls from above due to loss of stability of the balance of workers, in the absence of adequate preventive measures, from a work plan to another place at a lower altitude.
2) Fall of material from above or at the level;
   Injuries caused by the investment of masses dropped from above, during the operations of transport of materials or by fall of the same by provisional works, or at the level, as a result of demolition by explosive or thrust by shattered materials projected at a distance.
3) Slips, drops at the level;
   Injuries due to slips and falls on the worktop, caused by the presence of grease or dirt on the footholds and/or poor conditions of the workplace or pedestrian traffic and/or the poor brightness of the working environments.

14.13. Operational requirements demolitions below

In order to proceed safely with the demolition of the sub-bottoms, the following preventive requirements are issued:

- The company, before starting the demolitions, will have to carry out a test wise/sample in order to verify the behavior of the same (extraodosso - intradosso with possible disfling) due to the vibrations induced by the equipment used.
- Check the maximum loads on the attic in the event of the insertion of vehicles used for demolition (ref. means type BROKK 50, mini-pallets for collecting rubble, etc.). In this case, the company will have to draw up a structural report on the use of the means accompanied by a check

between the maximum scope of the attic and induced loads with the consequent props of the case that would be necessary.

- In the case of confirmation of the use of the machines, prefer the use of wire-controlled electrical power vehicles as they are more easily manageable in terms of handling and absent exhaust fumes.
- All possible operational minimums will have to work with reversing beacon and gyrocomited to signal the operation, obligation to segregate the operating area.
- To prepare to build a system of wooden carpentry (wooden morals and wooden carpentry) to protect the perimeter of the existing facades from the risk of contact with the operational arm of the demolition vehicles with consequent risks of rupture and fall materials. It is reported under a standard diagram of what to be realized that will serve as a preventive barrier/deterrence for the above risks. The barrier will have to be installed in operation, removed and reassembled depending on the areas of intervention of the operating vehicles towards the facades. The foster company will be able to provide alternative solutions.
- Before the start of the demolitions, all accesses and remaining gates that allow entry to the worktop and the corresponding one below must be blocked. Only a gap should be left for the entry of the conductors of the mini-packages on which must be appropriate signage of prohibition of access and mobile segregation.
- During the demolitions should ***BE ALWAYS*** banned and left free the underlying floor by staff and processing given the possible risks of attic dig or consequent fall of materials through technical quarries or openings of the slab present.
- Pre-emptively and during the demolitions, the rubble should be constantly sprayed in order to avoid the shedding and propagation of dust to the outside of the building.
- Constantly move away the piles of rubble generated by the demolitions in order not to overload the attic.
- Cover the body with towels in order to avoid the propagation of dust outwards caused by the height and speed of fall.

Figure 20.

Preventive measures and general protective:

1) Demolitions: storage and evacuation ofdebris.

Organizational Requirements:

Ensure that debris and rubble are properly storage and evacuation.

Regulatory References:

D.Lgs. 9 April 2008 No. 96.

Specific risks:

1) Fall of material from above or at the level;
   Injuries caused by the investment of masses dropped from above, during the operations of transport of materials or by the fall of the same by provisional works, or at the level, as a result of demolition by thrust explosive by crushed materials projected at a distance.

14.14. Equipment Storage Zones

The storage areas of the equipment will be located on the countertops. In case of relevant weights these will have to be stored on the ground floor.
If external, the storage areas will be appropriately segregated and delimited.

*IMPORTANT*NOTE:

Any use of equipment used for part of the demolition of the internal trappings (referring to any radio-controlled electric mini-excavators re-re-operated by BROKK 50, mini-pallets for collecting and moving rubble and the like) will have to be evaluated on the basis of:

- weight ofequipment;
- assessment of the range of the slab on which the equipment will have to pass and consequent dynamic load induced by theequipment;
- available room for manoeuvre andwalkability;
- areas that are not safe and subject to possible operationalrisk.

Operators who may be able to use such equipment will have to be fit and trained for this purpose through specific certificates.

14.15. Bridges and platforms

There may be limited scaffolding to perform removal tasks at altitude.
The documentation for scaffolding on site can be summarized in:

- Ministerial authorisation;
- Executive design of the same;
- PIMUS;
- Verification of correspondence between the executive design, the constitution in operation and the possible minutes of the delivery of the same to its subcontractors.

The use of any winches for lifting/descending materials can only be allowed after verification and anchoring design (on specific metal castelles or structures independent of perimeter scaffolding).
The placement of these should in no way compromise the stability of the scaffolding installed.
The company may provide or propose the use of site lift platforms (external of the closed/open type ALIMAK, MABER or similar on trellis) used to transport result materials (mainly of large capacity and range) from the upper floors up to the ground floors.
On this arrangement, the company will have to provide:

- mode and design of the anchor provided on thefacade;
- tearing evidence of the fixing tiling provided on thestructure;
- declaration of correct installation of the machine;
- training minutes for proper use (released byinstaller).

*Preventive measures and general protective***measures:**

1) Bridges: organizational measures;

Safety features: **1)** Metal scaffolding must be set up to perfection, according to the manufacturer's instructions, with authorized material, and be stored in efficiency for the duration of the work; **2)** Metal scaffolding may be used in accordance with the ministerial authorisation for which the stability of the structure is ensured, i.e. structures: a) up to 20 m from the sideburn support floor to the extras of the highest worktop; b) comply with the type patterns in the authorization; c) comprising an overall number of scaffolding no higher than expected in the type schemes; (d) with anchors in accordance with those provided in the authorisation and on the grounds of at least one for every 22 sqm; (e) with overall overhead no larger than the one considered in the stability check; (f) with links blocked by activating security devices; **3)** scaffolding which does not meet even one of the above conditions does not guarantee the level of security required in the ministerial authorisation and must therefore be justified by additional calculation documentation and executive design drawn up by an engineer or architect registered on the professional register; **4)** all metal elements of the scaffolding must carry the manufacturer's mark, embossed or engraved.

Prevention measures: **1)** scaffolding, together with all other measures necessary to eliminate the dangers of falling people and things, must be foreseen in the works carried out at a height of more than two meters; **2)** in relation to the places and the available space it is important to assess what type of scaffolding to use that best suits; **3)** by establishing, as a whole, a real complex structure, scaffolding must have a solid support plane and adequate resistance on which the struts with simple or adjustable sideburns, effective means of connection, sufficient anchorage, have full stability; **4)** distances, provisions and reciprocal relations between the components of the scaffolding must comply with the manufacturer's instructions that appear on the ministerial authorisation; **5)** the scaffolding, whether made of wooden boards or metal boards or different material, must be put in place according to the ministerial authorisation and in full (for other information refer to the cards "intangulation", "parapets", "parasassi"); **6)** above the service bridges is prohibited any storage, except the temporary one of the materials and tools in use, whose presence must not hinder the movements and manoeuvres necessary for the course of work and whose weight must always be lower than that provided by the degree of resistance of the scaffolding; **7)** The scaffolding scaffolding must be accompanied by a clear indication of the maximum permissible load conditions; **8)** Metal scaffolding is subject to verification with respect to the risk of atmospheric discharges and, if appropriate, must be protected by special descents and dispersals of land; **9)** For metal scaffolding, the

provisions relating to wooden scaffolding apply, however applicable. However, some exceptions are allowed such as: a) to have the height of the struts that exceeds at least 1 meter the last scaffolded; b) have a parapet no less than 95 cm in height compared to the decking; c) have a foot stop not less than 15 cm in height compared to the decking; **10)** fixed scaffolding (e.g. metal) is allowed to detach no more than 20 cm from the masonry.

Executive Requirements:

Fixed metal scaffolding: prohibitions. It is forbidden to climb or descend along the struts from the scaffolding.

Regulatory References:

D.Lgs. 9 April 2008 No. 125; D.Lgs. 9 April 2008 No. 126;
D.Lgs. 9 April 2008 No. 128;
D.Lgs. 9 April 2008 No. 138.

2) Goies and catwalks: organizational measures;

Organizational Requirements:

Safety features: **1)** must be set up with good material and to perfection, be sized in relation to the specific needs of walkability and scope and be stored in efficiency for the entire duration of the work; **2)** must be no less than 60 cm in width if they are intended for the passage of only people and 120 cm if intended for the transport of materials; **3)** the maximum allowable slope must not exceed 50% (height equal to no more than half the length); **4)** Long distances must be interrupted by rest landings at appropriate intervals.
Prevention measures: 1) towards the empty walkways and goies must be equipped with railings and footboards, in order to protect against the fall from the top of people and material; **2)** on the boards that make up the decking should be fixed cross laths at a distance no greater than the pitch of a loaded man (about 40 cm); **3)** if they are set up near scaffolding or in any case in conditions that are exposed to the danger of falling material from above, they must be properly defended with a safety scaffolding above (parasassi).

3) Argani: organizational measures;

Organizational Requirements:

Motor winches must be equipped with higher extra running devices; It is forbidden to operate electric switches by ropes or rods of all kinds. Hand-operated winches or winches for heights of more than 5 metres must be equipped with a device to prevent the load from falling downhill. The ropes and chains of the motor winches must be calculated for a safety load of no less than 8.

Specific risks:

1) Fall of material from above or at the level;
   Injuries caused by the investment of masses dropped from above, during the operations of transport of materials or by fall of the same by provisional works, or at the level, as a result of demolition by explosive or thrust by shattered materials projected at a distance.

14.16. Loading and unloading areas and operating modes

The loading and unloading areas will be located partly within the floors of the property (only for temporary depots waiting for convoy at the bottom) and partly on the open court to the church of St. Marcello. The company, on the different floors, will have to concentrate the storage areas close to perimeter masonry or structural parts in such a way as not to affect the structural stability of the existing floors. The outer areas will be segregated and delimited by the site caesareans.
The loading and unloading of the materials will be made through the use of a possible external platform to be installed *(at the expense of the contractor).*.
Manual transport of loads is allowed up to a maximum of 25 kg per person, after evaluation of the type of load to be handled.

MATERIAL DISPOSAL INDICATIONS

As per floor plan, in order to avoid interference due to the promiscuity of the different operators used in the movements, two distinct areas are expected:

- handling debris from building demolitions (floors, sub-bottoms, etc.)
- handling bulky materials using platform/lifts or alternative machine

The foster company will be able to assess the installation of the rubble conveyors anchored with a special tube-joint retention system by directing the elements to the bins.

The foster company will be able to provide and present for approval further proposals on different ways of unloading and conveying the removed and demolished materials.

There should be a clear and clear distinction for the storage of removed materials that will have to be divided by:

- type of rejection (according to ERC code);
- materials that are bulky and require possible further separation into smaller parts that can be transported or additional sorting of division.

Prior to the use of the temporary storage areas, the contractor will have to carry out the necessary checks of the scope of the structures in anticipation of the loads that it plans to increase on the insoles. The remaining storage of materials and waste may be temporarily placed in the areas inside the lot but properly marked.

Alternatively, it will be possible for the contractor to propose alternative technical solutions regarding logistical and operational methods for the storage of rubble that involve a significant increase in load (if it confirms the use of ordinary rubble bins (about 12 mc) and mixed waste (about 25 mc) rather than vehicles with smaller load capacity.

MATERIAL DISPOSAL INDICATIONS

The type of materials removed will be mainly classified in:

- construction (concrete screeds, brick plots and the like)
- various panels and internal partitions (drywall, wood, etc.)
- any suspicious materials (ref. MCA or similar) with how to bestow and dispose according to specific work plan
- textiles, pvc, plastics, etc.)

For the most dominant part (construction) resulting from the production of mixed rubble, the methods of disposal and drop to the ground, could be provided according to the following operational technical possibilities (see example photographs):

- Installation of conveyors of rubble anchored in a special vertical scaffolding castel erected for this purpose (at part of the facade of the building) or by the construction of internal slots on the floors (at the pillars but without compromising the structures such as beams). The rubble can therefore be

discharged by merging all plastic conveyors and arriving at a body located inside the ground floor.

- Possible suction of the rubble by machines of the type suck.
- External closed/open lift platform of suitable scope (type HALIMAK or similar) that will have to be installed compatible with the development of scaffolding and on the sides of the buildings on the basis of the main sides of the demolitions. In this case, segregation of all sides of the plan is required, which may expose workers to the risk of falling from above. The installation of the floor gate (open only in the presence of the waiting platform) will allow the operator to disembark on the lift without incurring the risk of falling from above.

All its possibilities require that the rubble be preemptively moistened and sprayed withwater.
The foster company will be able to propose alternative solutions on the basis of its organizational capacity and the organization of demolition logistics. The choices will therefore be shared with the DL and CSE also in terms of environmental mitigation.

Whatever the way the materials are unloaded, vertical movements of the resulting materials must be properly coordinated so as not to create interference between moving equipment and pre-existing fixed systems. In any case, protruding loads or in precarious stability conditions will not be allowed to fall to the ground.

In advance of the investigation activities provided, the contractor will have to draw up a site layout reporting:

- how to install any equipment used to unload the rubble
- location of machines and fixed equipment
- dislocation of areas destined for separate dumpsters by type of waste
- dislocation of the areas used for temporary unloading of materials and separate storage areas for subsequent removal from the site

In order to maintain the site, and especially the external areas in the ordinary cleaning conditions, it is recommended that the entrusted company to provide constant planning of collection and disposal of waste distinct by type. At the weekly technical meeting, the handling and removal phases will have to be verified by specific programme.

Fig.21. SCARRABILE CASSONE FOR SCARICO MACERIE

Figure 22. SUCTION MECHANIZED DEBRIS

Figure.22. OUTER PLATFORM OF CANTIERE

14.17. Construction GANTT SEQUENCEs

As from GANTT site the disposal, asbestos remediation, MCA and mineral wool activities
(only*if found during activities*) they must have a time precedence compared to the others provided as they arespatially binding (ASL opinions and prescriptions, etc.). At present, there is no evidence of the amount of harmful elements that can be assimilated as special waste to be disposed of, so timing could result in time changes..

SPACE INTERFERENCE ANALYSIS

There is no major spatial interference between the activities carried out inside the property. The simultaneous activities on the same property's floors may also be provided as long as the following requirements are preserved and complied with:

- spatial distinction of activities (although these are different types of works). It is therefore envisaged that the plans may be physically segregated (through fences or similar with mirror and symmetrical division of the plan) in order to avoid the mixing of operational personnel in certain prohibited areas
- under the underlying floor of personnel if demolition or dismantling is carried out in the upper floor
- joint coordination of how to remove rubble and removed materials (e.g. use of site platforms on trellis)
- joint coordination on the rubble/material stacking spaces in the ground spaces (moving external means of the construction site for the delivery of materials to be removed)

14.18. Trabattelli

As mentioned above, it is pointed out that the activities to be carried out at altitude will necessarily have to be carried out through the use of traps at the expense of simple or double scales (as these are NOT considered as workstations), except for several specifications and motivated requests and to be shared with the CSE with risk assessment and scope of use of them by the foster company.
The possible use of the stairs, endorsed by the CSE, should be carried out as per guidelines (refer to the clear guidelines Lombardy Region according to the Decree General Health No. 1819 of 05/03/2014 "guidelines for the use of portable stairs in temporary and mobile yards").

Preventive measures and general protective:

1) Trabatelli: organizational measures.

Safety features: **1)** Tower bridges on wheels must be built to perfection, using good material, be fit for purpose and be maintained in efficiency for the duration of the work; **2)** stability must be guaranteed even without the deactivation of the wheels - regardless of whether or not the bridge is grafted - up to the height and for the use to which they can be used; **3)** if stability is not ensured at the same time as mobility - that is, wheels need to be deactivated to ensure the balance of the bridge - bridges, even if on wheels are part of the ministerial authorisation rules, as they are comparable to fixed metal scaffolding; **4)** must have a base wide enough to withstand, with a large margin of safety, the loads and oscillations to which they can be subjected during travel or by wind blows and so that they cannot be overturned; **5)** the maximum height allowed is 15 m, from the support floor to the top floor; the bridges built according to the latest standards of good technique can reach the height of 12 m if used inside the buildings and 8 m if used outside the buildings; **6)** With regard to the flow rate, there may be no lower loads than is normally indicated for metal scaffolding for construction work; **7)** the bridges must be used exclusively for the height for which they are built, without additions of superstructures; **8)** On the base element there must be a plaque with the data and the salient features of the bridge, as well as safety and use indications to be taken into account.

Prevention measures: **1)** Bridges must be equipped with stabilizing feet; **2)** The wheel slide plane must be compact and level; **3)** with the bridge in place the wheels must always be blocked by the two parts with suitable wedges, with stabilizers or equivalent systems; **4)** the bridge must be equipped with the base of the device for the control of the horizontality; **5)** To prevent the installation, a device must be provided to the grafting of the vertical, current and diagonal elements; **6)** The scaffolding must be complete and well-established on the supports; **7)** the protective parapet that delimits the worktop must be regulated and accompanied on the four sides of the foot plate at least 20 cm high or, if provided by the manufacturer, cm 15; **8)** Regulatory hand scales must be used for access to the various decking floors. If they are longer than 5 m and a tilt of more than 75 degrees, they must be protected with a backline, except to adopt a system of protection against falls from above; **9)** passing trapdoors are allowed for access, as long as they can be re-opened with a practicable lid; **10)** outside and for considerable heights, the bridges must be anchored to the construction at least every two floors.

Specific risks:

1) Caduta of materials from above or at the level;
Injuries caused by the investment of masses falling from above or at the level present in the settlement area of the construction site.

14.19. Emergency management services

All workers on site, through **a report** to be drafted and retained by the supervisor and/or foreman, must be aware of the procedures to be implemented in the event of an emergency, i.e.:

- location of escape routes;
- person to call for help and coordinate first aid, preferably the foreman;
- location fire extinguishers, first aid box, facilities to be intercepted.

Evacuation of the site in case of emergency.
For each workstation it is necessary to identify an "escape route", to be kept free of obstacles or impediments, which staff can use for normal circulation and in case of emergency.

The absolute requirement to remove any obstacles, materials removed and results that prevent the normal use of emergency routes remains.

During the construction phase, the contractor will have to share the EP (Evacuation Plan) with all subcontractors.
If changes in the ordinary emergency routes are to be implemented, during weekly coordination, alternative solutions must be shared in such a way that the plans for the evacuation of the plans under operation must always be ensured.

It will therefore be *oneRE TO THE CHARGE OF THE AFFIDATARIA* THE constant update of the evacuation and emergency management plan to be properly submitted to all its subcontractors. The update should include:

- GRAPHIC PLANS OF THE VARIOUS STRIP-OUT FLOORS (TO BE HUNG IN VISIBLE AND ACCESSIBLE AREAS)
- REFERENTS TO CALL EMERGENCY AND EVACUATION CASES

- DESCRIPTIVE PRESCRIPTIONS

2:20p.m. Tower cranes

The site layout indicates the location of the construction cranes, respecting the initial position for the construction of the basements.

The localization of the same was designed to minimize the possible interferences or constraints that might be found in the continuation of activities.

Removals, distinct at 2 different times, can be carried out when there are no longer the conditions of continuous use or for technical needs of completion of the neighboring areas.

Before using site cranes, it is necessary to draw up an equipment coordination plan containing the minimum elements:

- identification of harnesses
- Site area layout with identification of allowed and prohibited handling areas
- communication between the two crane operators in the event of simultaneous handling of loads

It may also be possible to use self-propelled cars for the handling of certain materials or equipment that may not be moved by construction cranes (limited courses).

In this case, joint coordination should be carried out with the requirements of operational precedence between the lifting means.

IMPORTANT NOTE:

Before defining the final location of the crane, the company will have the burden of technical checks in such a way as to correctly size:
- type of crane adopted (on a bandwagon/interlocking on a plinth);
- under-pressureheights;
- run and length crane arm;
- ground carrying compared to the loads generated by thecrane;
- maximum range on the basis of the reach of thesame;
- atmospheric discharge protectiondevices.

to avoid any possible operational interference with obstacles and towards neighbouring buildings (considering a free rotation for 360 degrees).

Preventive measures and general protective:

1) Cranes: organizational measures;

Checks of the support plan. The area on which the crane is installed, and any rails for the translation, must meet the following checks:

a) flatness check;
b) stability check (there should be no subsidence under the loads transmitted by the machine);
c) drainage (no stagnation of rainwater at the base of the machine should be detected).

Fence at the base of the crane.

1) for cranes with top rotation, fixed position or moving on rails, if the distance between the crane's footprint and any fixed obstacles is less than cm.70, the passage with appropriate barriers will have to be prohibited;
2) For fixed cranes with rotation at the base, solid railings will need to be prepared around the plinth no less than 1 m from the range of the machine.

Electrocution risk. In the vicinity of overhead power lines and/or power lines, it is mandatory to respect the safe distance from the most protruding parts of the crane (consider the maximum footprint of the load including the possible oscillation): if it is not possible to respect this distance, it will have to challenge the electricity regulator, in order to carry out appropriate precautionary measures (screens, etc.).

Fall of material from above. Lifting and/or transport operations must take place without the passage of suspended loads above workstations or public areas. If this is not possible, the passage of suspended loads will be announced by the appropriate beeper alert.

Interfering cranes. If there are two or more cranes on the same site and/or nearby construction sites, they must be positioned in such a way as to avoid possible collisions. If this is not possible, at least the following requirements must be met: a) the crane arms will have to be staggered, in order to avoid collisions between structural elements, taking into account even the maximum oscillations; b) the cranes should be mounted at a reciprocal distance greater than the sum between the arm of the highest one and the counter-brake of the lower one, in order to prevent contact between the arm, the ropes or the load of one and the counter-brake of the other.

Specific risks:

1) Fall of material from above or at the level;
2) Atmosphericdischarges.

2:21p.m. Mounting external windows

MOUNTING NEW WINDOWS
The installation of the new windows planned in the project (mainly windows and window doors) can be carried out without special constraints of precedence of one floor over the other. *The necessary condition, however, is the presence of an external perimeter scaffolding that guarantees protection against the risks of falling from above until the window has been secured at the masonry.*
For the fixing phase at the external masonry, the operators engaged will be predominantly 2-3 (one on external scaffolding and one on the attic of the inner building with a windowing accompaniment function also through manual suctions and carrying out work in height on the trabat).
As reported above, this case involves the installation of window doors and windows, resulting in risks of falling into the void generated by the net wall that will be covered.
The manual type of window to be installed will necessarily have to be carried out by hand with an adequate number of operators considering that in maximum handling load per operator is about 25 kg per operator.
Operators employed in the placement and fixing of new windows should always be equipped with category III IPR and suitable restraints anchored to certified anchor points.
Each area of the facade, corresponding to the installation points, must be temporarily prohibited in its lower part, to the passage of the staff as it is subject to risks of falling materials from above.

Due to the complexity of the phases and the arrangements that will actually be put in place by the contractor and its subcontractors, additional and detailed procedures are required to be approved by the CSE in order to allow it to begin.

Preventive measures and general protective:

1) Developable platform: preventive and protective measures.

EXECUTIVE REQUIREMENTS:
Before use: **1)** check the position of power lines that may interfere with manoeuvres; **2)** check the suitability of the routes; **3)** check the operation of the manoeuvres on the platform and lorry; **4)** Check that the platforms are equipped with parapet on all sides towards the vacuum.

During use: **1)** place the tank on solid ground and in a horizontal position, controlling with the level or pendulum; **2)** use the appropriate stabilizers; **3)** maneuvers must be performed with the controls placed on the platform; **4)** climb or descend only with the platform in the resting position; **5)** when traveling bring to rest and evacuate the platform; **6)** Do not overload the platform; **7)** Do not add superstructures to the platform; **8)** the area below the operating area of the basket must be properly delimited; **9)** use individual fall protection devices, to be connected to the appropriate attacks; **10)** report any serious malfunctions in a timely manner; **11)** refuel with the engine off and do not smoke.

After use: **1)** properly position the vehicle by bringing the platform into a resting position and activating the parking brake; **2)** Always leave the machine in perfect efficiency, taking care of its cleaning and maintenance according to the manufacturer's instructions.

REGULATORY REFERENCES:

D.Lgs. 9 April 2008 No. 70;

D.Lgs. 9 April 2008 81, Exhibit 5;

D.Lgs. 9 April 2008 81, Exhibit 6.

Regulatory References:

D.Lgs. 9 April 2008 81, Title 4, Head 2, Section V.

SPECIFIC RISKS:

1) Fall of material from above or at the level;
2) Fall from above;

15. PROCESSING AND THEIR INTERFERENCE

15.1. Concrete risk identification, analysis and assessment

(point 2.1.2, letter c, Annex XV of D.Lgs. 81/2008 and s.m.i.)

15.2. Design and organisational choices, procedures, preventive and protective measures

(point 2.1.2, letter d, paragraph 3, Annex XV of D.Lgs. 81/2008 and s.m.i.)

15.3. SITE PREPARATION

The processing is divided into the following Phases and Subphases:

a) Realization ofconstruction;
b) Slicing existing plant lines.

15.4. Realization (phase)

Construction site formation, consisting of:

- equipment needed to carry out the work safely
- fences for perimeter of the construction site
- creation of new routes for transit means, limited removals and modifications necessary to external areas to allow the transit of vehicles in driveways
- construction of the new driveway gate
- installation of conveyors modules for dumping rubble
- any rentals for scaffolding, lifting winches
- protection of the remaining areas
- construction of the site's electrical and water supply system (supply points for each worktop).

POSSIBLE INSTALLATION SITE PLATFORM

Mounting electrical platform lift site for vertical handling of materials, equipment and people. Expected location at the construction drive ramp.

*IMPORTANT**NOTE:*** During the activity, a complete ban on the corresponding underlying area is required because it is occupied by materials and parts that are installed and the corresponding floor portions are required to remove a facade window. During the operation, operators will have to use DPI of category III with a fixed parking lanyard (maximum length of 1.5 m) in order to allow only the prevented fall. Provide for attic anchorage (A1 class certified eye for UNI EN 795) at a

distance to allow the correct use of the reported IPR. Provide for the proper protection of the equipment supply cables and the placement with brackets to the masonry in order to avoid the dangers of shearing and consequent electrocution.

On this installation, the company will have to provide:

- preventive checks for anchor points to the facilities
- training minutes for use issued to authorized personnel by the machine supply
- manual of use platform installed, general certification of laying and anchoring system.

Machines used:

1) Truck;
2) Truck with crane.

Risks generated by the use of machines:

Vibrations; Shocks, blows, impacts, compressions; Noise.

Engaged workers:

1) Responsible for the construction of the fence and access to the construction site;

*Preventive and Protective Measures, additional to those in the next***chapter:**

a) DPI: operator of the construction of the fence and access to the construction site;

Organizational Requirements:

Appropriate individual protective equipment must be provided to the worker: **a)** helmet; **b)** gloves; **c)** tight-lied glasses; **d)** dust mask; **(e)** high-visibility clothing; **(f)** safety footwear with an unforgivable sole.

Risks to which the worker is exposed:

Noise.

Tools used by the worker;

a) Manualtools;
b) Simple scale;
c) Circular saw;
d) Corner grinder (flexible);
e) Electricdrill.

Risks from the use of tools:
Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Fall from above; Manual handling of loads; Electrocution; Inhaling powders, fibers; Slips, drops at the level; Burns.

2) Worker for the construction of an electrical construction site;

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: operator of electrical construction on the site;

Organizational Requirements:

Appropriate individual protective equipment must be provided to the worker: **a)** helmet; **(b)** electric gloves; **c)** safety shoes with a slip sole and unforgivable; **d)** seat belts.

Risks to which the worker is exposed:

a) Electrocution;
b) Noise;
c) Vibrations.

Tools used by the worker:

a) Simple scale;
b) Electric drill;

Risks from the use of tools:
Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Fall from above; Manual handling of loads; Electrocution; Inhaling powders, fibers; Burns.

3)Responsible for the construction of water facilities of the sanitation and sanitation of the site;

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: operator of the construction of water system of the sanitation and sanitation of the site;

Organizational Requirements:

Appropriate individual protective equipment must be provided to the worker: **a)** helmet; **b)** gloves; **c)** protective goggles; **d)** safety shoes with an anti-slip and unforgivable sole; **(e)** goggles or safety visor; **(f)** otoprotectors.

Risks to which the worker is exposed:

a) R.O.A (welding operations)

Tools used by the worker:

a) Manual tools;
b) Simple scale;
c) Electricdrill.

Risks from the use of tools:

Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Fall from above; Electrocution; Inhaling powders, fibers.

15.5. Sectioning existing plant lines (phase)

Encoding existing plant networks, securing them and possibly dissecting lines in transit within strip-out areas.

Networks to dissect:

- Driving force system
- Lighting system
- Special fire-fighting systems
- Water and water-health systems
- Shutdown systems (technical rooms)
- Air conditioning system

Engaged workers:

1) Worker for the construction of an electrical construction site;

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: operator of electrical construction on the site;

Organizational Requirements:

Appropriate individual protective equipment must be provided to the worker: **a)** helmet; **(b)** electric gloves; **c)** safety shoes with a slip sole and unforgivable; **d)** seat belts.

Risks to which the worker is exposed:

a) Electrocution;
b) Noise;
c) Vibration.

Tools used by the worker:

a) Manual tools;
b) Mobile scaffolding or trabattello;

c) Electricdrill.

Risks from the use of tools:
Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Fall from above; Fall of material from above or at the level; Manual handling of loads; Electrocution; Inhaling powders, fibers; Burns.

2) Operator for the construction of the site's water system;
Preventive and Protective Measures, additional to those in the next chapter: a) DPI: operator of the construction of water system of the site;

Organizational Requirements:

Appropriate individual protective equipment must be provided to the worker: **a)** helmet; **b)** gloves; **c)** protective goggles; **d)** safety shoes with an anti-slip and unforgivable sole; **(e)** goggles or safety visor; **(f)** otoprotectors.

Risks to which the worker is exposed:
a) R.O.A.(weld operations).

Tools used by the worker:
a) Manual tools;
b) Simple scale;
c) Electric drill;

Risks from the use of tools:
Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Fall from above; Electrocution; Inhaling powders, fibers.

15.6. Crane assembly (phase)
Operations of storage elements (concise crane, ballast, arm counter-arm), shooting at altitude of the same, mounting, maintenance and dismantling of the tower crane.

*IMPORTANT*NOTE: The activity, depending on the type of crane to be installed, may require the construction of an armed cls base to which to anchor the tower elements of the crane and the subsequent checks of the support surfaces in order to confirm the suitability of the installation areas. During the assembly, all areas subject to overflight and movement of the crane arm used for the movement at the altitude of the elements and consequently all temporary storage and storage areas

(grueboard elements, ballasts, trellis, etc.) will be prohibited. . In the same way, the entire route of the electrical cables to power the equipment will have to be properly protected. All operational personnel on the ground will have to be equipped with reflective clothing.

N.B. Given the particularity of this process, the company will have to explain in the POS its complementary and detailed procedures to those indicated in this PSC. (point 2.1.3, Annex XV of D.Lgs. 81/2008 and s.m.i.)

Workers:
Responsible for the assembly and dismantling of the towercrane.

Preventive and Protective Measures, additional to those in the next chapter: a) DPI: responsible for mounting and dismantling the tower crane;

ORGANIZATIONAL REQUIREMENTS:
Appropriate individual protective equipment must be provided to the worker: **a)** helmet (both for the assembly workers and for those who participate in the work from the ground; such helmets must be equipped with a subgola strap, essential especially for those who, working in elevation, are unable to easily recover the helmet possibly lost); **b)** gloves; **c)** energy-dissipating seat belt; **d)** safety shoes with a slip sole and unforgivable.

Risks to which the worker is exposed:

	Fall from above **[P2 x E3]**		Fall of material from above or level **[P1 x E1]**

MACHINES AND TOOLS:

1) Self-driving;
2) Truck;
3) Tower cranes;
4) Manual tools.

Risks generated by the use of machines and tools:
Caesareans, squeezing; Shocks, blows, impacts, compressions; Noise; Vibrations; Fall of material from above or at the level; Electrocution; Punctures, cuts, abrasions.

15.7. BASEMENT, EARTH, FIRST, SECOND, THIRD, FOURTH, FIFTH

The processing is divided into the following Phases and Subphases:

- Removal of MCA materials and mineralwools;
- Removal of residual furniture andcoatings;
- Removal of existingceilings;
- Removal of floor and altitude equipment, including groups, machines andequipment;
- Removal of sanitaryequipment;
- Removal ceramiccoatings;
- Removal of internalwindows;
- Removal of internal partitions in plasterboard;
- Removal of partitions;
- Removal of internalflooring;
- Demolition of sub-bottoms..

15.8. Removal of MCA materials and mineral wools (phase)

For this possible processing it is planned the confinement of the areas covered by the work as by pdL (Work Plan) of the specialist company and any additional requirements of the competent ASL, preventive verification of the maintenance of the confinements by the same competent authorities, remediation and return of the area with the authorization of ASL and ARPA.

N.B. The timing of such processing may be subject to time changes on the basis of procedural timelines on formalization worktop and its submission to the relevant authorities (ASL, ARPA, etc.) approval of the plan, processing methodology and identification of the appropriate temporary storage areas in order to temporarily confer the removed materials. Pre-predict the prevailing material storage area (sealed BIG-BAG) at the beginning of activities.
Note. Refer to the specific chapter within the "Organization of the Shipyard" entry

N.B. Given the particularity of this process, the company will have to explain in the POS its complementary and detailed procedures to those indicated in this PSC. (point 2.1.3, Annex XV of D.Lgs. 81/2008 and s.m.i.)

Machines used:

1) Truck;
2) Truck with crane.

Risks generated by the use of machines:

Vibrations; Shocks, blows, impacts, compressions; Noise.

Engaged workers:

1) Responsible for removing asbestos in coibente of pipes or pipes or different parts of plants.

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: responsible for removing asbestos in coibente of pipes or funnels or different parts of plants;

Organizational Requirements:

Appropriate individual protection devices must be provided to workers: **a)** helmet; **b)** gloves; **c)** safety shoes with a slip sole and unforgivable; **d)** safety goggles; **(e)** respirator with efficient filters; **(f)** protective clothing.

Risks to which the worker is exposed:

(a) Asbestos.

Tools used by the worker:

a) Manual*tools;*
b) Electric screwdriver;
c) Mobile scaffolding or trabattello;
d) Simplescale.

Risks from the use of tools:

Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Electrocution; Fall from above; Fall of material from above or at the level.

15.9. Removal of residual furniture and coatings (phase)

Removal of furniture or similar material still left inside the areas and vertical coatings in furniture.

IMPORTANT NOTE: The material will be moved downwards using the external platform. Limit manual handling of loads to a maximum of 25 kg per operator.

*Machines*used:

1) Truck;
2) Truck with crane.

Risks generated by the use of machines:

Vibrations; Shocks, blows, impacts, compressions; Noise.

Engaged workers:

1) General employee with handling and dismantling of fixed furniture, furniture and accessories.

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: planting of depots, material storage areas and fixedfacilities.

Organizational Requirements:

Appropriate individual protection devices must be provided to workers: **a)** helmet; **b)** gloves; **c)** safety shoes with a slip sole and unforgivable; **d)** safety goggles.

Risks to which the worker is exposed:

a) Fall of material from above or at the level.

Tools used by the worker:

a) Manual tools;
b) Circular saw;
c) Corner grinder (flexible);
d) Electric drill;
e) Simple scale;
f) Mobile scaffolding or trabattello.

Risks from the use of tools:

Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Electrocution; Inhaling powders, fibers; Slips, drops at the level; Fall from above; Manual handling of loads; Fall of material from above or at the level.

2) Person for the removal of wood paneling;

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: responsible for removing woodpaneling.

Organizational Requirements:

They must be provided: **a)** helmet; **(b)** protective goggles; **c)** gloves; **(d)** safety footwear; **(e)** protective clothing.

Regulatory References:

D.Lgs. 9 April 2008 No. 75

Risks to which the worker is exposed:

a) Fall of material from above or at the level;
b) M.M.C. (lifting andtransporting).

Tools used by the worker:

(a) Manual tools.

Risks from the use of tools:

Punctures, cuts, abrasions; Shocks, blows, impacts, compressions.

3) Responsible for removing plastic coatings;

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: responsible for removing plastic coatings.

Organizational Requirements:

They must be provided: **a)** helmet; **(b)** protective goggles; **c)** gloves; **(d)** safety footwear; **(e)** protective clothing.

Regulatory References:

D.Lgs. 9 April 2008 No. 75.

Risks to which the worker is exposed:

a) Fall of material from above or at the level;
b) M.M.C. (lifting andtransporting).

Tools used by the worker:

a) Manual tools.

Risks from the use of tools:

Punctures, cuts, abrasions; Shocks, blows, impacts, compressions.

15.10. Removal of existing ceilings (phase)

Removal of plasterboard countertop, fiber, carabottino, metal slats, plaster, demountable panels, including structure and lowering to the loading floor.

IMPORTANT NOTE:

For this activity, the appropriate traps will necessarily be used because the stairs are not considered as fixed workstations. The existing sub-existing plants must be decommissioned before the activities. Activities constrained by the possible presence of hazardous materials to be removed in a specialized manner and enterprise. Ensure the constant cleaning of the floor from what is removed in order to allow the correct placement of the traps and always leaving mackerel and usable emergency routes.

N.B. Given the particularity of this process, the company will have to explain in the POS its complementary and detailed procedures to those indicated in this PSC. (point 2.1.3, Annex XV of D.Lgs. 81/2008 and s.m.i.)

Machines used:

1) Truck.

Risks generated by the use of machines:

a) Vibration.

Engaged workers:

1) Responsible for removing ceilings, plasters and interior coverings;

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: Responsible for removing ceilings, plasters and interior coverings.

Organizational Requirements:

Appropriate individual protection devices must be provided to the worker: **a)** gloves; **b)** helmet; **c)** safety shoes with a non-slip and unforgivable sole; **d)** glasses; **(e)** otoprotectors.

Risks to which the worker is exposed:

a) Vibrations;
b) M.M.C. (lifting and transporting);
c) Noise.

Tools used by the worker:

a) Flag argano;
b) Manual tools;
c) Electric breaker hammer;
d) Mobile scaffolding or trabattello.

Risks from the use of tools:

Fall from above; Fall of material from above or at the level; Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Electrocution; Inhaling powders, fibers.

15.11. Plant removal at altitude (phase)

Removal of all related and underlying terminal systems from existing ceilings subject to total removal:

- terminal equipment
- fire detectors
- illuminating devices
- Water spraying heads fire-fighting systems

Removal of floor systems and all equipment and machinery on the various floors

IMPORTANT NOTE:

For this activity, the appropriate traps will necessarily be used because the stairs are not considered as fixed workstations. The existing sub-existing plants must be decommissioned before the activities. The movement of materials down will have to be done using the external platform.

Limit manual handling of loads to a maximum of 25 kg per operator. Ensure the constant cleaning of the floor from what is removed in order to allow the correct placement of the traps and always leaving mackerel and usable emergency routes.

N.B. Given the particularity of this process, the company will have to explain in the POS its complementary and detailed procedures to those indicated in this PSC. (point 2.1.3, Annex XV of D.Lgs. 81/2008 and s.m.i.)

Machines used:

1) Truck.

Risks generated by the use of machines:

Caesareans, squeezing; Jets, sketches; Inhaling powders, fibers; Noise; Fires, explosions; Investment, tipping; Shocks, blows, impacts, compressions; Vibration.

Engaged workers:

1) Plant removal officer.

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: Plant removal officer.

Organizational Requirements:

Appropriate individual protection devices must be provided to the worker: **a)** gloves; **b)** helmet; **c)** safety shoes with a non-slip and unforgivable sole; **d)** glasses; **(e)** otoprotectors.

Risks to which the worker is exposed:

a) Vibrations;
b) Noise;
c) Fall from above.

Tools used by the worker:

a) manual tools;
b) Mobile scaffolding or trabattello;
c) Flag argano;
d) Stand argano;
e) Electric breaker hammer;
f) Angle grinder (flexible).

Risks from the use of tools:

Fall from above; Fall of material from above or at the level; Electrocution; Slips, drops at the level; Shocks, blows, impacts, compressions; Punctures, cuts, abrasions; Inhaling powders, fibers; Noise; Vibration.

15.12. Removal of sanitary equipment (phase)

Removing health water equipment still present, and related surface pipes including lowering to the loading floor.

IMPORTANT NOTE:

In advance, all safety measures should be used for the necessary dispowering and interruption of any active plant lines (water supply and black water discharge).

Engaged workers:

1) Plant removal officer;

Preventive and Protective Measures, additional to those in the next chapter: a) DPI: plant removal officer;

Organizational Requirements:

Appropriate individual protection devices must be provided to the worker: **a)** gloves; **b)** helmet; **c)** safety shoes with a non-slip and unforgivable sole; **d)** glasses; **(e)** otoprotectors.

Risks to which the worker is exposed:

a) Vibrations;
b) Noise.
c)

Tools used by the worker:

a) Manual tools;
b) Electric breaker hammer;
c) Rubble drain channel.

Risks from the use of tools:

Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Electrocution; Inhaling powders, fibers; Fall of material from above or at the level.

15.13. Ceramic coating removals (phase)

Removal of internal ceramic coatings including anchor mortar and lowering to the loading floor.

IMPORTANT NOTE:

For this activity, the appropriate traps will necessarily be used because the stairs are not considered as fixed workstations.

Machines used:

1) Truck with crane.

Risks generated by the use of machines:

Shocks, blows, impacts, compressions; Noise; Vibration.

Engaged workers:

1) Cleaner for the removal of ceramiccoatings.

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: person responsible for removing ceramic coatings;

Organizational Requirements:

They must be provided: **a)** helmet; **(b)** otoprotectors; **c)** protective goggles; **d)** dust mask; **(e)** gloves; **(f)** safety footwear; **(g)** protective clothing.

Risks to which the worker is exposed:

a) Fall of material from above or at the level;
b) Inhaling powders, fibers;
c) M.M.C. (lifting and transporting);
d) Noise;
e) Vibration.

Tools used by the worker:

a) Manual tools;
b) Rubble drain channel;
c) Electric breaker hammer;
d) Bridge overeasels.

Risks from the use of tools:
Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Fall of material from above or at the level; Inhaling powders, fibers; Electrocution; Noise; Vibrations; Slips, drops at the level.

15.14. Removal of internal windows (phase)
Removal of wooden or iron windows, without recovery, including frames, false frames, accessories, any curtains or Venetians, lowering to the loading floor:
- technical local internal doors
- Offices
- Toilet

IMPORTANT NOTE: The material will be moved downwards using the external platform. Limit manual handling of loads to a maximum of 25 kg per operator.

Machines used:

1) Truck with crane.

Risks generated by the use of machines:
Shocks, blows, impacts, compressions; Noise; Vibration.

Engaged workers:
1) Person for the removal of internal windows;

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: person responsible for removing internal windows;

Organizational Requirements:

Appropriate individual protection devices must be provided to the worker: **a)** gloves; **(b)** protective goggles; **c)** safety shoes with a slip sole and unforgivable; **d)** dust mask.

Risks to which the worker is exposed:

a) M.M.C. (lifting and transporting).

Tools used by the worker:

a) Manual tools;
b) Simple scale;
c) Mobile scaffolding or trabattello.

Risks from the use of tools:

Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Fall from above; Fall of material from above or at the level.

15.15. Removal of internal plasterboard partitions (phase)

Removal of partitions in plasterboard slabs with vertical struts, floor and ceiling guides and any insulation layers in the intercapedine.

IMPORTANT NOTE: The activity can only start after the deactivation of the voltage plant lines inside the walls/counter-walls.

Machines used:

1) Truck;
2) Truck with crane.

Risks generated by the use of machines:

Vibrations; Shocks, blows, impacts, compressions; Noise.

*Engaged***workers:**

1) Demolition officer of partitions;

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: demolition officer of partitions;

Organizational Requirements:

Appropriate individual protection devices must be provided to the worker: **a)** gloves; **b)** helmet; **c)** safety shoes with a non-slip and unforgivable sole; **d)** glasses; **(e)** otoprotectors.

Risks to which the worker is exposed:

(a) Inhalation of powders, fibres;
b) Vibrations;
c) Noise;
d) M.M.C. (lifting and transporting);
e) Dust.

Tools used by the worker:

a) Manual tools;
b) Electric breaker hammer;
c) Mobile scaffolding or trabattello.

Risks from the use of tools:

Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Electrocution; Inhaling powders, fibers; Fall from above; Fall of material from above or at the level.

15.16. Removal of partitions (phase)

Removal of interior walls in furniture (aluminum and glass) including doors including loading and transport.

IMPORTANT NOTE:

For the activity, the handling of the activities should be evaluated taking into account the maximum load that can be moved per operator. Check the tempandploy treatment in advance in order to avoid the risk of cuts due to improper ruptureor non-compliant stacking.

Machines used:

1) Truck;
2) Truck with crane.

Risks generated by the use of machines:

Vibrations; Shocks, blows, impacts, compressions; Noise.

Engaged workers:

1) Person for the removal of internal windows;

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: person responsible for removing internal windows;

Appropriate individual protection devices must be provided to the worker: **a)** gloves; **(b)** protective goggles; **c)** safety shoes with a slip sole and unforgivable; **d)** dust mask.

Risks to which the worker is exposed:

a) M.M.C. (lifting and transporting).

Tools used by the worker:

a) Manual tools;
b) Simple scale.

Risks from the use of tools:

Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Fall from above.

15.17. Removal of internal flooring (phase)

Removal of carpeted interior floors, wood, vinyl, linoleum, marble, ceramics, elevated including any hoofs and lowering to the loading floor.

Machines used:

1) Truck;
2) Mini excavator;
3) Mini excavator with demolition hammer;
4) Mechanical pala (minipala).

Risks generated by the use of machines:

Vibrations; Caesareans, squeezing; Inhaling powders, fibers; Fires, explosions; Investment, tipping; Noise; Slips, drops at the level; Shocks, blows, impacts, compressions.

Engaged workers:

1) Internal floor removal officer;

Preventive and Protective Measures, additional to those in the next chapter: a) DPI: responsible for removing internal floors;

Organizational Requirements:

Appropriate individual protection devices must be provided to the worker: **a)** gloves; **b)** helmet; **c)** safety shoes with a non-slip and unforgivable sole; **d)** glasses; **(e)** otoprotectors.

Risks to which the worker is exposed:

a) M.M.C. (lifting andtransporting).

Tools used by the worker:

a) Manual tools;
b) Rubble drainchannel.

Risks from the use of tools:
Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Fall of material from above or at the level; Inhaling powders, fibers.

15.18. Demolition of sub-bottoms (phase)
Demolition of internal flooring subfonds.

IMPORTANT NOTE: The requirement to use hearing protection IPR also extended to the remaining operators in neighbouring areas.

N.B. Given the particularity of this process, the company will have to explain in the POS its complementary and detailed procedures to those indicated in this PSC. (point 2.1.3, Annex XV of D.Lgs. 81/2008 and s.m.i.)

Machines used:

1) Truck;
2) Truck with crane;
3) Mini excavator with demolition hammer;
4) Mechanical pala (minipala).

Risks generated by the use of machines:
Vibrations; Shocks, blows, impacts, compressions; Noise; Caesareans, squeezing; Inhaling powders, fibers; Fires, explosions; Investment, tipping; Slips, drops at the level.

Engaged workers:
1) Screed removal officer;

Preventive and Protective Measures, additional to those in the next chapter:
a) DPI: Screed removal officer;

Organizational Requirements:

Appropriate individual protection devices must be provided to the worker: **a)** gloves; **b)** helmet; **c)** safety shoes with a non-slip and unforgivable sole; **d)** glasses; **(e)** otoprotectors.

Risks to which the worker is exposed:

a) Inhaling powders, fibers;
b) Noise;
c) Vibrations;
d) M.M.C. (lifting andtransporting).

*Tools used by the*worker:

a) Flag argano;
b) Manual tools;
c) Electric breaker hammer;
d) Rubble drainchannel.

Risks from the use of tools:

Fall from above; Fall of material from above or at the level; Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Electrocution; Inhaling powders, fibers.

15.19. Elevator Removal

Removal of existing lifts, including floor and accessory doors, lowering to the loading floor, loading and transporting to landfills and securing the compartment. Internal demolitions in preparation for the progress of the activities and to allow the installation of scaffolding necessary for the construction of the new ones.

IMPORTANTNOTE: All removal areas must be previously delimited with the site's safety signage. Any floor gap present (e.g. opening with the risk of falling into the void due to the removal of the floor doors) will necessarily have to be prohibited from access.
The same, for the obvious safety reasons, will have to be deactivated at the time of removals and therefore the electrical dispowering is prescribed. The technical compartment must necessarily be illuminated.
The company will have to consider the use of any type scaffolding and dimensions of clutter compatible with the workspaces.

N.B. Given the particularity of this process, the company will have to explain in the POS its complementary and detailed procedures to those indicated in this PSC. (point 2.1.3, Annex XV of D.Lgs. 81/2008 and s.m.i.)

Engaged workers:

1) Plant removal officer

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: Plant removal officer;

Organizational Requirements:

Appropriate individual protection devices must be provided to the worker: **a)** gloves; **b)** helmet; **c)**safety shoes with a non-slip and unforgivable sole; **d)** glasses; **(e)** otoprotectors.

Risks to which the worker is exposed:

	Vibration **[P3 x E3] - RILEVANTE**		Noise **[P3 x E3] - RILEVANTE**		Fall from above **[P1 x E1]**

Machines and Tools:

1) Truck;
2) Truck with crane;
3) Tower cranes;
4) Flag argano;
5) Manual tools;
6) Fixed metal scaffolding.

Risks generated by the use of machines and tools:

Vibrations; Shocks, blows, impacts, compressions; Noise; Fall of material from above or at the level; Electrocution; Fall from above; Punctures, cuts, abrasions; Slips, drops at the level.

15.20. Tank Reclamation

During the work phase it is planned: cleaning the cockpit and opening of the man step, suctioning the residual product from the tank, manual cleaning and washing of the interior walls with the suction of the residual product, drying and inerting, disposal of the residual product.

As stipulated in Article 66 of DLgs 81/08 *"It is forbidden to allow workers to access black wells, sewers, chimneys, pits, tunnels and in general in environments and containers, pipelines, boilers and the like, where it is possible to release harmful gases, without the previously ascertained the absence of danger to the life and physical integrity of the workers themselves, that is, without prior remediation of the atmosphere by ventilation or other suitable means. When there is any doubt about the dangerousness of the atmosphere, workers must be tied with a seatbelt,*

*supervised for the duration of the work and, where necessary, equipped with protective equipment. Opening access to these places must be large enough to make it easier to recover an unconscious*worker."

In addition, the rules of Article 121 of DLgs 81/08 must be respected.
"1. When carrying out work within wells, sewers, tunnels, chimneys and pits in general, appropriate measures must be taken against the dangers of toxic, asphyxiating, flammable or explosive gases, especially in relation to the geological nature of the soil or the proximity of factories, depots, refineries, compression and decompression stations, methane and pipelines, which can lead to dangerous infiltration.

2. *When toxic gases, asphyxiating gases or the unbreathability of ambient air are detected or feared and it is not possible to ensure efficient airing and complete clean-up, workers must be provided with suitable personal respirator protection equipment, and be equipped with suitable personal protective equipment connected to a suitable rescue system, which must be kept outside by the surveillance personnel. This must maintain continuous connection with the workers inside and be able to promptly lift the worker affected by the gases outwards.*
3. *Breathing masks can be used, instead of breathing apparatus, only when, once the nature and concentration of harmful or asphyxiating gases or vapours are ascertained, they provide a guarantee of safety and provided that effective and continuous aeration is ensured.*
4. *When flammable or explosive gases have been detected, the environment must be cleaned up by proper ventilation; It must also be prohibited, even after the clean-up, if the use of fire appliances, glowing bodies and appliances that are likely to cause flames or overheating to ignite the gas are to be feared.*
5. *In the case of Commi 2, 3 and 4,the workers must be matched in the execution of the work."*

Finally, it is noted that we respect the report in Exhibit IV where all safety measures are prescribed for activities in tanks, pipes, pipes, tanks, containers,**silos:**
"3.1. Pipes, pipes and containers, such as tanks, tanks and the like, in which workers must enter for control, repair, maintenance or other reasons dependent on the operation of the plant or appliance, must be provided with access openings of such a size that can allow the easy recovery of a unconscious *worker.*
3.2.1. Before allowing workers to enter the places mentioned above, those who supervise the *work must ensure that there are no harmful gases or vapours or harmful temperatures in the interior and must, if there is a danger, have efficient washing, ventilation or other suitable measures.*
3.2.2. The one who oversees must also close and block the valves and other devices of the ducts in communication with the vessel, and to have

the pipeline sections intercepted by blind flange or other equivalent means and to apply, on the locking or insulation devices, an alert indicating that they are not to be manoeuvred.

3.2.3. Workers who work within the above places must be assisted by another worker, located outside at the opening of access.

3.2.4. When the presence of harmful gases or vapours cannot be completely ruled out or when access to the bottom of the above places is difficult, workers who enter it must be fitted with a seat belt with a rope of adequate length and, if necessary, equipment suitable to allow normal breathing.

3.3. If, in the places mentioned in paragraph 3.1, there can also be no gas, vapor or flammable dust or explosives, in addition to the measures outlined in the previous article, precautions should be taken to avoid the risk of fire or explosion, such as the exclusion of open flames, glowing bodies, iron-proof tools and shoes with nails. If lamps are required, they must be safe.

[....]

3.5. In tanks, vats, tanks and the like that have a depth of more than 2 meters and are not equipped with openings of access to the bottom, if it is not possible to prepare the fixed ladder for access to the bottom of the above vessels must be used transportable stairs, provided they have hold hooks.

3.6.1. The pipes and pipes and their ancillary and auxiliary equipment must be built and placed in such a way that:

3.6.1.1. in the case of leaks of liquids or gas leaks, or ruptures of plant elements, does not result in damage to workers;

3.6.1.2. In case of need, the maximum and the quickest emptying of their parts is feasible.

3.6.2. When there are multiple pipes or pipes containing harmful or hazardous liquids or gases of different nature, they and their equipment must be marked, even at appropriate intervals if they are extended networks, with distinct colouring, the meaning of which must be disclosed to workers by explanatory table.

3.7. Closed pipes and pipes, when they form an extensive network or include secondary ramifications, must be equipped with devices, such as valves, faucets, shutters and gates, to carry out the insulation of certain sections in case of need.

[....]

3.9.1. Tanks and tanks containing toxic, corrosive or otherwise dangerous liquids or materials, including burning temperature water, must be provided:

3.9.1.1. of closures that for liquids and toxic materials must be airtight and for other liquids and harmful materials to be such as to prevent workers from coming into contact with the content; 3.9.1.2. of drain pipes too full to prevent regurgitation or overflow.

3.9.2. If, for technical reasons, the provisions of paragraph 3.9.1.1 are not feasible, other appropriate security measures must be taken.

[....]"

*IMPORTANT*NOTE: The underlying existing systems must be deactivating before the activities.

N.B. Given the particularity of this process, the company will have to explain in the POS its complementary and detailed procedures to those indicated in this PSC. (point 2.1.3, Annex XV of D.Lgs. 81/2008 and s.m.i.)

Machines used:

1) Tanker.

Risks generated by the use of machines:

Inhalation fumes, gases, vapours; Fires, explosions; Investment, tipping; Noise; Vibration.

Engaged workers:

1) Tank remediation officer..

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: Tank remediation officer.

*Organizational*prescriptions:

They must be provided: a) helmet; (b) protective goggles; c) mask with specific filter; d) gloves; (e) safety footwear; (f) fall-off equipment; (g) protective clothing.

Regulatory References:

D.Lgs. 9 April 2008 No. 75.

Risks to which the worker is exposed:

a) Confined environments;
b) Fall from above;
c) Chemical.

Tools used by the worker:

a) Simplescale;
b) Manual tools;
c) Winrian on tripod stand.

Risks from the use of tools:

Fall from above; Shocks, blows, impacts, compressions; Manual handling of loads; Punctures, cuts, abrasions; Fall of material from above or at the level.

PERFORMING TASKS IN A CONFINED ENVIRONMENT

The underground tanks, of which there is no specific relief, are located in the cloister (innercourtyard) on the ground floor adjacent to the monumental staircase. The planned steps involve the clean-up and cleaning of the moratorium of diesel tanks and the subsequent disposal. The above, according to art. 1, c. 2 of DPR 177/2011, falls within the scope of the provisions of the decree, as these are work in:

- *"suspected pollution environments"*, of which:
  Article 121 - Presence of gas in excavations (Title IV – Head I: Rules for the Prevention of Accidents at Work in Construction and Work at Altitude) D.Lgs. 81/2008;
- *"confined environments"* of which:
  In step 3 - Baths, pipes, pipes, tanks, containers, silos, of Annex IV (Title II – Workplaces) at D.Lgs. 81/2008 (attachment of the Tit. II - Workplaces).

Thetmain concepts mentioned in the articles above, and within the D.Lgs.177/11,the *classification* of*confined environment for these premises, mainly stems from three operating conditions:*

a) there are accesses that are not adequate to the performance of work;

b) there is no proper air turnover, with possible oxygen shortages for employees delivered;

c) lack of knowledge of the composition of the sludge found at the bottom of the tank.

In view of the above, it is noted that a comprehensive evaluation ofthe blood probate is underway, which will lead to the definition of an operational procedure, and specific preventive and protective measures, which will be subject to subsequent integration to the PSC..

Calls to the procedure for applying D.Lgs. 177/11 by the contractors and/or executors (Summary Article 2 of the decree):

- Company pre-qualification and operational staff under DPR 177/2011.
- Subcontracting only if authorized and certified.
- Staff hired indefinitely (or certification of employment in the case of other employment form).
- A team made up of 30% of staff with three-year experience.
- All team personnel required to be trained and trained.

Risk assessment:

Risk: Accessibility. This is a difficult access/exit environment with imprisoning and claustrophobic features; access to the tanks, as

mentioned above, is only possible through 2 inspection wells smaller than a metre, in which there are access ladders that allow descent inside the loaves. Since it is access from a well, there are problems related to the correct management of any emergency situations and possible recovery of the employees.

Risk-prone: P-4 D-3 R-12 High Risk

Prevention and protection measures: it is pointed out that the presence of the two wells, however, is a good condition for not cluttering the already limited access space, as it allows to separate the access-transit point of the staff (first cockpit) from that used to lower equipment, suction pipe, light, etc. (second cockpit). Access within the tanks will be via this ladder, and therefore it is guaranteed that the exit of the operators in depth can take place independently at any time; this scale, must be checked in advance on the correct fixing of the pegs present and used with suitable fall-proof systems, as provided for by the procedure defined below. In order to allow the eventual recovery of an accident worker, it is also required that all personnel authorized to enter the confined environment are permanently connected to the emergency recovery system and trained and trained on the procedure to be taken in the event of an emergency.

Operational accessprocedure: access within the tanks can only be carried out by ensuring the presence of a team consisting of a minimum of 3 operators; in particular, there must be the presence within the confined environment of two employees (operator 1 and 2), and must be ensured the presence of at least one third employee (operator 3) in assistance outside the human step; operators who will carry out the following activities:

- operator 1: operator of the activities within the tanks;
- Operator 2: Deep surveillance (not operational activity)
- Operator 3: in charge of the confined environment, surveillance and emergency recovery officer.

The recovery test of the operator must be carried out before carrying out the activities within the tanks, in order to ensure immediate knowledge of the procedure in case of an emergency and to be given special authorization.

Risk: air health - trigger and explosion. Operating in underground rooms, where there is also a need to carry out sludge cleaning activities, of which the composition is not known, and the residues deposited on the bottom, there is a risk related to air health; in particular, in order of relevance, the following risks are noted:

- *oxygen deficiency*: potential hypoxygenated atmosphere (verify actual air turnover through access manhole);

  Risk-prone: P-4 D-4 R-16 R. Very High

- *aeriform*chemicals:

- potential atmosphere polluted by residual chemicals within sludge (prevalence of heavy metals and heavy hydrocarbons or oils, potential presence of light hydrocarbons such as diesel/petrol);
- potential for the presence of carbon monoxide (residual accumulation from combustion of thermal engines).

Risk-prone: *P-3 D-4 R-12 High Risk* 

- *biological*substances:
  - potential biological pollution similar to sewage hazard (refluxes from the exhaust system);
  - potential release of sulphrary compounds (H2S) due to anaerobic fermentation during sludge and removal processing.

  Risk-prone: *P-2 D-4 R-8 High Risk* 
- possible presence of *flammable*substances.

  Risk-prone: *P-1 D-4 R-8 Medium Risk* 

Prevention and protectionmeasures: Before carrying out the activities within the tanks, special authorisation must be given which is constrained to the implementation of the following measures:

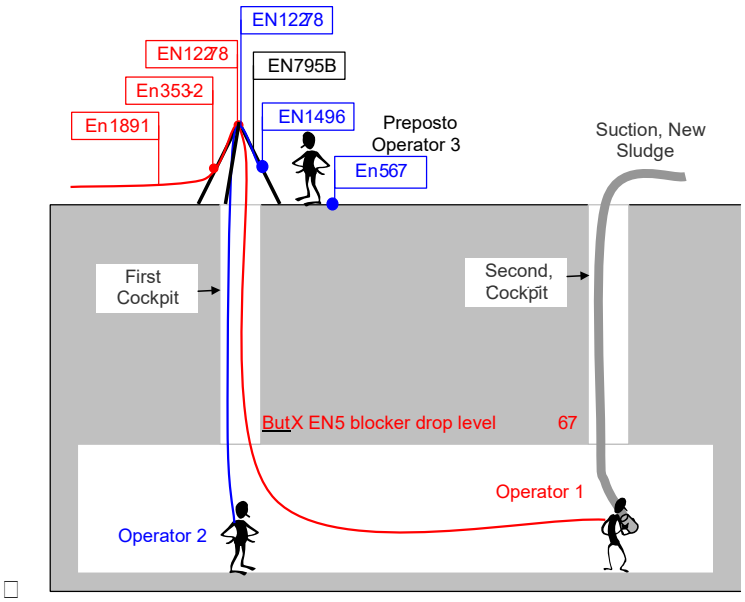
- Team personnel must be trained and trained to perform activities in confined environments (AC).;
- permanent supervision of the team within the environment (operators 1 and 2) by personnel outside the human step (operator 3);
- Checking the ventilation conditions of the environment, and defining the protective measures to be taken to ensure suitable working conditions;
- check and open any wells placed at pipes that flow inside the tank;
- permanent monitoring of the environment before access and for the duration of work with environmental detectors, minimum sensors O2, CO, H2S, CH4;
- staff's input with full face masks and A2/B2/E2/K2/P3 filter (possibly electroventilated for long shifts and operational comfort of the worker);
- work activities allowed only with concentrations of pollutants below TLV (i.e. threshold values for the average concentration of an 8-hour working day at which workers can be exposed without adverse health effects); suspension of work and evacuation of work areas for concentrations above TLV;
- insulation of all sources of adduction and discharge of the tank and lighting with very low voltage system (12-24 V);

In order to allow the eventual recovery of an accident worker, it is required that all personnel authorized to enter the confined environment be permanently connected to the emergency recovery system and format-informed onthe procedure to be taken in the event of anemergency.

Emergency procedure:

The following is assumed to be a procedure to be taken in the event of an emergency for the recovery of both employees present within the confined environment (operators 1 and 2); It is stated that this procedure will have to be adopted by the executor, or another alternative procedure may be put in place, which must be authorised in advance and such as to ensure similar safety conditions for employees. Definition of the anti-fall-recovery systems used:

- Equip the safety line of the first operator with systems that allow him to safely descend inside the manhole, protected from possible fall from above, and with system prepared for recovery in case of loss of consciousness.
- Equip the safety line of the second operator with systems that allow him to safely descend inside the manhole, protected from possible fall from above, and with system prepared for recovery in case of loss of the senses.
-



NOTE: It is stated that the activities of operators 1 and 2 may be alternated, but provided that the operators have to go out and reverse the safety systems.

Evacuation protocol:

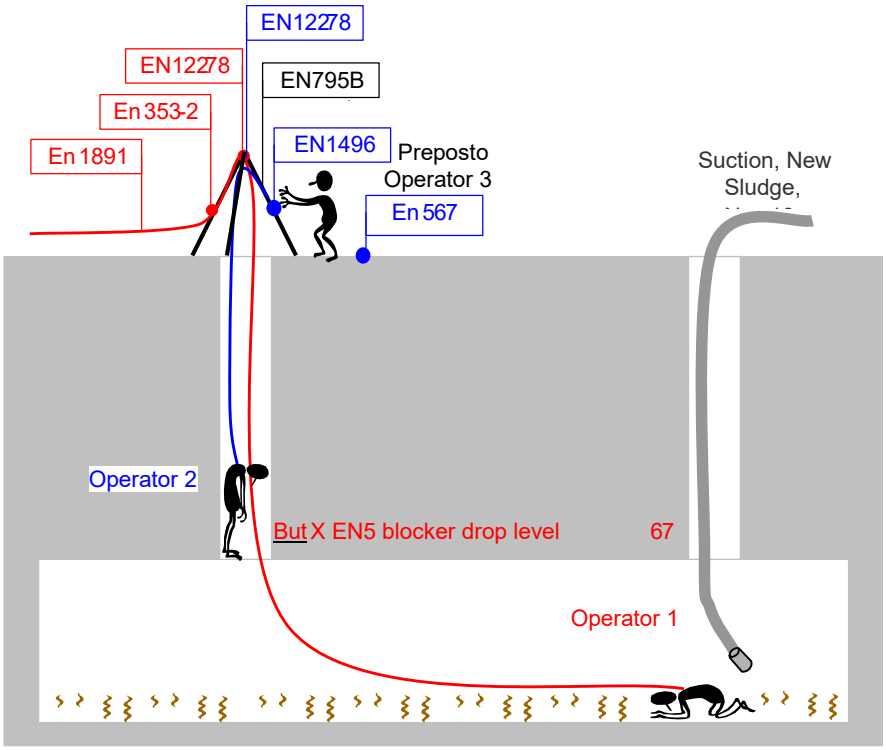
In the event of a serious accident with loss of the senses of both operators within the confined environment:

- (to the site manager who will contact 118 and then the coordinator)
- immediately activate the extraction of the 2nd operator

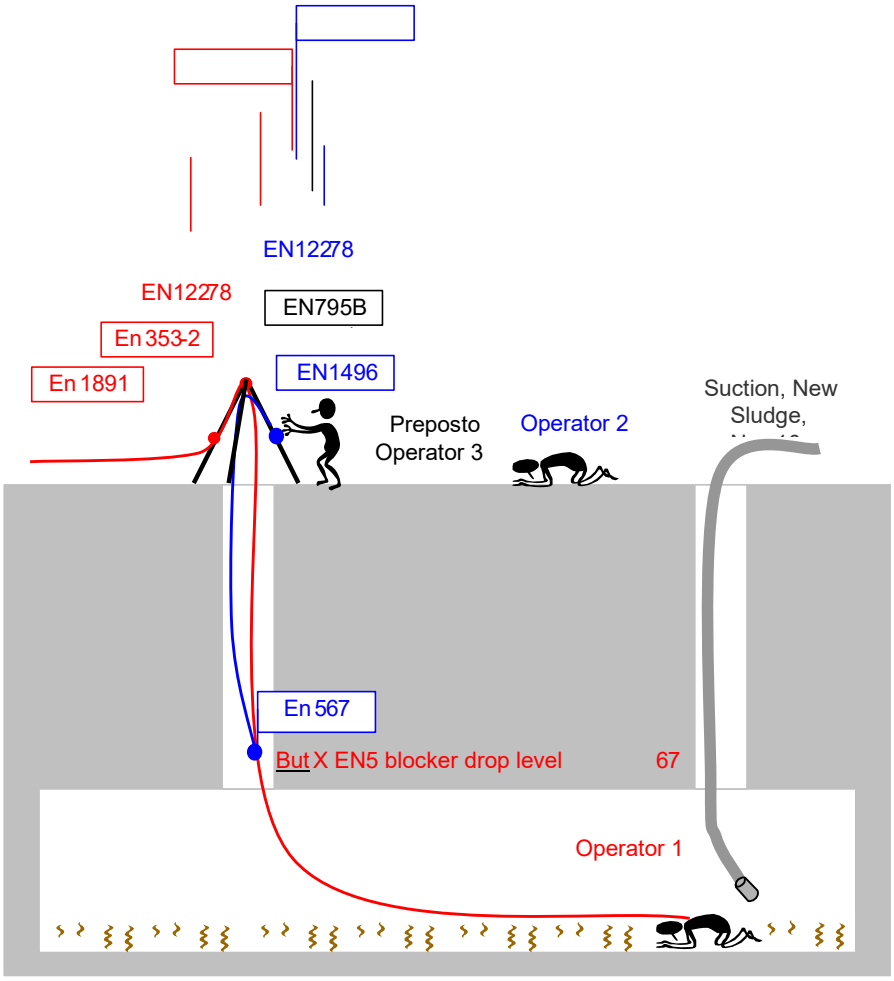
- once the 2nd operator has beenextracted, the blocker is lowered until in contact with the harness of operator 1 (repetitive action until the hooking is successful);
- complete the extraction by retrieving the 1st operator through the tombotto.

This includes emergency management with external workers, any protocols of access to the tank during an emergency must necessarily involve the use of a 4th operator equipped with autonomous insulation respirator.

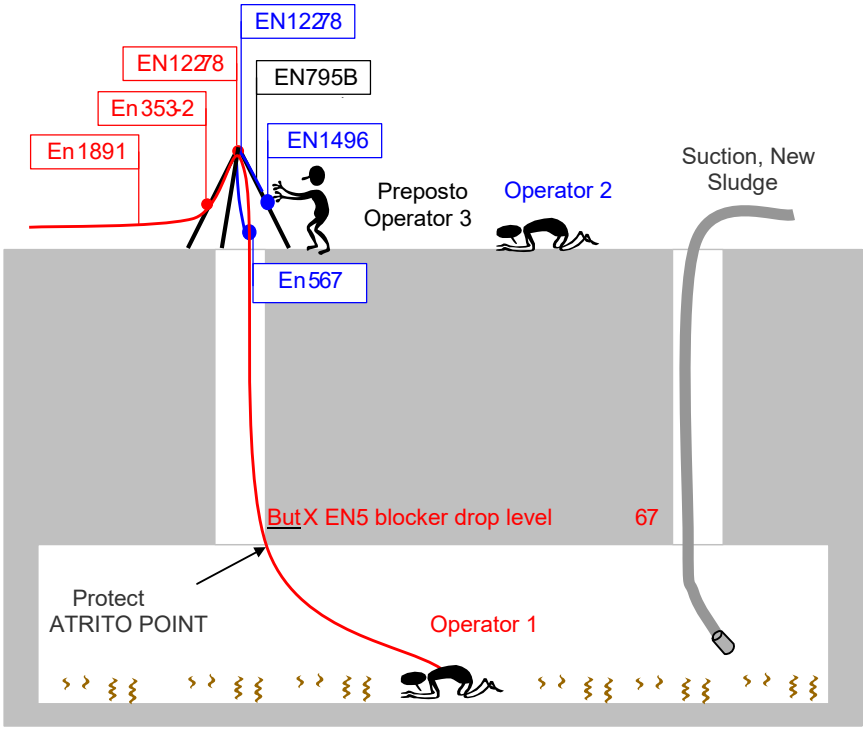
EMERGENCY MANAGEMENT SEQUENCE:



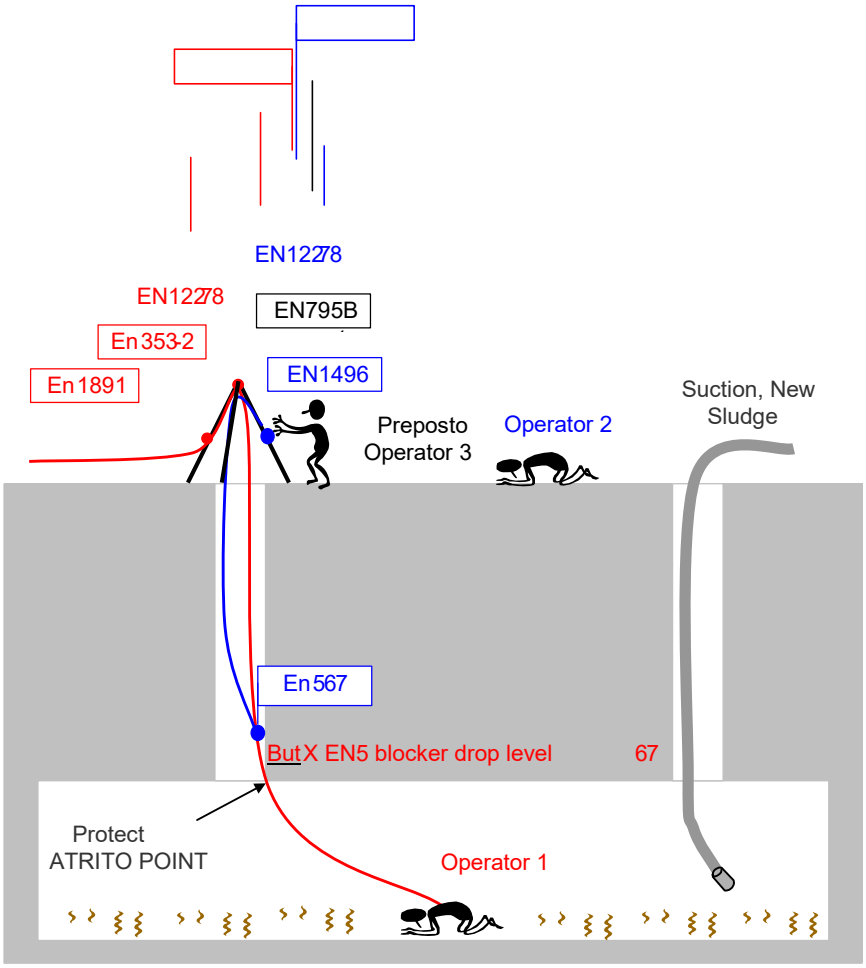
Step 1: Retrieve operator 2 constrained with EN1496



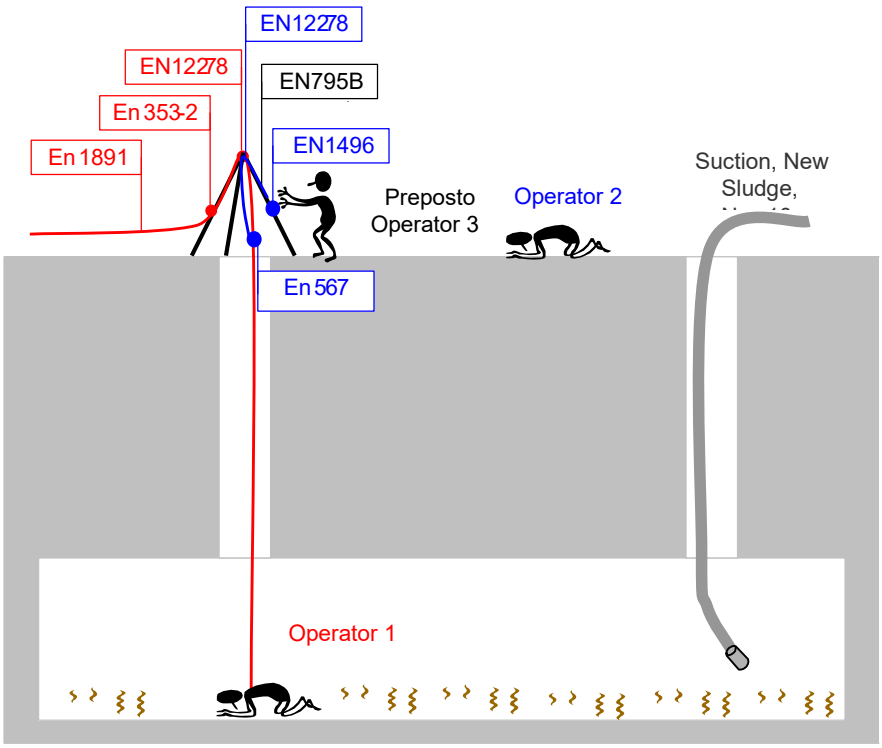
Step 2: You lower en 597 device attached to EN 1496



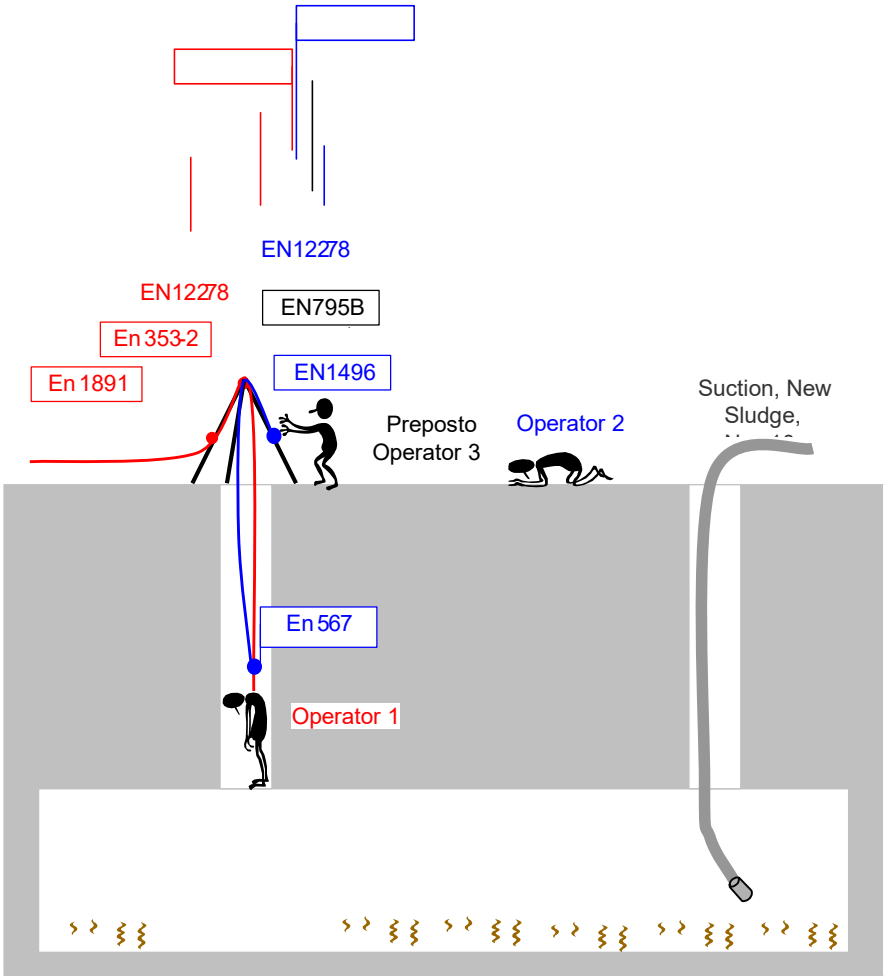
Step 2: you recover the en 597 device (the rope you tend to start the extraction of the 1st operator)



Step 4: The EN597 device is lowered again



Step 5: You recover the EN 597 device again, operator 1 is ready to check out

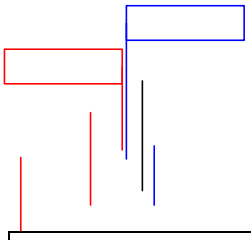


Fase 6: Drops the EN597 device to the back of operator 1 and extracts the operator

Considering the above, it is required that the executor, through the contractor, present a specific procedure contained in the POS or attached to it, which defines the activities on time, identifies the employees who will be in charge of carrying out such operations, and performs a specific risk assessment related, defining the specific preventive and protective measures taken.

Examples of systems recalled in steps:

Below is a graphical representation of the most specific systems indicated within the procedure (unless of more common harnesses and connectors), for a greater simplicity of understanding by the companies; systems that do not necessarily have to be of the manufacturer whose images are reported, but can also be from other manufacturers, provided they are certified according to the same reference standard in the procedure.



Tripode under EN 795B	

Anti-Fall and Recovery Device **EN360/EN1496** on tripod	
Semistatic textile string asolata **EN1891**	
Rope regulator with fall function **EN353-2**	
EN 567 blocking device	

15.21. FACADES

The processing is divided into the following Phases and Subphases:

Provisional works
- scaffolding installation
- restoration facades
- removing external windows
- installation external windows

15.22. Provisional works (phase)

15.23. Scaffolding installation (under-steps)

Installation of the perimeter scaffolding complete with all accessories, mantles, cantilevered elements and shelves, including protective towels for the containment of any accidental drops of materials and protective towels outwards. Bridge necessary for the various phases of demolition facades of the internal court, reconstruction and technical consolidation of the metal structures themselves.

Mounting any load plans on independent structure and project object, calculations and checks (to be evaluated based on the location of the activities).

The phase also includes the sequential reassembly of scaffolding for the different phases of the construction site that require the installation of collective protective equipment.

IMPORTANT NOTE: The following constraints must be taken into account in the design of the scaffolding: dthe installation of the scaffolding at Via del Corso may require the temporary diversion of pedestrian paths on the opposite sidewalk (provisional signage, local police presence or other requirements dictated by the relevant offices).

N.B. Given the particularity of this process, the company will have to explain in the POS its complementary and detailed procedures to those indicated in this PSC. (point 2.1.3, Annex XV of D.Lgs. 81/2008 and s.m.i.)

Workers:

Fixed metal scaffolding assembly and dismantling

Preventive and Protective Measures, additional to those in the next chapter: a) DPI: responsible for mounting and dismantling the fixed metal scaffolding;

Organizational Requirements:

Appropriate individual protective equipment must be provided to the worker:
a) helmet (both for the assembly workers and for those who participate in the work from the ground; such helmets must be equipped with a subgola strap, essential especially for those who, working in elevation, are unable to

easily recover the helmet possibly lost); **b)** gloves; **c)** energy-dissipating seat belt; **d)** safety shoes with a slip sole and unforgivable.

Risks to which the worker is exposed:

	Noise **[P1 x E1]**		M.M.C. (lifting and transporting) **[P1 x E1]**		Fall from above **[P1 x E1]**

Machines and Tools:

1) Truck;
2) Truck with crane;
3) Tower cranes;
4) Flag argano;
5) Manual tools;
6) Simple scale;
7) Electric drill;
8) Fixed metal scaffolding.

Risks generated by the use of machines and tools:

Vibrations; Shocks, blows, impacts, compressions; Noise; Fall of material from above or at the level; Electrocution; Fall from above; Punctures, cuts, abrasions; Inhaling powders, fibers; Slips, drops at the level.

15.24. Restoration of facades (underphase)

Work for the restoration of the various portions of the facades as per elaborate design and construction details.

*IMPORTANT*NOTE: The activity must be carried out by using the external scaffolding in which it should be anchored to the facade in such a way as to avoid hazards

N.B. Given the particularity of this process, the company will have to explain in the POS its complementary and detailed procedures to those indicated in this PSC. (point 2.1.3, Annex XV of D.Lgs. 81/2008 and s.m.i.)

Workers:

1) Facade restoration officer

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: operator of the assembly of coatings for ventilated facade.

Organizational Requirements:

Appropriate individual protective equipment must be provided to the worker: **a)** helmet; **b)** gloves; **c)** protective goggles; **d)** safety shoes with an unforgivable and unforgivable sole and steel tip; **(e)** otoprotectors.

Risks to which the worker is exposed:

	Fall from above **[P3 x E4]**		Fall of material from above or level **[P2 x E3]**

Machines and Tools:

1) Developable platform;
2) Manual tools;
3) Fixed metal scaffolding.

Risks generated by the use of machines and tools:

Fall from above; Fall of material from above or at the level; Caesareans, squeezing; Electrocution; Fires, explosions; Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Slips, drops in level

15.25. Removal of external windows (phase)

Removal of the external windows(doors,, gates, windows fixtures to allow the construction of the new windows, facade with exoskeleton and the realization of the new volumes/balconies adjective.

IMPORTANT NOTE: This processing will need to be coordinated with the installation of scaffolding as these are necessary to avoid the risk of falling from above. The assembly and type of scaffolding should provide for a smooth and convenient handling of existing windows (presence of loading floors or free areas). The use of PLE or compass platforms (for heights and spaces that allow ordinary use) can also be used.
The company will have to define:
mode of movement of modules
- equipment and machines for lifting modules
- handling paths

N.B. Given the particularity of this process, the company will have to explain in the POS its complementary and detailed procedures to those indicated in this PSC. (point 2.1.3, Annex XV of D.Lgs. 81/2008 and s.m.i.)

Workers:

External window removal officer.

Preventive and Protective Measures, additional to those in the next chapter:

a) DPI: External windowcleaner.

Organizational Requirements:

Appropriate individual protection devices must be provided to the worker: **a)** gloves; **(b)** protective goggles; **c)** safety shoes with a slip sole and unforgivable; **d)** dust mask.

Risks to which the worker is exposed:

 Fall from above **[P3 x E4]**	 M.M.C. (lifting and transporting) **[P1 x E1]**	 Fall of material from above or level **[P1 x E1]**

Machines and Tools:

1) Truck;
2) Truck with crane;
3) Self-driving;
4) Tower cranes;
5) Manual tools.

Risks generated by the use of machines and tools:

Vibrations; Shocks, blows, impacts, compressions; Noise; Caesareans, squeezing; Electrocution; Punctures, cuts, abrasions; Fall of material from above or at the level.

15.26. Installation of external windows (under-steps)

Installation of external windows (windows, windowdoors) . Laying facade windows using construction cranes, autogrist or other means of lifting equipped with electrovent.

IMPORTANT NOTE: This process can only begin in the presence of the perimeter scaffolding of the facade (with assembly/disassembly sequence according to the installationprogress). The movement of the windows can be carried out from the loading plans made and with manual displacement of the same. Coordination of equipment between scaffolding and window handling. The latter must be fitted with booster bands in advance in order to be guided downhill to the assembly areas. There may be operators assisting the laying at a scaffolding plan mounted from the inside of the building.

N.B. Given the particularity of this process, the company will have to explain in the POS its complementary and detailed procedures to those indicated in this PSC. (point 2.1.3, Annex XV of D.Lgs. 81/2008 and s.m.i.)

Workers:
Worker of continuous steel and glassfacade.

Preventive and Protective Measures, additional to those in the next chapter:
a) DPI: worker of continuous steel and glass facadeassembly.

Organizational Requirements:

Appropriate individual protection devices must be provided to the worker: **a)** gloves; **(b)** protective goggles; **c)** safety shoes with a slip sole and unforgivable; **d)** dust mask.

Risks to which the worker is exposed:

	Fall from above **[P3 x E4]**		Fall of material from above or level **[P2 x E3]**		

Machines and Tools:

1) Truck;
2) Truck with crane;
3) Self-driving;
4) Tower cranes;
5) Manual tools;
6) Fixed metal scaffolding;
7) Mobile scaffolding or trabattello.

Risks generated by the use of machines and tools:
Vibrations; Shocks, blows, impacts, compressions; Noise; Caesareans, squeezing; Electrocution; Punctures, cuts, abrasions; Fall of material from above or at the level; Fall from above; Slips, drops at the level.

15.27. GEOGNOSTIC SURVEYS

The processing is divided into the following Phases and Subphases:
Drilling ground by probe

15.28. Drilling ground by probe (phase)

The survey of the ground will have to be carried out by probes at an altitude of about 40 meters (external survey on Via San Marcello) and 20 meters

inside the building. Two types of machine will be used for the height of the surveys to be performed. The first exterior at 40 meters on the square will include the under compartmentalization phase of the work area, the realization of a containment of any water coming and clumping(drying) with the laying of sandbags and lifting pump to recover the water in tanks. The company will require noise delegation as the machine emits a sound that is above the allowed average.. As far as the internal drill is concerned, it will have to pass on the ground floor attic, properly propped up to ensure the discharge of weights to the ground. The probe will be placed and a carrot will be made on the first and second attic to get to the ground and proceed with the survey. The whole area will be propped up. Communication management from different worktops will have to be managed with radio transmitters, operators will always have to be connected; If communication malfunctions are found, the survey activity should be stopped immediately. In this case, too, a system of containment and pumping of water will be guaranteed and will be used to be sent to the appropriate reservoir. The area where the probe insists must be equipped with appropriate ventilation as there is a combustion engine, the workers will have to wear all the IPR necessary for the airways. The area being intervened should be particularly illuminated given the particularity of the activity to be performed.

Machines used:

1) Drillprobe;
2) Truck.

Risks generated by the use of machines:

Caesareans, squeezing; Shocks, blows, impacts, compressions; Noise; Vibrations; Inhaling powders, fibers; Investment, tipping; Slips, drops at the level; Fires, explosions.

Engaged workers:

1) Employees with different tasks used to assist in handling: removals and manual handling;
2) Employees with different tasks employed in the various construction, structural, mechanical and electrical processes within the ty plan.

Preventive and Protective Measures, additional to those in the next chapter:

(a) IPR: responsible for setting up depots, areas for theo storage of materials;

b) DPI: person setting up provisional works;

c) DPI: collective protection system system worker, electrician, plumber;

d) DPI: User of Mechanical Probes.

Organizational Requirements:

Appropriate individual protection devices must be provided to workers: **a)** helmet; **b)** gloves; **c)** safety shoes with a slip sole and unforgivable; **d)** safety goggles. **(e)** High-visibility garments..

Risks to which the worker is exposed:

a) Fall of material from above or at the level; stumbles.

Tools used by the worker:

(a) Proping systems;
b) Manual tools;
c) Stairs;
d) Circular saw;
e) Corner grinder (flexible);
f) Electric drill;
g) Fan/extractor;
h) Water collectionpump;
i) Tanks;
j) Wheelbarrows.

Risks from the use of tools:

Noise; Vibration; Fall from above; Fall of material from above or at the level; Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Electrocution; Inhaling powders, fibers; Slips, drops at the level.

15.29. REMOVAL AND DEMOBILIZE OF THE SITE

The process is divided into the following Phases and Subphases:

1) Site unmobilly

15.29.1. Site unmobilily (phase)

The site was dismantled by the dismantling of fixed workstations, all the construction sites on each floor, the equipment for handling materials.

Machines used:

1) Truck;
2) Truck with crane.

Risks generated by the use of machines:

Fall of material from above or at the level; Caesareans, squeezing; Inhaling powders, fibers; Fires, explosions; Investment, tipping; Skin irritations, allergic reactions; Manual handling of loads; Slips, drops at the level; Shocks, blows, impacts, compressions; Noise; Vibrations; Electrocution; Jets, sketches.

Engaged workers:
1) Site unmobilising officer;

Preventive and Protective Measures, additional to those in the next chapter:
a) DPI: site unmobilisible officer;

Organizational Requirements:

Appropriate individual protection devices must be provided to workers: **a)** helmet; **b)** gloves; **c)** safety shoes with a slip sole and unforgivable; **d)** safety goggles.

Risks to which the worker is exposed:
- *a)* Fall of material from above or at the level;
- *b)* Noise.

Tools used by the worker:
- a) Flag argano;
- *a)* Mobile scaffolding or trabattello;
- *b)* Double scale;
- *c)* Simple scale;
- *d)* Electricdrill.

Risks from the use of tools:
Fall of material from above or at the level; Electrocution; Punctures, cuts, abrasions; Shocks, blows, impacts, compressions; Fall from above; Manual handling of loads; Caesareans, squeezing; Inhaling powders, fibers; Burns.

16. RISKS IDENTIFIED IN THE PROCESSES AND RELATED PREVENTIVE AND PROTECTIVE MEASURES.

risks from processing and the use of machines and tools

The risk assessment [R], which is necessary to prioritise improvements in business security, was carried out taking into account the extent of the damage [E] (function of the consequences on people) and the likelihood of the event itself [P].
The methodology for the *"semi-quantitative"* assessment of employment risks generally used is based on the "matrix" method.
Probability of occurrence [P] is the quantification (estimate) of the probability that the damage, resulting from a given risk factor, actually occurs. It can take a synthetic value between 1 and 4, according to the following range of probability thresholds:
1) Very likely[P4];

2) Probable[P3];
3) Unlikely[P2];
4) Unlikely[P1].

The extent of the damage [E] is the quantification (estimate) of the potential damage resulting from a given risk factor. It can take a synthetic value between 1 and 4, according to the following range of damage thresholds:

1) Very serious[E4];
2) Severe[E3];
3) Significant[E2];
4) Slight[E1].

Once a specific danger or risk factor has been identified, the numerical value of the [R] risk is estimated as a product of the Damage Entity [E] for the Probability of Occurrence [P] of the risk. ***[R] : [P] x [E]***

Risk [R]	**Unlikely** [P1]	**Unlikely** [P2]	**Probable** [P3]	**Most likely** [P4]
Slight Damage [E1]	**Low Risk** [P1]X[E1]-1	**Low Risk** [P2]X[E1]-2	**Moderate Risk** [P3]X[E1]-3	**Moderate Risk** [P4]X[E1]-4
Significant Damage [E2]	**Low Risk** [P1]X[E2]-2	**Moderate Risk** [P2]X[E2]-4	**Average Risk** [P3]X[E2]-6	**Significant Risk** [P4]X[E2]-8
Serious damage [E3]	**Moderate Risk** [P1]X[E3]-3	**Average Risk** [P2]X[E3]-6	**Significant Risk** [P3]X[E3]-9	**High Risk** [P4]X[E3]-12
Very serious damage [E4]	**Moderate Risk** [P1]X[E4]-4	**Significant Risk** [P2]X[E4]-8	**High Risk** [P3]X[E4]-12	**High Risk** [P4]X[E4]-16

List of risks:

1) Asbestos;
2) Fall of material from above or at the level;
3) Electrocution;
4) Inhaling powders, fibers;
5) M.M.C. (lifting and transporting);
6) R.O.A. (welding operations);
7) Noise;
8) Vibrations;
9) Fall from above;

10) Chemist;
11) Punctury, cuts, abrasions;;
12) Confined environments.
13) COVID-19

16.1. RISK: Asbestos

Description of the Risk:

Risks to the health of workers during processing involving or, which may involve, workers' exposure to dust from asbestos and asbestos-containing materials (MCA).

*PREVENTIVE MISURE and***PROTECTE :**

a) *In processing***:** Removal of MCA materials and mineral wools;

Technical and organizational measures:

Exposure limit value. In all work activities, the concentration in the air of dust from asbestos or asbestos-containing materials in the workplace must be kept to a minimum and, in any case, below the exposure limit value.

Choosing the individual protection device. The airway individual protection devices (DPI) provided to workers must have an operational protection factor appropriate to the concentration of asbestos in the air and ensure that the filtered air present within the IPR is no more than one-tenth of the exposure limit value.

Technical, organizational and procedural measures. In order to eliminate and/or reduce the risks of exposing workers to asbestos fibres, the following prevention and protection measures are taken: **(a)** the number of workers exposed, or who may be exposed, is the minimum as a function of the need for processing; **(b)** the use of individual protective equipment must be interspersed with rest periods appropriate to the physical commitment required by work, in specific rest areas and after suitable decontamination; **(c)** working methods must be such as to avoid the production of asbestos dust or, if this is not possible, to avoid the release of asbestos dust in the air; **(d)** premises, equipment and facilities intended or used in activities that may involve exposure to asbestos fibres must be regularly and systematically cleaned; **(c)** Waste is removed from the workplace as soon as possible and in appropriate packaging and is disposed of, in accordance with current legislation, as hazardous waste.

*Measuring asbestos fibres***.** Activities that may be exposed to asbestos or asbestos-exposed materials are subjected to measurements of the concentration of asbestos fibres in the workplace air, to verify compliance with the limit values of exposure to asbestos fibres, with

sampling and measurement methods in accordance with legislative regulations.
Worktop. Before the start of demolition or removal of asbestos or asbestos-containing materials from buildings, appliances and plants, as well as by means of transport, a work plan must be put in place to be submitted to the relevant supervisory body for the territory. *Hygiene measures.* The following hygiene measures must be ensured: **(a)** areas where activities that may expose asbestos or asbestos-containing materials are carried out are isolated and made accessible only by workers who have to travel there for reasons related to their job or function; **(b)** isolated areas where activities take place, which may expose asbestos or asbestos-containing materials, must be indicated with appropriate warning and safety signals; **(c)** in processing in predetermined areas, which may be exposed to asbestos, bans on smoking, drinking or food, use of mouth pipettes and cosmetics are to be indicated with appropriate warning and safety signals; **(d)** Workers have adequate sanitary facilities, equipped with showers, in case of operations in dusty environments and special areas that allow them to eat and drink without the risk of contamination by asbestos dust; **(c)** Workers must have suitable protective clothing provided and must be stored in places separate from civilian clothes; **(f)** work or protective clothing must be stored inside the company and can be transported outside, in closed containers, only to allow washing in laundries equipped for this type of operation; **(g)** individual protective equipment is kept in specific places and is controlled and cleaned after each use.

Individual protection devices:

Mask with proper filter, protective suit, gloves, shoes.

16.2. RISK: Falling material from above or at the level

Description of the Risk:

Injuries caused by the investment of masses dropped from above, during the operations of transport of materials or by fall of the same by provisional works, or at the level, as a result of demolition by explosive or thrust by shattered materials projected at a distance.

PREVENTIVE MISURE and PROTECTE:

a) *In the* **works :** Removal of residual furniture and coatings; Miscellaneous work of STRIP-OUT (building and planting) on a floor; Miscellaneous work of STRIP-OUT (building and planting) on a floor;

Executiveprescribers:

The harness operators must follow the following instructions: **a)** verify that the load has been harnessed correctly; **b)** initially accompany the

cargo out of the interference zone with any equipment, obstacles or materials present; **c)** move away from the trajectory of the load during the lifting phase; **d)** do not wait under the trajectory of the load; **(e)** approach the incoming load to fly it out of the interference zone with any obstacles present; **(f)** make sure the load is stable before undocking it; **g)** accompany the hook out of the area engaged by equipment or materials during the recall manoeuvre.

b) *In the works:* Removal of residual furniture and coatings; Removal ceramic coatings;

Executive Requirements:

Convoy of demolition material. The demolition material must not be thrown from above, but must be transported or conveyed in special canals, the lower end of which must not be at a height greater than 2 meters above the level of the collection floor.

Regulatory References:

D.Lgs. 9 April 2008 n.81, Art. 153; D.Lgs. 9 April 2008 n.81, Art. 152. **c***) In the works:* Unmobilly of the construction site;

Executive Requirements

Slinging clerks: harness check. The workers must verify that the load has been harnessed correctly before allowing the lifting manoeuvre to begin.
Slinging attendants: load lifting manoeuvres. When lifting the load, the attendants must accompany him out of the interference zone with equipment, obstacles or materials possibly present, only for the necessary.
Slinging staff: removal. The harness and load docking workers must move away from its trajectory as soon as possible during the lifting phase.
Slinging attendants: waiting for the load. It is forbidden to wait under the trajectory of the load.
Slinging staff: oncoming load management. It is allowed to approach the incoming cargo, to pilot it out of the interference zone with any obstacles present, only when this has almost reached its destination plan.
Slinging attendants: Load release. Before dropping the load from the lift, you will need to make sure that the load is stable in advance.
Slinging attendants: release of the hook. After commanding the hook recall maneuver by the lifting device, it should not simply be released,

but accompanied out of the area engaged by equipment or materials, to avoid accidental hooking.

16.3. RISK: Electrocution

Description of the Risk:

Electrocution by direct or indirect contact with parts of the electrical system in tension or electrocution due to falling lightning near the worker.

PREVENTIVE MISURE and PROTECTE:

a) *In the* **works :** Realization of clarification; Slicing lines; existing plants;;

Organizational Requirements:

*Electrical system: basic requirements***.** All materials, equipment, machinery, installations and electrical and electronic systems must be made and put in place according to the art rule. Materials, equipment, machinery, installations and electrical and electronic systems made according to the rules of the Italian Electrical Committee are considered to be built in accordance with the rules.

Electrical components: trademarks and certifications. All electrical components of the plant must comply with CEI standards and must be accompanied by the following marks: **(a)** manufacturer; **b)** degree of protection; **(c)** A certification body recognised by the EEC,in theabsence of certification, the product must be accompanied by a declaration of compliance with the rules drawn up by the manufacturer, to be kept on site for inspectors.

Electrical components: degree of protection. The degree of protection against the penetration of solid and liquid bodies of all electrical equipment and components present on the site must be: **a)** not less than IP 44, if the use takes place in a closed environment (CEI 70-1); **b)** not less than IP 55, whenever use takes place outdoors with the possibility of investment by water jets. In particular, all plug-ins on the site must comply with the EEC Euronorm specifications (CEI 23-12), with the following degree of minimum protection: **a)** IP 44, against the penetration of solid and liquid bodies; **b)** IP 67, when used outside. It should be remembered that all the outlets are equipped with a restraint system that avoids accidental contact of the plug. Plug sockets with a nominal current greater than 16 A must be interlocked, with fully functioning interlock.

Electrical system: one-line scheme. In low-voltage construction sites and in particular in large complexes, it is recommended to have the one-line schematic of distribution and that of the auxiliary circuits.

Safety lighting of the site. All areas of the construction site, which are particularly dark (areas for underground car parks, inland areas of buildings with a significant plan size, etc.) will have to be equipped with

adequate safety lighting, sufficient to clearly indicate the exit routes if ordinary lighting is lacking.

Differential switch. Immediately downstream from the distributor's delivery point, an automatic and differential selective switch must be installed in a container of insulation material with a key lock; if this is not possible, the upstream part of the plant in Class II (double insulation) will have to be built. The nominal current (I) of that switch, must be coordinated with the ground resistance (RT) of the disperser. Gdifferential switches on the
frequently checked byi the manual release button on each switch.

*Different types of circuit***power.** If there are multiple types of power, the connection to the plant must be made by means of devices that prevent it from interconnecting.

Supplying energy to other companies. It must be strictly prohibited for the supply of electricity to any other companies. If other companies use the electrical system, the electrical material used must be required to comply with the rules and be in perfect condition.

Restricted conducting places. It is to be considered "restricted conducting places" all those places where the worker can come into contact with live surfaces with a large part of the body other than hands and feet (e.g. metal tanks or cavities within non-isolating structures), work carried out on pythromites and those carried out in the presence of water or mud. In order to ensure adequate protection against "direct contacts", the plant will have to be built with barriers and casings, which offer guarantees of a high seal capable of withstanding a test voltage of 500 V for one minute. With regard to 'indirect contacts', the protection measures must be distinguished between those for fixed and mobile components of the plant. There are four possible insulation solutions with regard to fixed components: **a)** very low safety voltage (SELV) max 50 V (25 V on construction sites) in c.a. and 120 V in c.c.; **b)** electrical separation by insulation transformer; **(c)** use of Class II components (including cables), with utilities protected by a differential with intervention current of no more than 0.05; **d)** automatic interruption, using a differential device, with a current of intervention of no more than 0.05 A and the installation of an additional equipoteal link between the masses of fixed devices and the conductive parts (usually foreign masses) of the restricted conducting place. Electrical lamps, for example, are typically powered by very low-voltage safety systems (SELVs). For portable power tools, they can be either powered by very low voltage systems (SELVs), or by insulation transformers if only one component is connected to each secondary winding. The preferred solution, however, is to use tools with a Class II insulation degree. In any case, if you choose to use very low voltage power systems or insulation transformers, power sources and transformers must be kept outside the restricted conducting location.

Realization of protected gates. The construction of the protected gates must take place in the absence of electricity in the affected section, which, although lacking in energy, must also be connected to the ground. Protected metal gates must be permanently connected to the ground.
Checks by the electrician. At the end of the construction of the electrical system on the site will have to be carried out by a qualified electrician, a general visual check and the following instrumental tests, the results of which will be mandatory in a report to be kept on site, to be shown to the inspection staff. Instrumental tests: **1)** verification of the continuity of conductors; **2)** evidence of polarity; **3)** tests of operation; **4)** verify SELV circuits; **5)** differential switch tests; **6)** check protection for electrical separation; **7)** measure of the earth strength of a disperser; **8)** measure of soil resistance; **9)** measure of total resistance (TT system); **10)** measure of Zg impedance of the fault circuit (TN system); **11)** measure of the resistance of the fault ring (TT) without neutral distributed; **12)** search for foreign masses; **13)** measure the ground strength of a picket or disperser being installed; **14)** ground failure current measurement (TT); **15)** ground failure current (TN) measurement; **16)** measurement of the expected minimum short-circuit current (TN); **18)** measurement of the expected minimum short circuit current (TT).
Subjects enabled to perform jobs. Work on electrical systems or equipment must be carried out only by individual or associated companies (electricians) who will have to issue, before the plant is put into operation, the "declaration of compliance".

Regulatory References:

Law 1 March 1968 n.186, Art.1; Law 1 March 1968 n.186, Art.2; Law 18 October 1977 No.791; D.Lgs. 9 April 2008 No. 81; D.Lgs. 9 April 2008 81, Exhibit 9; CEI 23-12; CEI 70-1; CEI 648/7; D.Lgs. 9 April 2008 No. 82; D.M. 22 January 2008 No.37.

16.4. RISK: Inhalation of powders, fibres

Description of the Risk:
Injuries to the respiratory system and in general to the health of the worker resulting from exposure for the direct use of materials in small grain, powder or fibrosis and/or resulting from processing or operations that result in its emission.

PREVENTIVE MISURE and PROTECTE:

a) *In the* **works :** Removal ceramic coatings;

Executive Requirements:

Spraying surfaces. During the demolition work, the dust should be reduced, spraying the masonry and materials with water and ensuring that the storage and evacuation of debris and rubble takes place correctly.

b) *In features:* Removing internal partitions in plasterboard; Demolition of sub-bottoms;

Organizational Requirements:

During the demolition work, the dust should be reduced, spraying the masonry and materials with water and ensuring that the storage and evacuation of debris and rubble takes place correctly.

Regulatory References:

D.Lgs. 9 April 2008 No. 96; D.Lgs. 9 April 2008 No. 153.

16.5. RISK: M.M.C. Manual Handling of the Carks (lifting and transporting)

Description of the Risk:

Injuries related to the skeletal and/or muscle apparatus during the manual handling of loads with transport or support operations including the actions of lifting and laying loads. For all the details related to the analysis of the, please refer to the specific evaluation document.

PREVENTIVE MISURE and PROTECTE:

a) *In the works:*
Removal of residual furniture and coatings; Removal of existing ceilings; Removal ceramic coatings; Removal of interior windows; Removing internal partitions in plasterboard; Removal of partitions; Removal of internal flooring; Demolition of sub-bottoms;

Technical and organizational measures:

Work organization. Work activities must be organized in view of the following guidelines: **a)** the working environment (temperature, humidity and ventilation) must have appropriate microclimate conditions; **(b)** the spaces dedicated to handling must be adequate; **c)** lifting loads must always be done with two hands and one person; **d)** the load to be lifted should not be extremely cold, hot or contaminated; **(e)** other manual handling activities must be minimal;

(f) there must be adequate friction between feet and floor; **g)** lifting gestures should be performed in a non-abrupt manner.

16.6. RISK: R.O.A. Artificial Optical Radiation (welding operations)

Description of the Risk:

Injuries located in the eyes during welding, thermal cutting and other activities that involve emission of artificial optical radiation. For all the details of the risk analysis, please refer to the specific assessment document.

PREVENTIVE MISURE and PROTECTE:

a) *In the works:* Realization of clarification ; Sectioning existing plant lines;

Technical and organizational measures:

Technical, organizational and procedural measures. In order to reduce exposure to artificial optical radiation, the following measures must be taken: **a)** **(b)** appropriate technical measures must be applied to reduce the emission of optical radiation, including, when necessary, the use of safety devices, shielding or similar health protection mechanisms; **(c)** appropriate maintenance programmes for welding equipment, workplaces and workstations must be put in place; **(d)** Places and workstations must be designed to reduce exposure to optical radiation from welding operations; **(e)** the duration of welding operations should be reduced to the minimum possible; **(f)** workers must have adequate protective equipment for optical radiation produced during welding operations; **(g)** workers must have the manufacturer's instructions available for the equipment used in welding operations; **(h)** the areas in which welding is carried out must be indicated with a special signage and access to them must be restricted.

Individual protection devices:

Workers must be equipped with screens (facial shelters) and masks. The filter scale factor should be, depending on the source used for welding, the one listed in the respective Risk Assessment Card in the "R.O.A. Welding Operations Risk Assessment" report.

16.7. RISK: Noise

Description of the Risk:

For all the details of the risk analysis, please refer to the specific assessment document.

PREVENTIVE MISURE and PROTECTE:

a) *In the works:* Realization of clarification; Removal of implants;

Membership band. The exposure level is "Included between lower and upper action values: 80/85 dB(A) and 135/137 dB(C)".

Technical and organizational measures:

Work organization. Work activities must be organized in view of the following guidelines: **a)** **(b)** the choice of suitable work equipment, taking into account the work to be done, which emits as little noise as possible; **(c)** noise reduction by better work organisation through the limitation and duration and intensity of exposure and the adoption of appropriate working hours, with sufficient rest periods; **(d)** the adoption of appropriate maintenance programmes for work equipment and machines, workplaces and workplace systems; **(c)** design of the structure of places and workplaces in order to reduce exposure to workers' noise; **(f)** technical measures to contain airborne noise, such as shielding, casing or coatings made from sound-absorbing materials; **(g)** use technical measures to contain structural noise, such as damping or insulation systems; **(h)** rest rooms made available to workers with noise reduced to a level compatible with their purpose and conditions of use.

b) *In the works:* Realization of clarification; Slicing existing plant lines; Removal of plant at altitude; Demolition of sub-bottoms;

Membership band. The exposure level is "Greater than the higher action values: 85 dB(A) and 137 dB(C)".

Technical and organizational measures:

Work organization. Work activities must be organized in view of the following guidelines: **a)** **(b)** the choice of suitable work equipment, taking into account the work to be done, which emits as little noise as possible; **(c)** noise reduction by better work organisation through the limitation and duration and intensity of exposure and the adoption of appropriate working hours, with sufficient rest periods; **(d)** the adoption of appropriate maintenance programmes for work equipment and machines, workplaces and workplace systems; **(c)** design of the structure of places and workplaces in order to reduce exposure to workers' noise; **(f)** technical measures to contain airborne noise, such as shielding, casing or coatings made from sound-absorbing materials;

(g) use technical measures to contain structural noise, such as damping or insulation systems; **(h)** rest rooms made available to workers with noise reduced to a level compatible with their purpose and conditions of use.
Reporting and delimiting the work environment. Workplaces must have the following requirements: **(a)** indication, with special signals, of workplaces where workers are exposed to noise above higher values of action; **(b)** where this is technically possible and justified by the risk, delimitation and limited access of areas, where workers are exposed to noise above the higher values of action.

c) *In features:* Removal of existing ceilings; Removing sanitary equipment;

Membership band. The exposure level is "Greater than the higher action values: 85 dB(A) and 137 dB(C)".

Technical and organizational measures:

Work organization. Work activities must be organized in view of the following guidelines: **a)** **(b)** the choice of suitable work equipment, taking into account the work to be done, which emits as little noise as possible; **(c)** noise reduction by better work organisation by limiting the duration and intensity of exposure and adopting appropriate working hours, with sufficient rest periods; **(d)** the adoption of appropriate maintenance programmes for work equipment and machines, workplaces and workplace systems; **(c)** design of the structure of places and workplaces in order to reduce exposure to workers' noise; **(f)** technical measures to contain airborne noise, such as shielding, casing or coatings made from sound-absorbing materials; **(g)** use technical measures to contain structural noise, such as damping or insulation systems; **(h)** rest rooms made available to workers with noise reduced to a level compatible with their purpose and conditions of use.

d) *In the works:* Removal ceramic coatings;

Membership band. The exposure level is "Greater than the higher action values: 85 dB(A) and 137 dB(C)".

Technical and organizational measures:

Work organization. Work activities must be organized in view of the following guidelines: **a)** **(b)** the adoption of working methods which imply less exposure to noise; **(c)** noise reduction by better work organisation by limiting the duration and intensity of exposure and adopting appropriate working hours, with sufficient rest periods; **(d)** the adoption of appropriate maintenance programmes for work equipment and machines, workplaces and workplace systems; **(c)**

design of the structure of places and workplaces in order to reduce exposure to workers' noise; **(f)** technical measures to contain airborne noise, such as shielding, casing or coatings made from sound-absorbing materials; **(g)** use technical measures to contain structural noise, such as damping or insulation systems; **(h)** rest rooms made available to workers with noise reduced to a level compatible with their purpose and conditions of use.

e) *In features:* Removing internal partitions in plasterboard;

Membership band. The exposure level is "Greater than the higher action values: 85 dB(A) and 137 dB(C)".

Technical and organizational measures:

Work organization. Work activities must be organized in view of the following guidelines: **a)** **(b)** the choice of suitable work equipment, taking into account the work to be done, which emits as little noise as possible; **(c)** noise reduction by better work organisation through the limitation and duration and intensity of exposure and the adoption of appropriate working hours, with sufficient rest periods; **(d)** the adoption of appropriate maintenance programmes for work equipment and machines, workplaces and workplace systems; **(c)** design of the structure of places and workplaces in order to reduce exposure to workers' noise; **(f)** technical measures to contain airborne noise, such as shielding, casing or coatings made from sound-absorbing materials; **(g)** use technical measures to contain structural noise, such as damping or insulation systems; **(h)** rest rooms made available to workers with noise reduced to a level compatible with their purpose and conditions of use.
Reporting and delimiting the work environment. Workplaces must have the following requirements: **(a)** indication, with special signals, of workplaces where workers are exposed to noise above higher values of action; **(b)** where this is technically possible and justified by the risk, delimitation and limited access of areas, where workers are exposed to noise above the higher values of action.

f) *In the works:* I'm moving the construction site;

Membership band. The exposure level is "Included between lower and upper action values: 80/85 dB(A) and 135/137 dB(C)".

Technical and organizational measures:

Work organization. Work activities must be organized in view of the following guidelines: **a)** **(b)** the choice of suitable work equipment, taking into account the work to be done, which emits as little noise as possible; **(c)** noise reduction by better work organisation through the

limitation and duration and intensity of exposure and the adoption of appropriate working hours, with sufficient rest periods; **(d)** the adoption of appropriate maintenance programmes for work equipment and machines, workplaces and workplace systems; **(c)** design of the structure of places and workplaces in order to reduce exposure to workers' noise; **(f)** technical measures to contain airborne noise, such as shielding, casing or coatings made from sound-absorbing materials; **(g)** use technical measures to contain structural noise, such as damping or insulation systems; **(h)** rest rooms made available to workers with noise reduced to a level compatible with their purpose and conditions of use.

g) *In the machines:* Truck; Truck with crane;

Membership band. The exposure level is "Less than the lower action values: 80 dB(A) and 135 dB(C)".

Technical and organizational measures:

Work organization. Work activities must be organized in view of the following guidelines: **a)** **(b)** the choice of suitable work equipment, taking into account the work to be done, which emits as little noise as possible; **(c)** noise reduction by better work organisation through the limitation and duration and intensity of exposure and the adoption of appropriate working hours, with sufficient rest periods; **(d)** the adoption of appropriate maintenance programmes for work equipment and machines, workplaces and workplace systems; **(c)** design of the structure of places and workplaces in order to reduce exposure to workers' noise; **(f)** technical measures to contain airborne noise, such as shielding, casing or coatings made from sound-absorbing materials; **(g)** use technical measures to contain structural noise, such as damping or insulation systems; **(h)** rest rooms made available to workers with noise reduced to a level compatible with their purpose and conditions of use.

h) *In the machines:* Mini excavator; Mechanical pala (minipala);

Membership band. The exposure level is "Less than the lower action values: 80 dB(A) and 135 dB(C)".

Technical and organizational measures:

Work organization. Work activities must be organized in view of the following guidelines: **a)** **(b)** the adoption of working methods which imply less exposure to noise; **(c)** noise reduction by better work organisation by limiting the duration and intensity of exposure and adopting appropriate working hours, with sufficient rest periods; **(d)** the adoption of appropriate maintenance programmes for work

equipment and machines, workplaces and workplace systems; **(c)** design of the structure of places and workplaces in order to reduce exposure to workers' noise; **(f)** technical measures to contain airborne noise, such as shielding, casing or coatings made from sound-absorbing materials; **(g)** use technical measures to contain structural noise, such as damping or insulation systems; **(h)** rest rooms made available to workers with noise reduced to a level compatible with their purpose and conditions of use.

i) *In the machines:* Mini excavator with demolition hammer;

Membership band. The exposure level is "Greater than the higher action values: 85 dB(A) and 137 dB(C)".

Technical and organizational measures:

Work organization. Work activities must be organized in view of the following guidelines: **a)** **(b)** the adoption of working methods which imply less exposure to noise; **(c)** noise reduction by better work organisation by limiting the duration and intensity of exposure and adopting appropriate working hours, with sufficient rest periods; **(d)** the adoption of appropriate maintenance programmes for work equipment and machines, workplaces and workplace systems; **(c)** design of the structure of places and workplaces in order to reduce exposure to workers' noise; **(f)** technical measures to contain airborne noise, such as shielding, casing or coatings made from sound-absorbing materials; **(g)** use technical measures to contain structural noise, such as damping or insulation systems; **(h)** rest rooms made available to workers with noise reduced to a level compatible with their purpose and conditions of use.
Reporting and delimiting the work environment. Workplaces must have the following requirements: **(a)** indication, with special signals, of workplaces where workers are exposed to noise above higher values of action; **(b)** where this is technically possible and justified by the risk, delimitation and limited access of areas, where workers are exposed to noise above the higher values of action.

Individual protection devices:

They must be provided: **a)** otoprotectors.

16.8. RISK: Vibrations
Description of the Risk:

For all the details of the risk analysis (assessment sheets, etc.) refer to the specific assessment document.

PREVENTIVE MISURE and PROTECTE:

a) *In the works:*
Realization of construction; Slicing existing plant lines; Removal of existing ceilings; Removal of plant at altitude; Removing sanitary equipment; Removal ceramic coatings; Removing internal partitions in plasterboard; Demolition of sub-bottoms;

Membership band. Hand-Arm (HAV): "Between 2.5 and 5.0 m/s2"; Whole Body (WBV): "Not present".

Technical and organizational measures:

General measures. The risks of exposing workers to vibrations must be eliminated at source or minimised.
Work organization. Work activities must be organized in view of the following guidelines: **(a)** the working methods adopted must be those that require the least exposure to mechanical vibrations; **b)** the duration and intensity of exposure to mechanical vibrations should be appropriately limited to the minimum required for processing needs; **(c)** working hours must be arranged in an appropriate manner for the type of work to be done; **(d)** appropriate rest periods must be provided depending on the type of work to be done.
*Work***equipment.** The work equipment used must: (a) **a)** be adapted to the work to be done; **(b)** be designed in accordance with ergonomic principles; **c)** produce as little vibration as possible, taking into account the work to be done; **d)** be subject to appropriate maintenance programmes.

Individual protection devices:

Clothes for protection from cold and humidity, gloves that attenuate the vibration transmitted to the hand-arm system, handles that attenuate the vibration transmitted to the hand-arm system.

b) *In the machines:* Truck; Truck with crane;

Membership band. Hand-Arm (HAV): "Not present"; Whole Body (WBV): "Less than 0.5 m/s2".

Technical and organizational measures:

General measures. The risks of exposing workers to vibrations must be eliminated at source or minimised.

c) *In the machines:* Mini excavator; Mini excavator with demolition hammer; Mechanical pala (minipala);

Membership band. Hand-Arm (HAV): "Not present"; Whole Body (WBV): "Included between 0.5 and 1 m/s2".

Technical and organizational measures:

General measures. The risks of exposing workers to vibrations must be eliminated at source or minimised.
Work organization. Work activities must be organized in view of the following guidelines: **(a)** the working methods adopted must be those that require the least exposure to mechanical vibrations; **b)** the duration and intensity of exposure to mechanical vibrations should be appropriately limited to the minimum required for processing needs; **(c)** working hours must be arranged in an appropriate manner for the type of work to be done; **(d)** appropriate rest periods must be provided depending on the type of work to be done.
Work equipment. The work equipment used: **(a)** must be adapted to the work to be done; **(b)** must be designed in accordance with ergonomic principles; **(c)** must produce as little vibration as possible,giventhe work tobe done; **(d)** must be subject to appropriate maintenance programmes.

Individual protection devices:

Protective clothing must be provided: **b)** damping devices; **c)** cushioning seats.

16.10. RISK: Fall from above

PREVENTIVE MISURE and PROTECTE:

a) *In the works:* Crane assembly; Disassembly of the tower crane;

Organizational Requirements:

The crane's mounting and maintenance staff will have to wear seatbelts with suspenders, thighs and double hold ropes, the length of which must not exceed 1.5 m, in the work along the pylon and arm of the crane, when operating outside the fixed protections.

b) *In the works:* Installation of elevator platforms ; Provisional safety parapet installation; Removing external windows; Installation of external windows; Restoration facades; Perimeter scaffolding dismantling;

Executive Requirements:

In high-altitude work, whenever collective prevention and protection measures are not feasible, individual protection measures against falls from above must be used. In particular, specific safety systems should be considered that allow for greater mobility of the worker such as: automatic winders/unwinders of hold-up ropes; fixed-guide system and sliding anchoring, other similar systems.

c) *In the works:* Reservoir reclamation;

Executive Requirements:

Descent and recovery device. The worker's descent device includes an anchor device (three-foot devices, four-foot devices, monopod devices) to which a fall stop system, a recovery device and a winch are connected. If access consists of a system that lifts and causes the suspended worker to fall, it must be lifted or lowered with a winch at the same time and must be attached to a fall stop system equipped with a recovery device as a safety device.

Regulatory References:

Guidelines for Security Features, Illustrated Handbook for Work in Confined Environments.

16.11. RISK: Chemist

PREVENTIVE MISURE and PROTECTE:

a) *In processing:* shavings and plasters; Paintings and completions; Paintings and completions;
Tank remediation;

TECHNICAL AND ORGANIZATIONAL MEASURES:

General measures. As a result of risk assessment, in order to eliminate or, in any case, minimise the risks arising from dangerous chemicals, appropriate general protection and prevention measures must be taken: **a)** **(b)** the work equipment provided must be suitable for specific activity and maintained properly; **(c)** the number of workers present during the specific activity must be the minimum one depending on the need for processing; **(d)** the duration and intensity of exposure to dangerous chemicals should

be minimised; **(e)** guidance should be given on the hygiene measures to be taken to maintain workers' health and safety; **(f)** the number of agents in the workplace must be kept to a minimum, depending on the processing needs; **(g)** appropriate working methods must be adopted including provisions that ensure safety in the handling, storage and transport of hazardous chemicals and waste containing these agents in the workplace.

16.12. RISK: Punctures, cuts, abrasions

Description of Rio:

Injuries for stings, cuts, abrasions of part of the body by accidental contact of the operator with sharp or pungent elements or otherwise capable of causing injury.

PREVENTIVE MISURE and PROTECTE:

a) *In the works:*
Punctuation slabs to be drilled; Tank cores and in all activities removing and demolitionwalls.

Executive Requirements:

Waiting irons. Waiting irons of the structures in c.a. must be protected against accidental contact; protection can be obtained through the shape of the irons or by affixing a resistant material cover.
Disarmament. Before allowing access to the areas where the structures have been disarmed, all nails and spikes must be removed.

16.13. RISK: Confined environments

PREVENTIVE MISURE and PROTECTE:

a) *In the works:* Reservoir remediation

Organizational Requirements:

Qualified companies. Any work activity in the area of suspected or confined environments can only be carried out by qualified companies or self-employed persons because of the following requirements: **(a)** full implementation of the existing risk assessment provisions, health surveillance and emergency management measures; **(b)** full and

binding application of paragraph 2 of Article 21 of the Legislative Decree 9 April 2008, No 81, in the case of family and self-employed enterprises; **(c)** The presence of staff, not less than 30% of the workforce, with at least three years' experience of working in pollution-suspected or confined environments, must necessarily have the work of the workers in charge; **(d)** information and training activities have taken place for all staff, including the employer where they are employed for work in suspected pollution or confined environments, specifically aimed at the knowledge of the risk factors inherent in these activities, which are the subject of learning and updating checks; **(e)** possession of personal protective equipment, instrumentation and work equipment suitable for the prevention of the risks inherent in work activities in suspicious pollution or confined environments and the successful use of such devices, instrumentation and equipment; **(f)** training all personnel employed for work in suspected or confined environments, including the employer, in relation to the application of safety procedures; **(g)** compliance with the current forecasts, where applicable, in relation to a single document of contribution regularity; **(h)** full application of the economic and regulatory part of collective bargaining, including the payment of contributions to any bilateral reference body, where the benefit is pay-type, with reference to the collective sector contracts and agreements signed by employers' organisations and workers comparatively more nationally.

Preliminary information. Before access to suspected pollution environments or confined all workers employed by the contractor, including the employer where employed in the same activities, or the self-employed must be informed on time and in detail by the employer about the characteristics of the places where they are called to operate, on all the risks in the environment, including those arising from the previous uses of work environments, and on the prevention and emergency measures taken in relation to their business. The information activity must be carried out in a sufficient time and adequate for the actual completion of the transfer of information and, in any case, not less than one day.

Work procedure. During all phases of processing in suspicious or confined environments, a working procedure specifically aimed at eliminating or, where impossible, minimising the risks of activities in confined environments, including the possible phase of rescue and coordination with the emergency system of the National Health Service and the Fire Brigade, must be adopted and effectively implemented.

Preliminary measures and precautions. It is necessary to assess first: **(a)** the need, in some cases, to resort to forced ventilation or other suitable means; **b)** the need, type and frequency of environmental monitoring (evidence of habitability through appropriate sensing equipment, appropriately calibrated and possibly equipped with sound and/or light alarm systems; **c)** the opportunity to monitor continuously, when there

may be doubts about the dangerousness of the atmosphere. In the case of potentially explosive atmospheres, the instrumentation must be in response to the D.P.R. 126/98 - implementation of the ATEX Product Directive - and the category chosen by the work manager in relation to the probability and durability of the explosive atmosphere; **(d)** the possible risks induced by the planned processing (e.g. fumes formation) or the context in which you operate (e.g. activities with long stay in underground road wells located on traffic-intensive roads or in the vicinity of waterways); **(e)** the need and mode by which to isolate the confined environment from the rest of the plant, installing appropriate signage and signage; **(f)** how to verify the suitability and functionality of work and rescue equipment; **(g)** how to verify the requirements and suitability of CPCs (collective protection devices) and IPR; **(h)** where necessary, the opportunity to perform the sealing or fit-testing of IPR for the airways.

Executive Requirements:

Signs. Workplaces that can be classified as "confined environments" or "pollution-suspicious environments" should be listed within the scope of D.P.R. 177/2011, with a dedicated sign. They must contain at least the following indications: **a)** pictogram representative of "generic danger"; **b)** pictograms for additional hazards such as explosion, flammable presence, toxicity, asphyxiation risk; **c)** the wording 'confined environment' or 'pollution-suspicious environment'; **d)** the wording "prohibition of entry without the specific authorization form".
Instructions for employees. Special attention should be paid to the execution of the work: **(a)** if, even after remediation, there may be doubts about the dangerousness of the atmosphere, workers must wear a safety harness connected to a recovery rope, supervised for the duration of the work by another worker positioned outside and, where necessary, provided with adequate protective equipment; **(b)** the possible autonomous source of energy must be placed in a suitable position, taking into account the emission of fumes that can enter the confined environment; **c)** It is necessary to ensure and maintain an adequate communication system in order to allow workers engaged within the confined environment to keep in touch with those outside, and to raise the alarm in the event of an emergency; **(d)** at the open access, in a safe position, there must always be a worker, equipped with the same IPR as the person working inside, to offer assistance and be able to recover a worker who may have been injured and/or caught ill as soon as possible and as stipulated in the emergency procedures; **(c)** When carrying out work within wells, sewers, tunnels, chimneys and

pits in general, appropriate measures must be taken against the dangers of toxic, asphyxiating, flammable or explosive gases, especially in relation to the geological nature of the soil or the proximity of factories, depots, refineries, compression and decompression stations, methane and pipelines, which can lead to dangerous infiltration.

Operator inside the confined environment. The worker entering the confined environment must: **a)** have health eligibility for the specific job; **b)** know the dangers present and the working procedure; **c)** know the technical characteristics of IPR and use them appropriately according to the training received; **d)** where necessary, wear the appropriate IPR to allow rapid extraction in case of abnormal and/or unforeseen conditions; **(e)** maintain constant communication with the external employee and in the event that communication takes place with transmitting devices, non-shielding of such transmissions from the same metal environments must be ensured; **(e)** know emergency procedures; **(f)** where necessary, have a handheld device, equipped with an alarm device, to continuously measure the percentage of oxygen or other substances; **(g)** where necessary, have a handheld device, equipped with an alarm device, to continuously measure the concentration of flammable substances in the air; **h)** Where necessary, have electrical or battery-powered systems that meet the safety requirements of D.P.R. 126/98; ;

(i) immediately evacuate the confined environment and notify your manager of any abnormal and/or unforeseen conditions found within the environment; **l)** immediately evacuate the confined environment when ordered by the external operator and/or the activation of some coded alarm signal and/or the recognition of some symptoms of physical malaise. *Operator outside the confined environment.* The external operator must: **(a)** have health eligibility for the specific job; **b)** know the dangers present and the working procedure; **c)** ensure attendance for the duration of the work. If, for whatever reason, you have to leave, another operator, who also has specific skills and training and has suitable IPR, must be required to change; **d)** maintain constant communication with the worker(s) within; **(e)** prohibit entry to anyone who has not been authorised; **(f)** check that safety conditions do not change and/or do not arise from the outside; **(g)** know the emergency procedures; **(h)** to evacuate the confined environment immediately if an abnormal and/or unforeseen condition occurs;; **(i)** be specifically equipped and trained in first aid for the worker's assistance and recovery.

Regulatory References:

D.P.R. 14 September 2011 No. 177; Illustrated manual for work in confined environments.

16.14. RISK: covid-19

Description of the risk:

This is the risk of covid-19 infection, which is part of the more general risk of the biologist agents affecting work activities (art.266, paragraph1 of d.lgs. 81/2008).

PREVENTIVE MISURE and PROTECTE:

a) *In the site* activities: all

Organizational Requirements:

General measures. **(a)**) staff will need to be subjected to body temperature control before entering thesite. If this temperature is above 37.5 degrees, access to the site will not be allowed. Persons in this condition - in accordance with the information in the note - will be temporarily isolated and provided with masks, they will not have to go to the emergency room and/or in the infirmaries of the premises, but they will have to contact their treating physician as soon as possible and follow his directions or, in any case, the health authority. **b)** awareness and acceptance of the fact that they cannot enter or can remain in the construction site and that they must declare it in a timely manner where, even after entry, there are dangerous conditions (symptoms of flu, temperature, coming from risky areas or contact with people positive for the virus in the previous 14 days, etc.) in which the Authority's measures requirethat the family doctor and the Health Authority be informed and remain athome. **(c)** the commitment to comply with all the provisions of the Authorities and the employer in making access on the site (in particular: maintaining the safe distance, using the individual protection tools made available during processing that do not allow to respect the interpersonal distance of one meter and to keep correct hygiene behaviour). **d)** commitment to promptly and responsibly informing the employer of the presence of any flu symptoms during the performance of the work, taking care to remain at an adequate distance from the persons present. **(e)** the obligation of the employer to inform staff in advance, and who intends to enter the site,of the foreclosure of access to those who, in the last 14 days, have had contact with those who have tested positive for COVID-19 or come from risky areas according to who guidelines.

Executive Requirements:

Cleaning and sanitizing the site. **(a)** The employer ensures the daily cleaning and periodic sanitization of changing rooms and common areas by restricting contemporary access to such places; for the purposes of sanitization and sanitation, the means of work and the relevant cockpits and piloting must also be included. The same applies to service cars and rental cars and to working vehicles such as cranes and vehicles operating on site.. **b)** It verifies the correct cleaning of individual working tools preventing their promiscuous use, also providing specific detergent and making it available on site both before and during the end of the work performance.
Individual protection devices. **(a)** The adoption of the hygiene measures and individual protection devices outlined in this Regulatory Protocol is of paramount importancebut, given the current emergency situation, it is clearly linked to the availability of these devices on the market.. **b)** Masks should be used in accordance with World Health Organisation guidelines.. **c)** Given the emergency situation, in case of supply difficulties and the sole purpose of preventing the spread of the virus, masks may be used whose type corresponds to the indications of the health authority and the coordinator for the execution of the work where appointed under the Legislative Decree 9 April 2008, No. 81. **d)** If the work to be carried out on site requires working at an interpersonal distance less than one meter and no other organizational solutions are possible, the use of FFP2 or FFP3 masks and other protective devices (gloves, "I think it's a good thing that we're going to be able to do that," he said. **(e)** The employer renews the work clothes for all workers, providing for the distribution to all workers engaged in the processing of all individual protective deviceseven in disposablesuits. **(f)** The employer makes sure that the health care is active on each site and, where mandatory, the appropriate medical service and emergencyresponse.

Regulatory References:

Vademecum drafted bythe Order of Engineers of Rome DPCM 11 March 2020; .

17. EQUIPMENT USED IN PROCESSING

Tool list:

1) Gone and Walkways;
2) Flag argano;
3) Manual tools;
4) Electric screwdriver;
5) Rubble drain channel;
6) Electric breaker hammer;
7) Bridge over easels;
8) Mobile scaffolding or trabattello;
9) Double scale;
10) Simple scale;
11) Circular saw;
12) Corner grinder (flexible);
13) Electric drill
14) Fixed metal scaffolding
15) Wall and plaster machine
16) Fan
17) Stand argano;
18) Argano on tripod stand;
19) Oxycetilenic welding rod.

17.1. Gones and Sparrows

The walkways and walkways are provisional works designed to allow the connection of jobs placed at different altitudes or separated by voids, as in the case of trenches excavations or scaffolding.

Risks generated by the use of the Tool:

1) Fall from above;
2) Fall of material from above or at the level.

Preventive and Protective Measures related to the Tool:

1) DPI: user gone and passle.

Organizational Requirements:

Appropriate personal protective equipment must be provided to the user: **(a)** safety footwear; **b)** gloves; **c)** protective clothing.

17.2. Flag argano

The winch is a lifting device used mainly in urban recovery yards and small renovation for lifting materials and tools to the worktop.

Risks generated by the use of the Tool:

1) Fall from above;
2) Fall of material from above or at the level;

3) Electrocution
4) Punctures, cuts, abrasions;
5) Shocks, blows, impacts,compressions.

Preventive and Protective Measures related to the Tool:

1) DPI: Flag winch user.

Organizational requirements:

Appropriate individual protective equipment must be provided to the user: **a)** helmet; **(b)** safety footwear; **c)** gloves; **(d)** protective clothing; **(e)** fall-out equipment.

17.3. Manual tools

The manual tools, present in all the phases of work, are essentially made up of one part intended for the handle and another, variously adapted, to the specific function performed.

Risks generated by the use of the Tool:

1) Punctures, cuts, abrasions;
2) Shocks, blows, impacts,compressions.

Preventive and Protective Measures related to the Tool:

1) DPI: User hand tools.

Organizational Requirements:

Appropriate individual protective equipment must be provided to the user: **a)** helmet; **(b)** safety footwear; **c)** glasses; **d)** gloves.

17.4. Electric screwdriver

The electric screwdriver is an electrical tool of common use in the construction site.

Risks generated by the use of the Tool:

1) Electrocution;
2) Shocks, blows, impacts,compressions.

Preventive and Protective Measures related to the Tool:

1) DPI: Electric screwdriveruser .

Organizational requirements:

Appropriate personal protective equipment must be provided to the user: **(a)** safety footwear; **b)** gloves.

17.5. Rubble drain channel

The rubble drainage canal is a tool used mainly in the recovery and renovation yards for conveying rubble from the upper floors of the building.

Risks generated by the use of the Tool:

1) Fall of material from above or at the level;
2) Inhaling powders,fibers.

Preventive and Protective Measures related to the Tool:

1) DPI: Channel user for dumping rubble.

Organizational requirements:

They must be provided: **a)** helmet; **b)** dust mask; **c)** gloves; **d)** safety footwear.

17.6. Electric Breaker Hammer

The demolition hammer is an equipment whose use is necessary whenever there is a need for a high number of blows and a powerful beat.

Risks generated by the use of the Tool:

1) Electrocution;
2) Inhaling powders, fibers;
3) Noise;
4) Shocks, blows, impacts, compressions;
5) Vibrations.

Preventive and Protective Measures related to the Tool:

1) DPI: Electric breaker hammer user.

Organizational requirements:

They must be provided: **a)** helmet; **(b)** otoprotectors; **c)** protective goggles; **d)** dust mask; **(e)** anti-vivibrations gloves; **(f)** safety footwear; **(g)** protective clothing.

17.7. Bridge on easels

The deck on easels is a provisional work consisting of a scaffolding of wooden planks supported by easels.

Risks generated by the use of the Tool:

1) Slips, drops at level;

Preventive and Protective Measures related to the Tool:

1) DPI: Bridge user on easels.

Organizational requirements:

They must be provided: **a)** helmet; **b)** gloves; **c)** safety footwear.

17.8. Mobile scaffolding or trabattle

Mobile scaffolding on wheels or traps is a provisional work used to carry out civil engineering work, such as new constructions or renovations and maintenance, at heights of more than 2 meters but that do not involve great time effort.

Risks generated by the use of the Tool:

1) Fall from above;
2) Fall of material from above or at the level;
3) Shocks, blows, impacts,compressions.

Preventive and Protective Measures related to the Tool:

1) DPI: Mobile scaffolding user or traplift.

Organizational requirements:

Appropriate individual protective equipment must be provided to the user: **a)** helmet; **(b)** safety footwear; **c)** gloves;; **d)** protective clothing.

17.9. Double scale

The double scale comes from the union of two simple hinged stairs at the top and equipped with an opening limiter. It is used to overcome differences or carry out temporary operations at altitudes not otherwise reachable: descent into excavations or wells, finishing and planting works, etc.

Risks generated by the use of the Tool:

1) Fall from above;
2) Caesareans, squeezing;
3) Manual handling of loads;
4) Shocks, blows, impacts,compressions.

Preventive and Protective Measures related to the Tool:

1) DPI: double scale user;

Organizational requirements:

Appropriate individual protective equipment must be provided to the worker: **a)** helmet; **(b)** safety footwear; **c)** gloves.

17.10. Simple scale

The simple-hand scale is used to overcome heights or perform temporary operations at dimensions that would not be reachable.

Risks generated by the use of the Tool:

1) Fall from above;
2) Manual handling of loads;
3) Shocks, blows, impacts,compressions.

Preventive and Protective Measures related to the Tool:

1) Simple scale: preventive and protectivemeasures.

Organizational Requirements:

Safety features: **1)** The hand-held stairs must be built with material suitable for the conditions of use, so they can be made of iron, aluminum or wood, but must be sufficiently resistant and have appropriate dimensions for use; **2)** The wooden stairs must have the pegs wedged in the struts that must be held with iron rods applied under the two extreme pegs; the stairs more than 4 m long must also have an intermediate pull; **3)** in all cases the stairs must be equipped with anti-slip devices at the lower ends of the two struts and hold elements or slippery supports at the upper extremities.

2) DPI: simple scale user;

Organizational Requirements:

They must be provided: **a)** helmet; **b)** gloves; **c)** safety footwear.

17.11. Circular saw

The circular saw, almost always present on construction sites, is used for the cutting of wood from carpentry and/or for the one used in different processes. From a tyrological point of view, circular saws differ, first of all, in being fixed or mobile; other parameters of diversification can be the type of electric motor (mono or three-phase), the depth of the blade cut, the ability to adjust or not adjust its tilt, the belt or direct transmission.

Risks generated by the use of the Tool:

1) Electrocution;
2) Inhaling powders, fibers;
3) Punctures, cuts, abrasions;
4) Slips, drops at the level;
5) Shocks, blows, impacts, compressions;
6) Burns..

Preventive and Protective Measures related to the Tool:

1) DPI: Circular saw user.

Organizational Requirements:

Appropriate individual protective equipment must be provided to the worker: **a)** helmet; **(b)** safety footwear; **c)** glasses; **d)** otoprotectors; **(e)** gloves.

17.12. Corner grinder (flexible)

The angular disc or team grinder, better known as a disc or flexible or flex grinder, is a portable tool that carries a rotating disc whose function is, depending on the type of disc, that of cutting, smoothing, smoothing even extended surfaces. From a tycological point of view, grinders differ in power (electric or pneumatic), andoperation.

Risks generated by the use of the Tool:

1) Electrocution;
2) Inhaling powders, fibers;
3) Punctures, cuts, abrasions;
4) Burns..

Preventive and Protective Measures related to the Tool:

1) DPI: Angular grinder user (flexible).

Organizational Requirements:

Appropriate individual protective equipment must be provided to the worker: **a)** helmet; **(b)** safety footwear; **c)** glasses; **(d)** masks (if dust or harmful substances are present in the air); **(e)** otoprotectors; **(f)** anti-vivibrations gloves; **(g)** protective clothing (suits).

17.13. Electric drill

The drill is a common tool used to drill holes in both masonry structures and any material.

Risks generated by the use of the Tool:

1) Electrocution;
2) Inhaling powders, fibers;
3) Punctures, cuts,. abrasions.

Preventive and Protective Measures related to the Tool:

1) DPI: electric drill user;

Organizational Requirements:

Appropriate personal protective equipment must be provided to the user: **(a)** safety footwear; **b)** mask; **c)** otoprotectors; **d)** gloves.

17.14. Fixed Metallic Bridge

Fixed metal scaffolding is a provisional work designed to carry out civil engineering work, such as new construction or renovations and maintenance, at heights of more than 2 meters.

Risks generated by the use of the Tool:

1) Fall from above;
2) Fall of material from above or at the level;
3) Slips, drops at thelevel.

Preventive and Protective Measures related to the Tool:

1) Fixed metal scaffolding: preventive and protective measures;

Executive Requirements:

Instructions for the employees: **1)** ensure that the scaffolding is kept in good maintenance condition, that protection against external harmful agents is effective and that the manufacturer's mark is traceable and decryptable; **2)** check the stability and integrity of all scaffolding elements at periodic intervals, after violent weather disturbances or prolonged interruptions in activities; **3)** to carry out a more thorough inspection when taking action on a construction site already started, with scaffolding already installed or being completed; **4)** access the various decking floors easily and safely, using the appropriate hand scales staggered to each floor, constrained and protected to the outside; **5)** do not climb or descend along scaffolding elements; **6)** Avoid running or jumping on scaffolding; **7)** avoid throwing materials of any kind or metal elements of scaffolding from above; **8)** abandon scaffolding in strong winds; **9)** check that all necessary technical documents and requirements for the installation of the metal scaffolding are kept on site; **10)** verify that scaffolding elements still deemed suitable for re-use are kept separate from the material that is no longer usable; **11)** report to the site manager any non-responsiveness to the indicated.

2) DPI: fixed metal scaffolding user;

Organizational Requirements:

Gloves must be provided: **a)** gloves; **(b)** safety footwear; **c)** fall-out equipment; **(d)** protective clothing.

17.15. Wall and plaster machine

The groover for walls and plasters is a tool used for the construction of sub-tracking systems.

Risks generated by the use of the Tool:

1) Electrocution;
2) Inhaling powders, fibers;
3) Punctures, cuts, abrasions;
4) Noise;
5) Vibrations.

Preventive and Protective Measures related to the Tool:

1) Wall and plaster machine: preventive and protective measures.

Executive Requirements:

Before use: **1)** verify that the tool is of the double-insulation type (220V); **2)** check for the presence of the protection case; **3)** check the integrity of the cable and power plugs; **4)** check the regular fixation of the cutter or discs; **5)** Report the area exposed at the high noise level.
During use: **1)** perform the work in adequate stability; **2)** Do not get in the way of the passages with the power cord; **3)** avoid long and continuous shifts; **4)** Stop power supply during work breaks.
After use: **1)** detach the electrical connection of the tool; **2)** check the integrity of the cable and plug; **3)** Clean the tool; **4)** Report any malfunctions.

Regulatory References:

D.Lgs. 9 April 2008 No. 70; D.Lgs. 9 April 2008 No. 80;
D.Lgs. 9 April 2008 81, Exhibit 5; D.Lgs. 9 April 2008 81, Exhibit 6.

2) DPI: user for walls and plasters;

Organizational Requirements:

They must be provided: **a)** helmet; **(b)** otoprotectors; **c)** protective goggles; **d)** dust mask; **(e)** anti-vivibrations gloves; **(f)** safety footwear; **(g)** protective clothing.

Regulatory References:

D.Lgs. 9 April 2008 No. 75.

17.16. Fan

High-pressure axial fan; Powerful, versatile and lightweight; Double-layer polyethylene frame, corrosion-proof, dents resistant and virtually indestructible; Available with 240 V and 12 V power; Power cable 4.6 meters.

Risks generated by the use of the Tool:

1) Electrocution;
2) Inhaling powders, fibers;
3) Punctures, cuts, abrasions;
4) Noise;
5) Vibrations.

Preventive and Protective Measures related to the Tool:

1) Electric fan: preventive and protective measures.

Executive Requirements:

Before use: **1)** verify that the tool is double insulation (220V), or powered by very low safety voltage (50V), however not electrically connected to the ground; **2)** check the integrity and insulation of the cables and power plug; **3)** check the operation of the switch; **4)** Check the regular fixation of the tip, **5)** check for battery power
During use: **1)** perform the work in adequate stability; **2)** stop power supply during work breaks; **3)** Do not get in the way of the passages with the power cord.
After use: **1)** detach the electrical connection of the tool; **2)** Thoroughly clean the tool; **3)** Report any malfunctions.

Regulatory References:

D.Lgs. 9 April 2008 No. 70; D.Lgs. 9 April 2008 No. 80;
D.Lgs. 9 April 2008 81, Exhibit 5; D.Lgs. 9 April 2008 81, Exhibit 6.

2) DPI: electric fan user;

Organizational Requirements:

They must be provided: **a)** otoprotectors; **c)** gloves; **d)** safety footwear.

Regulatory References:

D.Lgs. 9 April 2008 No. 75.

17.17. Stand argano

The winch is a lifting device used mainly in urban recovery yards and small renovation for lifting materials and tools to the worktop.

Risks generated by the use of the Tool:

1) Fall from above;

2) Fall of material from above or at the level;
3) Electrocution;
4) Slips, drops at the level;
5) Shocks, blows, impacts,compressions.

Preventive and Protective Measures related to the Tool:
1) DPI: user winch on easel.

Organizational Requirements:

They must be provided: **a)** helmet; **b)** gloves; **(c)** safety footwear; **d)** fall-out equipment; **(e)** protective clothing.

17.18. Tripod trepod stand argano
The tripod stand winch is a lifting device with fall function and recovery of workers employed in suspected pollution or confined environments.

Risks generated by the use of the Tool:
1) Fall of material from above or at the level;
2) Punctures, cuts, abrasions;
3) Shocks, blows, impacts,compressions.

Preventive and Protective Measures related to the Tool:
1) DPI: user winch on trepod stand.

Organizational Requirements:

They must be provided: **a)** helmet; **(b)** protective goggles; **c)** mask with specific filter; **d)** gloves; **(e)** safety footwear; **(f)** fall-off equipment; **(g)** protective clothing.

17.19. Oxcetilenic welding rod
The oxycetilenic welding rod is mainly used for welding or cutting metal parts.

Risks generated by the use of the Tool:
1) Inhalation fumes, gases, vapours;
2) Fires, explosions;
3) Non-ionizing radiation;
4) Noise;
5) Shocks, blows, impacts,compressions.

Preventive and Protective Measures related to the Tool:
1) DPI: user of the oxycetilenic welding ring.

They must be provided: **a)** otoprotectors; **(b)** protective goggles; **c)** mask with specific filter; **d)** gloves; **(e)** safety footwear; **(f)** welder apron; **(g)** protective clothing.

18. MACHINES USED IN PROCESSING

List of machines:

1) Truck;
2) Truck with crane;
3) Mini excavator;
4) Mini excavator with demolition hammer;
5) Mechanical pala (minipala);
6) Towercranes;
7) Drillprobe;
8) Mini drillprobe;
9) Tanker.

18.1. Truck

The truck is a machine used to transport vehicles, building materials and/or results from demolitions or excavations, etc., consisting essentially of a cab, intended to accommodate the driver, and a body generally tipper, by means of an hydraulic system.

Risks generated by using the Machine:

1) Fall of material from above or at the level;
2) Caesareans, squeezing;
3) Inhaling powders, fibers;
4) Fires, explosions;
5) Investment, tipping;
6) Skin irritations, allergic reactions;
7) Manual handling of loads;
8) Noise;
9) Slips, drops at the level;
10) Shocks, blows, impacts, compressions;
11) Vibrations.

Preventive And Protective Measures related to the Machine:

1) DPI: truck operator;

Appropriate individual protective equipment must be provided to the worker: **a)** helmet; **(b)** safety footwear; **c)** gloves; **(d)** protective clothing (suits).

Tools used by the operator:

a) Manual tools;

Risks from the use of tools:

Punctures, cuts, abrasions; Shocks, blows, impacts, compressions.

18.2. Truck with cranes

The truck is a means of work used to transport building materials and loading and unloading them by crane

Risks generated by using the Machine:

1) Caesareans, squeezing;
2) Electrocution direct or indirect contact with parts of the electrical system in tension or electrocution due to falling lightning near the worker.
3) Jets, sketches;
4) Inhaling powders, fibers;
5) Fires, explosions;
6) Investment, tipping;
7) Noise;
8) Shocks, blows, impacts, compressions;
9) Vibrations.

Preventive And Protective Measures related to the Machine:

1) DPI: Truck operator with crane.

Organizational Requirements:

Appropriate individual protective equipment must be provided to the operator: **a)** helmet; **(b)** safety footwear; **c)** gloves; **(d)** protective clothing; **(e)** otoprotectors.

18.3. Mini excavator

The mini excavator is an operating machine with a front shovel used for modest excavation, carrying and movement of materials.

Risks generated by using the Machine:

1) Caesareans, squeezing;
2) Inhaling powders, fibers;
3) Fires, explosions;
4) Investment, tipping;
5) Noise;
6) Slips, drops at the level;

7) Vibrations.

Preventive And Protective Measures related to the Machine:

1) DPI: mini excavator operator;

Organizational Requirements:

They must be provided: **a)** helmet (outside the cabin); **(b)** otoprotectors; **c)** dust mask; **d)** gloves (outside the cabin); **(e)** safety footwear; **(f)** protective clothing; **(g)** high-visibility clothing (outside the cabin).

18.4. Mini excavator with demolition hammer

The mini excavator is an operating machine equipped with a demolition hammer at the end of the mechanical arm and used for modest demolition work.

Risks generated by using the Machine:

1) Caesareans, squeezing;
2) Inhaling powders, fibers;
3) Fires, explosions;
4) Investment, tipping;
5) Noise;
6) Slips, drops at the level;
7) Vibrations.

Preventive And Protective Measures related to the Machine:

1) DPI: mini excavator operator with demolition hammer;

Organizational Requirements:

They must be provided: **a)** helmet (outside the cabin); **(b)** otoprotectors; **c)** dust mask; **d)** gloves (outside the cabin); **(e)** safety footwear; **(f)** protective clothing; **(g)** high-visibility clothing (outside the cabin).

18.5. Mechanical Pala (minipala)

The minipala is an operating machine equipped with a mobile bucket used for modest excavation, loading, lifting, transport and unloading of earth or other inconsistent materials.

Risks generated by using the Machine:

1) Caesareans, squeezing;
2) Inhaling powders, fibers;
3) Fires, explosions;
4) Investment, tipping;
5) Noise;

6) Slips, drops at the level;
7) Shocks, blows, impacts, compressions;
8) Vibrations.

Preventive And Protective Measures related to the Machine:
1) DPI: mechanical shovel operator (minipala);

Organizational Requirements:

They must be provided: **a)** helmet (outside the cabin); **(b)** otoprotectors; **c)** dust mask; **d)** gloves (outside the cabin); **(e)** safety footwear; **(f)** protective clothing; **(g)** high-visibility clothing (outside the cabin).

18.6. Tower cranes

The crane is the main means of lifting and handling loads on site. Cranes can be equipped with fixed plinths or rails, to allow easier use during the development of the site without having to disassemble and mount it repeatedly.

Risks generated by using the Machine:
1) Fall from above;
2) Fall of material from above or at the level;
3) Electrocution;
4) Noise;
5) Shocks, blows, impacts,compressions.

Preventive And Protective Measures related to the Machine:
1) Tower cranes: preventive and protective measures.

EXECUTIVE REQUIREMENTS:
Before use: **1)** check for no fixed structures and/or overhead power lines that may interfere with rotation; **2)** check the stability of the support base; **3)** check the efficiency of ballast protection (low rotation); **4)** check the door of the picture; **5)** check that the crane's running routes are free; **6)** unlock the rail anchor pins; **7)** check the efficiency of electric and mechanical end-of-runs, ascent, descent and translations; **8)** check for the presence of the carter to the drum;
9) Check the efficiency of the button; **10)** check that the lifting rope is being wrapped correctly; **11)** Check the efficiency of the hook safety; **12)** Check the efficiency of the rotation brake; **13)** check the order of service relating to manoeuvres and reports to be carried out in the event of a situation of planned interference with other cranes; **14)** Check for a fire extinguisher in the cabin. **During use: 1)** manoeuvre the crane from a safe location or from the cabin; **2)** alert the start of the manoeuvre with the

beacon; **3)** stick to the cartels' guidelines; **4)** perform manoeuvres gradually; **5)** Avoid workspaces and steps when moving loads; **6)** Do not make shots of smeared material or content incorrectly; **7)** during work breaks anchor the crane with the pincers and detach it electrically; **8)** report any anomalies in a timely manner.
After use: 1) raise the hook and approach it to the tower; **2)** Electrically disconnect the crane; **3)** anchor the crane to the rails with the pincers.

2) DPI: tower crane operator;

ORGANIZATIONAL REQUIREMENTS:
Appropriate individual protective equipment must be provided to the operator: **a)** helmet; **(b)** safety footwear; **c)** gloves; **(d)** protective clothing; **(e)** fall-out equipment.

18.7. Drilling probe

A drill is a machine for drilling lands, stones, rocks, masonry works, etc.

Risks generated by using the Machine:

1) Caesareans, squeezing;
2) Inhaling powders, fibers;
3) Investment, tipping;
4) Noise;
5) Vibrations;
6) Shocks, blows, impacts,compressions.

Preventive And Protective Measures related to the Machine:

1) DPI: drilling probe operator;

Organizational Requirements:

Appropriate individual protective equipment must be provided to the operator: **a)** helmet; **(b)** safety footwear; **c)** mask; **(d)** otoprotectors; **(e)** gloves; **(f)** protective clothing.

18.9. Tanker

The tanker is a means of working for the suction and transport of flammable fuels or liquids.

Risks generated by using the Machine:

1) Inhalation fumes, gases, vapours;

2) Fires, explosions;
3) Investment, tipping;
4) Noise;
5) Vibrations.

Preventive and Protective Measures related to the machine:
1) DPI: tanker operator;

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