

# **TECHNICAL SPECIFICATION**

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## **1. TECHNICAL SPECIFICATIONS FOR CONSTRUCTION and ARCHITECTURAL WORKS**

### **CW 01 Applying primer, and two layers of water-based matte, antibacterial coating on surfaces with old paint (interior)**

Price per m<sup>2</sup> including any material and losses, labor, contractor's overheads and profit for cleaning surfaces with mold, fungi, bacteria formation using 0.100 kg of acrylic, water-based antibacterial solution, applying 0.120 kg of water-based, acrylic antibacterial primer after sanding, and applying 0.100 kg of first layer and 0.100 kg of second layer of water-based, acrylic, matte, antibacterial paint:

MEASUREMENT: Painted surfaces within the project are measured. All gaps are deducted.

NOTE: Additional scaffolding shall be provided for walls and ceilings higher than 3 m. If there is a scaffold for plastering, no additional scaffold shall be provided for coating.

### **CW 02 Applying primer, and two layers of water-based matte coating on surfaces with old paint (interior)**

Price per m<sup>2</sup> including any material and losses, labor, contractor's overheads and profit for cleaning surfaces with old paint with a wire brush, sandpaper or by mechanical means, performing repair works that may be necessary using plaster, applying 0.150 kg of water-based primer, and 0.100 kg first layer and 0.100 kg second layer water-based matte coating of desired color:

MEASUREMENT: Painted surfaces within the project are measured. All gaps are deducted.

NOTE: Additional scaffolding shall be provided for walls and ceilings higher than 3 m. If there is a scaffold for plastering, no additional scaffold shall be provided for coating.

### **CW 03 Installation of double-glazed window Measurements with 4+4 mm thickness and 12 mm middle gap, on wood joinery with glazing bead**

Price per m<sup>2</sup> for any material and losses, labor and equipment costs, loading, horizontal and vertical carriage and unloading at the work site, and contractor's overheads and profit for preparing double-glazed window Measurements with 4+4 mm thickness and 12 mm middle gap for the size of the installation place, placing wedges in the glazing slot and installing the glass in the slot, attaching the wooden bead max. 10 cm from the corners and at max. 30-cm intervals with screws, balancing the Measurement with glazing wedges, and filling the interior and exterior sides of the joints with neutral (acid-free) silicon:

MEASUREMENT: All glass fitted areas are calculated according to the Measurement of measures in the project.

NOTE: The glazing bead shall be paid per its respective item.

**CW 04 Roofing with tiles with interlocking side and top edges (Tightness Class: Group 1)  
(Resistant to 90 freezing - thawing cycles) (2-lath system)**

Price per m<sup>2</sup> including loading, horizontal and vertical carriage, and unloading at the construction site, any material and losses, labor and equipment costs, contractor's overheads and profit for fixing 5 x 5 cm wooden laths on the roof substructure perpendicular to the eaves at 60-cm intervals line with nails or screws on the existing veneer, OSB panels, precast ready-mix concrete slabs or incline reinforced concrete roofing; fixing wooden 3 x 5 cm wooden laths on the said laths in parallel with the eaves line and at 33 cm intervals with nails or screws; laying the tiles, of Group 1 tightness class and resistant to 90 freezing - thawing cycles according to the standard, that can be interlocked at the side and top edges, on the wooden laths in accordance with the design, fixing the first two rows of tiles on the eaves and side eaves line with nails or screws:

MEASUREMENT: To be calculated on the inclined surfaces project design. Gaps smaller than 0.10 m<sup>2</sup> are not deducted.

NOTE:

- 1- Not applicable to roof inclinations less than 20%. Water insulation should be applied beneath the tile roofing for inclinations between 20 and 29.99%.
- 2- For the areas heavily influenced by winds and/or the details with an inclination greater than 100%, the tiles shall be secured with nails by skipping a row in addition to the above description. Whether an area is considered heavily influenced by winds shall be subject to the written decision of the administration.
- 3- Thermal and/or water insulation for roofs shall be charged on their respective items.
- 4- In the case that heat insulation material is applied between the first row of lathes, the height of the lath must be determined to be 2.5 cm above the thermal insulation material thickness.
- 5- The first piece of the second row of laths intersecting with the eaves line should be 2 cm higher than the other laths.
- 6- For roofs with wooden substructure, the first row of laths applied perpendicular to the eaves line should be installed to stay on rafters.
- 7- Gaps of the second row of laths specified in the description of the manufacture should be adjusted to the size of the tiles to be used.

**CW 05 Installation of duplex water insulation with polymer bitumen sheets with 3-mm thickness elastomer-based glass tissue carriers (bent at -20°C) and 3-mm thickness elastomer-based (bent at -20°C) polyester felt carriers**

Price per m<sup>2</sup> including, loading, horizontal and vertical carriage and unloading at the construction site, any material and losses, labor, equipment and instrument costs, contractor's overheads and profit for cleaning the surface prepared for insulation as per the approved detail project and applying min. 0.400 kg/m<sup>2</sup> of bitumen emulsion as primer in dry condition; attaching 3-mm-thick polymer bitumen cover with glass tissue carriers (bent at -20 degrees) together in strips by full adhesion method with min. 10 cm overlaps as the first layer using torch flame without setting fire to the polymer bitumen cover once the primer has dried; and attaching 3-mm-thick elastomer-based polymer bitumen covers with polyester felt carriers (bent at -20 degrees) together in strips by full adhesion method with min. 10 cm overlaps as the second layer in the same direction as the first layer:

MEASUREMENT: All insulated surfaces are calculated based on the Measurements of measures in the project.

NOTE: The necessary protective measures should be taken for insulation covers with their prices paid per their respective items.

**CW 06 Installation of door handles and panels (Chrome-plated)**

This item requires the supply and installation of chrome door design and plates. The material will be brass and class I chrome plated. The materials are resistant to all kinds of impacts and scratches. Open the door and ensure that the plates comply with TS EN 1906. Contractor, Engineer's approval is given by Engineers. The Measurement price includes all materials and labor required for the installation of doors and plates, procurement of equipment and equipment, all transport of the Contractor, overhead and profit.

MEASUREMENT: The complete mounting arm and plates set for a door shall be measured in pieces.

**CW 07 Tiling of walls with 3 mm joints using first quality, white ceramic wall tiles in 20 x 60 cm, 30 x 60 cm or 33 x 60 cm nominal dimensions and with any pattern and surface characteristics (using tile adhesive)**

Price per m<sup>2</sup> including any material and losses, loading, horizontal and vertical carriage and unloading at the work site, labor, equipment costs, contractor's overheads and profit for clearing dirt, dust, burrs and similar other residues that may hinder adhesion from the uniform surfaces in compliance with the approved detail project design and wetting the said surfaces; applying cement-based, high performance tile adhesive with reduced slip and fluting it with a special comb; laying first quality white ceramic wall tiles with any pattern and surface characteristics and a nominal size of 20 x 60 cm or 30 x 60 cm or 33 x 60 cm in appropriate gauge with 3 mm joint gaps; filling the joints with cement-based, standard performance joint filling agents of desired color, and cleaning the coated surface:

MEASUREMENT: The paneled surfaces shall be calculated by the measurements in the relevant project design.

**CW 08 Flooring with 3 mm joint gaps using first quality, rectified, glossy, nonglazed porcelain tiles in 60 x 60 cm nominal dimensions and with any color, pattern and surface characteristics (using tile adhesive)**

Cleaning and moistening of the smooth surface in accordance with the approved detail project from dirt, dust, burrs and similar residues preventing adhesion, application of cement based, high performance, reduced slip feature, extended holding time, and tapering with special comb, 60 x 60 cm nominal size, rectified, all kinds of color, pattern and surface properties, first quality, glossy, unglazed porcelain tiles, in accordance with the gauge and leveling, 3 mm joint spacing to be laid, the desired color of cement-based, high performance, high wear resistance, water absorption reduced joint filler material filling, cleaning the surface of the coating, all kinds of materials and casualties, labor and equipment expenses, workplace loading, horizontal and vertical transport, unloading, contractor overhead and profit including 1 m<sup>2</sup> price:

MEASUREMENT: It is calculated according to the measurements on the surface and the baseboard project, if any.

**CW 09 Pouring of white, regular, ready-mix concrete of compressive strength class C 20/25, manufactured in a concrete plant or purchased, and pumped by a concrete pump (including transportation of concrete)**

Price per m<sup>3</sup> of white, regular, cast-in-situ, ready-mix concrete with C 20/25 compressive strength, including any labor, materials and losses, machinery, equipment, instrument and laboratory costs, any horizontal and vertical carriage, loading and unloading at the work site for performing concrete quality controls, loading on truck mixers, transportation to the work site, pumping on the cast location by a concrete pump, watering, protecting from extreme temperatures and other external effects, maintaining, and taking a sufficient amount of samples for tests and conducting the required tests on, the ready-mix concrete grout in compliance with the relevant standard and project design, washed, sieved, and manufactured in C 20/25 class with granulometric sand-gravel and/or crushed stone, cement, marble powder, gypsum, water and additives where necessary, in a complete concrete plant with appropriate specifications for concrete manufacture (equipped with min. 60 m<sup>3</sup>/h capacity, four-cell aggregate bunker, compressor, control cabin for computerized control, a cement silo with min. 50-ton capacity, a recovery Measurement, a laboratory with sufficient capacity to conduct aggregate and concrete tests, a power generator, a sufficient amount of truck mixers and mobile concrete pumps, min. one loader, additive tank and additive weigh hopper, moisture meter and similar other equipment, and calibrated) or purchased from a concrete plant that fulfills the said specifications, loading onto vehicles at the place of supply, production or purchase, transfer to the concrete plant, unloading from vehicles, stowing and placement at the concrete plant of any granulometric sand, gravel or crushed stone and cement to be

added to the concrete, supply and transportation of the water to be added to the concrete and used for watering, supply, and depreciation expenses, of the concrete plant and all other equipment, including other expenses, contractor's overheads and profit.

MEASUREMENT: Calculated according to dimensions in the project.

NOTE:

- 1- It is compulsory for the plant where the concrete that is manufactured or purchased from to be awarded TSE and any other certificates that may be required by the legislation and to present such certificates to the administration before commencement of production. The concrete with the certificate of compliance, which fulfills the condition of supply to the market in compliance with the relevant legislation, may be used in production only if such certificates are found to be appropriate and the concrete is allowed to be used.
- 2- If the concrete is supplied by purchase, a copy of the invoices indicating the name of the work must be attached to the documents of payment.
- 3- Cost of the additives to be added to the concrete shall be paid separately.
- 4- Pump cost is deducted from the analysis, if pump is not used.

#### **CW 10 Installation of ribbed steel mesh 3,001 to 10,000 kg/m<sup>2</sup> (including 10,000 kg/m<sup>2</sup>)**

Price per ton for steel mesh including any material and loss, labor, equipment and instrument costs, loading, horizontal and vertical carriage, unloading at the work site, and contractor's overheads and profit for installation of wire mesh made by spot welding St IVb bars sized min. 4.00 mm in diameter as per the relevant project design; joining by overlay as per the specifications and relevant details, making supports:

MEASUREMENT:

- 1- The square meter value of the steel mesh as per the reinforced concrete project design shall be multiplied by the weights given below and measured in tons.
- 2- The steel and attachments NOTE indicated in the project design shall not be included in the calculation.
- 3- Since the attaching wire, kg/m weight differences (compared to the table), and support iron are included in the losses in the analysis, they shall not be included in the calculation.

WIRE MESH WEIGHT TABLE FOR THE SPACING BETWEEN THE BARS (Single direction) kg/m<sup>2</sup>

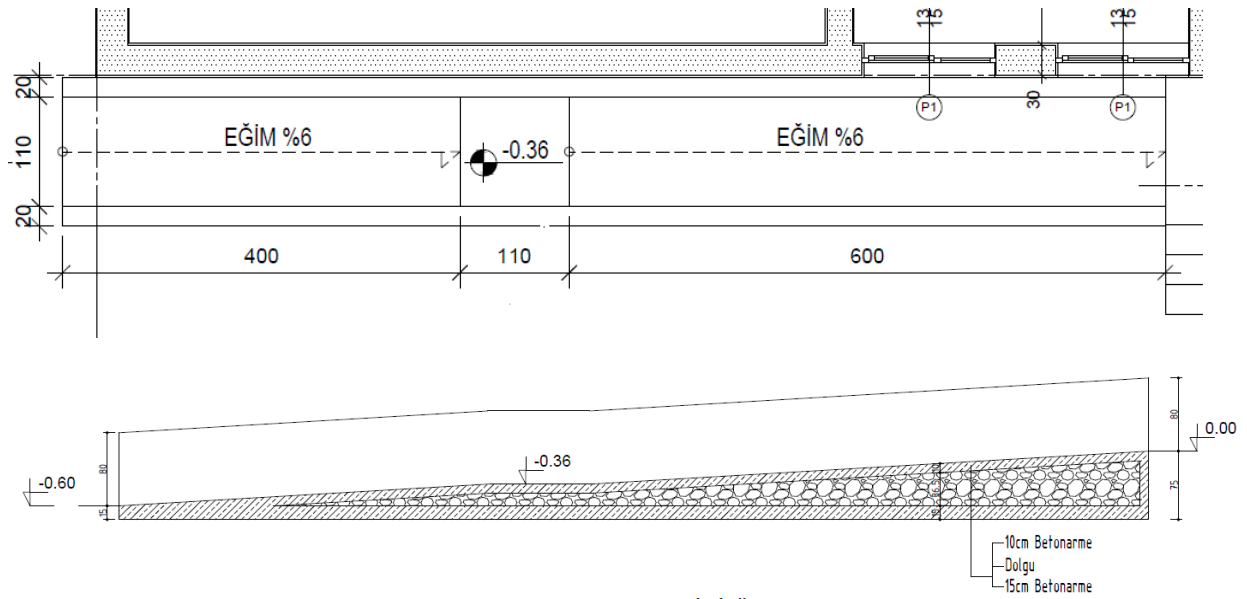
Diameter	Kg/m.	50mm	75 mm	100 mm	150 mm	200 mm	250 mm	300 mm
4	0.099	1.97	1.32	0.99	0.66	0.49	0.39	0.33
5	0.154	3.08	2.06	1.54	1.03	0.77	0.62	0.51
5.5	0.187	3.73	2.49	1.87	1.24	0.93	0.75	0.62
6	0.222	4.44	2.96	2.22	1.48	1.11	0.89	0.74
6.5	0.26	5.21	3.47	2.6	1.74	1.3	1.04	0.87
7	0.302	6.04	4.03	3.02	2.01	1.51	1.21	1.01
7.5	0.347	6.94	4.62	3.47	2.31	1.73	1.39	1.16
8	0.395	7.89	5.26	3.95	2.63	1.97	1.58	1.32
8.5	0.445	8.91	5.94	4.45	2.97	2.23	1.78	1.48
9	0.499	9.99	6.66	4.99	3.33	2.5	2	1.66
9.5	0.556	11.13	7.42	5.56	3.71	2.78	2.23	1.85
10	0.617	12.33	8.22	6.17	4.11	3.08	2.47	2.06
10.5	0.68	13.59	9.06	6.8	4.53	3.4	2.72	2.27
11	0.746	14.92	9.95	7.46	4.97	3.73	2.98	2.49
11.5	0.815	16.31	10.87	8.15	5.44	4.08	3.26	2.72
12	0.888	17.76	11.84	8.88	5.92	4.44	3.55	2.96

#### CW 11 Constructing a handicapped ramp

The handicapped ramp is going to be constructed at İslahiye and Oğuzeli Public Education Centers located in Gaziantep and Kilis Public Education Center where located in Kilis. The level differences at the entrance of the İslahiye PEC is 60 cm while the level differences at the entrance of the Oğuzeli and Kilis PECs is 150 cm. The maximum inclination of the ramp will be 8%. There will be a landing at ever 6 m. The ramp will be floored with basalt and the railings will be at the proper height.

A typical view and section for the handicapped ramp is provided below.

Figure 1 Typical view and section of the handicapped ramp



## CW 12 Construction and installation of carcass (framework) with any profile, steel bar and steel sheet (structural carcass, profile iron beams for bridges, ends, connections and other structures)

Price per ton for any material and loss, labor, horizontal and vertical carriage, unloading at the work site, carrier scaffold and hoisting equipment, and contractor's overheads and profit (excluding the cost of paint) for making carcass construction at each height and span of all kinds of profiles, steel bars, steel, sheet metal as per the relevant project design, attaching the pieces with rivets, bolts and welds and installation of all components:

### MEASUREMENT:

- 1- Scale shall be taken as basis for weighing, and profile steel, rivets, bolts, attachment plates and similar other fasteners shall be weighed before their painted and installed and registered in the attachment.
- 2- However, the administrations may compare the scale weight of all profiles and node plates to their weights given in the table based on the sizes in the project design if it considers necessary. After this comparison, payment shall be made for max. 7% more than the weight given in the table. Weights exceeding 7% shall not be taken into consideration. Rivet and bolt holes shall be considered solid in verification of the calculations. If it is found upon verification of the weight that the actual weight is less than the weight specified in the table, the scale shall be taken as basis provided that the manufacture is accepted by the administration.

### **CW 13 Installation of the OSB/3 plates on the steel profiles**

The wooden OSB plates will be fastened to the top of the steel fabrication with a clever screw. Care should be taken to ensure that the OSBs are sufficiently spaced to prevent subsequent OSBs from flexing.

MEASUREMENT: To be calculated pieces of OSB panels.

### **CW 14 Unfitting and fitting of the existing conference seats**

The existing 100 conference seats in the multi-purpose room will be unfitted and be stored. In case of a damage to the fabric of the seats and the metal part of it will be covered by contractor. The price includes any material and losses, labor, contractor's overheads and profit of the contractor.

MEASUREMENT: The price is calculated as lump sum.

### **CW 15 Laminate flooring (AC4 Class 32) (including baseboard)**

Price per m<sup>2</sup> for any material and loss, labor, equipment and instrument costs, loading, horizontal and vertical carriage, unloading at the work site, and contractor's overheads and profit for laying 2-mm-thick polyethylene mats on the surface prepared for laminate flooring, and installing self-clip (snap-in) AC4 class 32 laminate flooring on the mats using the appropriate technique, and installing the baseboards on walls as per the approved detail project.

MEASUREMENT: All the areas covered are measured according to the dimensions given in the project design. No additional payment shall be made for baseboards.

### **CW 16 Demolishing and unfitting works**

The price includes all kinds of demolishing and removing the materials. The debris should be transported from the construction area and should be stored to the appropriate place. The area and places will be demolished will be determined by the Engineer and the contractor will be informed.

### **CW 17 Filling the existing tile joints with tile grout**

Existing porcelain joints will be overcome with suitable head spiral. The extracted material will be cleaned in a dry method. This method shall be determined by the administration. The performance values of the material to be used for the joints opened must provide the minimum values specified in the table. Measurement price includes all kinds of materials and casualties, labor, loading in the workplace, horizontal and vertical transportation, unloading and lump sum price including contractor overhead and profit.

Table 1 The performance points of material for the floor tile joints

Bending Strength (EN 12808-3)	$\geq 2,5 \text{ N/mm}^2$
After Freeze-Thaw cycle (EN 12808-3)	$\geq 2,5 \text{ N/mm}^2$
Compression Strength (EN 12808-3)	$\geq 15 \text{ N/mm}^2$
After Freezing-Thawing cycle Com. (EN 12808-3)	$\geq 15 \text{ N/mm}^2$
Abrasion Resistance (EN 12808-2)	$\leq 1000 \text{ mm}^3$
Shrinkage (EN 12808-4)	$\leq 3 \text{ mm/m}$
Water Absorption 30 min. / 4 h. (EN 12808-5)	$\leq 2 \text{ g.} / \leq 5 \text{ g.}$
Temperature Resistance	$(-30^\circ\text{C}) - (+80^\circ\text{C})$

MEASUREMENT: The price is calculated as lump sum.

### **CW 18 Painting the existing door leaf**

After removing the existing door wings, they are wrapped and made ready for transportation. The color of the door shall be determined together with the administration. The contractor is responsible for any damage to the door during transport or dismantling. The unit price includes all kinds of materials and casualties, labor, loading in the workplace, horizontal and vertical transport, unloading and replacement of metal evenings, fitting and fitting the door leaf, contractor overhead and lump-sum price.

### **CW 19 Completing the missing window seals**

The missing window seals must be identified and supplied and installed in accordance with the existing window frame (for aluminum or PVC). The unit price includes all materials and casualties, labor, loading in the workplace, horizontal and vertical transport, unloading and contractor overhead and profit including 1m price.

MEASUREMENT: It is determined by the measurement to be made on-site.

### **CW 20 Perlite plaster and satin plaster lining of such surfaces as concrete, brick walls, etc.**

Price per  $\text{m}^2$  for any material and losses, labor, loading, horizontal and vertical carriage and unloading at the work site, and contractor's overheads and profit for applying 10-mm-thick single layer of perlite plaster on such surfaces as concrete, brick wall, etc. (Item no. 19.100.2427), applying 9-mm-thick second layer with a mixture of 1/3 perlite plaster (Item no. 19.100.2427) + 2/3 satin plaster (Item no. 19.100.2424), installing corner profile at the centers of the plaster, and plaster mesh at transitions to different materials, and applying 3-mm-thick satin plaster coating (Item no.: 19.100.2424), sanding and clearing dust:

MEASUREMENT:

- 1- All plastered surfaces (including the sides of the gaps) shall be calculated based on the measurements in the project.

- 2- Joinery casings and the plaster surfaces beneath the wooden baseboard, if any, shall be included in the calculation.
- 3- All gaps and other types of paneling surfaces shall be deducted.

**CW 21 Production and installation of electrostatic powder-coated aluminum joinery with thermal insulation**

Price per kg for any material and losses, loading, labor, horizontal and vertical carriage and unloading at the work site, equipment and instrument costs, and contractor's overheads and profit for factory manufacture, installation using any installation material (EPDM gaskets, PVC felt (bitumen foil tape) to ensure tightness against heat, water and air and insulation between the installation site (blind frame, etc.) and the joinery, installation dowel pins, etc.), delivery in working order, and transportation to the work site, of regular or sliding, etc. windows, display windows, door leaves, frames, etc. with load-bearing aluminum joinery profiles (frame, post, leaf profiles), electrostatic powder coated aluminum profiles, and single or double axes, which shall be in compliance with the current standards and technical specifications in terms of classification, chemical composition, mechanical properties, design, measure and thickness tolerances in accordance with the project design, detail drawings and samples approved by the administration:

**MEASUREMENT:**

- 1- Aluminum shall be weighed with the manufactured component (including screws, rivets and protective package). If weighed together, weights of the accessories charged separately such as locks and extensions, window handles, door handles, hinges, transom window folding and swinging mechanisms, bolts, under-door brushes, hydraulic mechanisms, pivot mechanisms, sliding and double axis mechanisms, etc., if any, shall be excluded. The accessory prices shall be paid per their respective market price, if such a market price is available, or with 25% extra profit and overhead expenses of the contractor added to the invoice sum by the authorities if no such market price is available.
- 2- However, the administrations may compare the scale weight of all profiles given in the table based on the sizes in the project design if it deems necessary. Max. 7% excess weight compared to the tables shall be paid. If the weight found by scaling is less than the weights in the table, the scale shall be taken as basis provided that the manufacture is accepted by the administration.

**NOTE:**

- 1- Carrier aluminum profiles shall have 2 mm ( $\pm 10\%$ ) wall thickness to provide the resistance required as per the static calculation. (This condition is not applicable to complementary profiles such as non-load-bearing glazing beads, T overlap profiles, adapter profiles, brackets, etc.).
- 2- Corner connection pieces shall be used at corner joints of the joinery (if thermally insulated, in both corners of the thermally insulated profile) and the corners shall be pressed.

- 3- Aluminum profiles with thermal insulation shall have min. three cells.

## **CW 22 Replacing of the window handles**

For the existing PVC or aluminum windows, window handles will be installed and assembled. The Measurement price includes all kinds of materials and casualties, labor, loading in the workplace, horizontal and vertical transport, unloading and replacement of metal evenings, fitting and adjusting the door leaf, contractor overhead and profit.

MEASUREMENT: It is determined by the measurement to be made on-site.

## **CW 23 Production and installation of plastic joinery (Any kind of door, window, paneling and similar other applications of hard PVC joinery profiles)**

Plastic joinery made of hard PVC profiles as per the project design and details approved by the administration, and its accessories and glazing beads shall be weather-proof and have a smooth surface. A front chamber system designed to facilitate thermal insulation, acoustic insulation and water drainage shall be available in the sections of the main profiles made of PVC (with wall thickness class "A" and 2.8 mm for visible surfaces and 2.5 mm for non-visible surfaces). The main profiles (frame, leaf, middle post) shall be made strong enough with metal reinforcement profiles. Metal reinforcement profiles shall be U or box profiles made by hot-dip galvanization method, protected against corrosion by galvanization. In both cases, sheet thickness shall be max. 1.5 mm for frames and leaves, and max. 2 mm for the middle rod. (However, if the moment of inertia is found higher than the aforementioned thickness of sheet metal for very large rods and leaves, metal sheets compatible with the result should be used.) Any window joinery, doors, display windows and similar other artifacts shall be manufactured by joining metal-reinforced PVC profiles by plastic corner welding, screws, leaf connection or any other means, using auxiliary joinery profiles, plates and other profiles. Leaf gaps shall be insulated with two rows of EPDM rubber, neoprene or TPE gaskets in compliance with the system suggested by the manufacturer. Glass panes of any type and thickness shall be installed by glazing beads. The glass shall be fixed by a seal, mastic and by other means in accordance with the system suggested by the manufacturer. The frame (joinery) of each window sash shall be installed on the joinery frame with min. 2 (two) hinges, and the door leaf frame shall be installed with min. 3 (three) hinges. Hinges shall have the strength and design to ensure smooth operation of the leaves. Joints of frames and leaves of plastic joinery shall be cut by 45 degrees, welded by machines developed for this purpose and installed on the masonry components or steel structure (blind frame). (Installation on masonry components can be done in three ways.

- a- Using clamping bars: Clamping bars shall be installed on the joinery with an appropriately sized screw. Then the clamping screw shall be installed on the masonry component with another appropriately sized screw after the joinery is placed.

- b- Using steel dowel pins: Once the joinery is placed, a hole is drilled that extends to the masonry component through the joinery. An appropriately sized steel dowel pin shall be driven into this hole and tightened.
- c- Using installation screws, once the joinery is placed, a hole is drilled that extends to the masonry component through the joinery. An appropriately sized steel installation screws shall be driven into this hole and tightened. Installation on a blind frame can be done in two ways.
  - a. Using sheet metal screws, once the joinery is placed, a hole is drilled that extends to the blind frame through the joinery. An appropriately sized steel sheet metal screws shall be driven into this hole and tightened.
  - b. Using locking profiles: The first part of the locking profiles installed on the joinery shall be installed in every direction. Once the joinery is placed, the second part of the locking profile shall be installed to be interlocked with the first part. Price per kg for installed plastic joinery including any material and losses, loading, horizontal and vertical carriage and unloading at the work site, labor, equipment and instrument costs, and contractor's overheads and profit, for tightness against water, air and sound, and installing the gaskets to ensure insulation in the gaps of the leaves in compliance with the system:

#### MEASUREMENT:

- 1- Only hard PVC plastic joinery materials, EPDM, neoprene or TPE seals, silicon-based putty, fastening screws or locking profiles, connecting pieces and reinforcements in the profile shall be weighed together.
- 2- However, the administrations may compare the scale weight of all profiles given in the table based on the sizes in the project design if it deems necessary. Max. 7% excess weight compared to the tables shall be paid. If the weight found by scaling is less than the weights in the table, the scale shall be taken as basis provided that the manufacture is accepted by the administration.
- 3- Detail projects shall indicate weights per meter of both plastic profiles and metal reinforcement profiles as well as the Measurement weights of connecting components.

#### NOTE:

- 1- The cost for installing the metallic components shall be included in the price of the joinery.
- 2- Plastic joinery accessories (window bar hardware, hinges, locks and extensions, transom window folding and swinging mechanisms, pivot hinges, bolts, under-door brushes, any kind of door handles, hydraulic mechanisms, and similar other opening, closing and locking mechanisms) shall not be included in the weight. The prices shall be paid per their respective market price, if such a market price is available, or with 25% extra overhead expenses and profit of the contractor added to the invoice sum by the authority's info such market price is available.

- 3- All main and additional profiles should be marked along the profile length at min. 1-meter intervals on spots that are not visible when the window is closed. Marking of the main and additional profiles should contain the following minimum information.
  - The name or trademark of the manufacturer,
  - The marking and number of this standard (in the form of TS EN 12608-1),
  - Wall thickness class,
  - Production code (e.g. date, etc.) to ensure traceability

#### **CW 24 Transportation and installation of the existing containers**

Containers will be provided from the Suruç refugee camp. The selection of the containers will be determined by an on-site visit and the most appropriate container will be selected. The preparation of container foundations and the drawing of electrical infrastructure are within the scope of the work. The damages during transportation shall be borne to the contractor. The unit price includes all kinds of materials and casualties, labor, loading in the workplace, horizontal and vertical transport, unloading and replacing metal evenings, fitting the door leaf, adjusting the door leaf, contractor overhead and profit.

MEASUREMENT: Determined by the number of containers.

#### **CW 25 Production and installation of interior door leaves with both surfaces made of pressed wood fiber boards, and with laminate paneling and craft filling**

Price per m<sup>2</sup> for any material including nails, screws, glue, etc. and losses, labor, equipment and instrument costs, loading, horizontal and vertical carriage, unloading at the work site, and contractor's overheads and profit (excluding the cost of metallic accessories) for making white pine lumber interior door leaves that are 42-mm-thick in clean form, produced by pressing 4-mm medium-density fiber boards (MDF) on both surfaces of the frame of 32-mm kraft cores between frames made of min. 32-mm-thick frames in clean form and post heads, covering both surfaces with laminate and installation as per the relevant project design:

MEASUREMENT:

- 1- The area of the door shall be calculated by multiplying the out-to-out width and length of the door leaf. Door frames shall not be included in this measurement.
- 2- If the number of door leaves in the gap is increased, all opening or fixed leaves shall be included in the measurement as closed. (If fixed leaves are finished in the form of battenboard frame, these shall be included in the measurement of leaves also and no additional payment shall be made for the frames.)

NOTE:

- 1- The metallic components to be used in door joinery in general shall be made up of any kind of locks and lock levers, lock plates, bolts, stoppers with rubber buffer, hinges and spring hinges.
- 2- The labor for installing the metallic components shall be included in the price of the joinery.

**CW 26 Providing and installation of the door hinges**

This item covers the supply and installation of stainless-steel door hinges as follows.

Material: Stainless Steel

Joint Ø: 14 mm

Flange thickness: 3 mm

Flange shape: Square or round (optional) (radius 10 mm)

Bearing: Fixed ball, double ball joint

Mounting: for DIN left and DIN right use

Door hinges must comply with EN 1935: 2002.

The unit price includes all the materials and labor, equipment and tools required for the installation of door hinges all shipping, overhead and contractor profits.

MEASUREMENT: The number of hinges will be measured in pieces.

**CW 27 Building walls with 19-cm thickness unreinforced AAC wall blocks (using AAC glue) (2.50 N/mm<sup>2</sup> and 400 kg/m<sup>3</sup>)**

The price per m<sup>2</sup> unreinforced AAC wall blocks by using AAC adhesive according to the design, including the loading, horizontal and vertical carriage, unloading at the construction site, all kinds of material and material losses, labor, tools and equipment expenses, contractor's overheads and profit:

MEASUREMENT: Calculated according to dimensions in the project. Gaps smaller than 0.10 m<sup>2</sup> are not deducted.

**CW 28 Supply, and machine laying, watering and compacting of gravel**

Price per m<sup>3</sup> including any labor, material and loss, loading, horizontal and vertical carriage and unloading at the work site, and contractor's overheads and profit, for supply of the gravel, pouring on site, laying with motor grader, watering, and compacting in layers with a vibratory roller:

MEASUREMENT: Volume is calculated according to the Measurements of measure in the design.

### **CW 29 Wrought iron fence for the windows**

After taking the measurements of the relevant windows, the wrought iron of the specified model will be produced and assembled. Wrought iron connections shall be provided without damaging the existing façade during installation. The damage shall be borne by the contractor. The use of a lifting crane with a basket is required during installation. The contractor is responsible for all safety precautions during the installation and operation of the crane.

MEASUREMENT: The Measurement price calculated in m<sup>2</sup>.

### **CW 30 Covering the floor of the CFS with wall to wall carpet**

After the wall-to-wall dimension of the class that is planned to be transformed is taken, the carpet providing the following minimum technical specifications will be provided and furnished. In addition, under the carpet to cut cold floor will be covered by felt.

Needle spacing should be 1/10, first base PP, yarn type 100% PA, pile weight 300 gr / cm<sup>2</sup>, number of stitches 152,100, pile height 3 mm and sound absorption insulation 26 dB.

MEASUREMENT: Calculated in m<sup>2</sup>.

### **CW 31 Providing and installation of conference seats**

The conference seats will be provided in appropriate color and technical specifications and assembled. The technical specifications of the seats are summarized below.

Conference chairs 87 cm back height, armrest will be produced with plastic and metal parts painted with furniture material will be painted. Paint thickness shall be 80 microns. Sitting and back sponge hardness values were determined according to ISO 2439 according to 40%. The hardness value will be 250 and 15% N and 55 density.

MEASUREMENT: Calculated in units.

### **CW 32 Providing velvet sunbliding for conference room**

The dimensions of the curtains to be provided shall be taken in place and the light shall be prevented from entering by considering the margins. The stitches on the curtain shall be complete.

MEASUREMENT: Calculated in m<sup>2</sup>.

**CW 33 Providing and installation of the 2 m by 2m in dimension projection screen (With automatic opening-round up feature and with blackout cloth material)**

The projection screen should be motorized and blackout. The sunlight reflection rate should be between 1-2.5. Behind the scenes can be white or black.

MEASUREMENT: Calculated as lump sum.

**CW 34 Providing and installation of safety net with 2 cm thick rope and 3 cm by 3 cm mesh**

The safety net should be white and have a rope thickness of 2 mm with 3 to 3 cm pores. The material used must meet the relevant TSE EN standards.

MEASUREMENT: Calculated in m<sup>2</sup>.

**CW 35 Providing and installation of the 1.5 m height Eurofence fences**

Eurofence fences shall be manufactured in accordance with ISO 9001 quality standard and TSE EN. The wires used can be natural steel, pre-galvanized (40-60 gr / m<sup>2</sup> Zn), electro-galvanized or hot-dip galvanized.

It should be coated with polyester based electrostatic powder paint. Steel dowels and clip nails used to secure the posts to the ground must be geometrically coated and resistant to corrosion.

MEASUREMENT: Calculated in m<sup>2</sup>.

**CW 36 Covering of the CFS walls with 1.5 m height soft material**

The soft wall covering should also be 26 mm thick and 100 x 100 cm wide and tall. Wall materials will be bonded appropriately. The adhesive material must have sufficient strength and meet the relevant TSE EN requirements. In addition, the materials must be produced using a raw material that is non-flammable and does not release toxic gases. If necessary, relevant reports shall be requested from the company.

MEASUREMENT: Calculated in m<sup>2</sup>.

**CW 37 Flooring with 3 mm joint gaps using first quality, rectified, glossy, nonglazed porcelain tiles in 40 x 40 cm nominal dimensions and with any color, pattern and surface characteristics (using tile adhesive)**

Price per m<sup>2</sup> including any material and losses, loading, horizontal and vertical carriage and unloading at the work site, labor, equipment costs, contractor's overheads and profit for clearing dirt, dust, burrs and similar other residues that may hinder adhesion from the uniform surfaces in compliance with the approved detail project design and wetting the said surfaces; applying cement-based, high performance

tile adhesive with reduced slip and fluting it with a special comb; laying first quality glossy, non-glazed porcelain tiles with any color, pattern and surface characteristics and a nominal size of 40 x 40 cm in appropriate gauge and level with 3 mm joint gaps; filling the joints with cement-based, high performance, high abrasion resistant joint filling agents with reduced water absorption and of desired color, and cleaning the coated surface:

MEASUREMENT: The paneled surface, and the baseboard, if any, shall be calculated by the measurements in the relevant project design.

### **CW 38 Two layers of anti-rust and two layers of synthetic coating on iron surfaces**

Price per m<sup>2</sup> including any material and losses, labor, contractor's overheads and profit for cleaning the iron structure surfaces with sandpaper and wire brush, applying anti-rust of 0.100 kg as the first layer and 0.100 kg as the second layer (each layer in different color) applying synthetic paint of 0.100 kg as the first layer and 0.100 kg as the second layer in desired color:

MEASUREMENT:

a) The painted surfaces shall be measured for furniture.

b) For doors and compartments:

1) Two surfaces plaster to plaster shall be measured for those with a battenboard frame.

2) For those with a frame (without a casing), frame areas shall be included in the measurement of the two surfaces in the frame-to-frame vertical plane.

3) For those with a frame and a casing, the frame shall be included in the measurement of the two surfaces for the casing.

4) Indents, protrusions and glazing gaps shall not be included in any measurement. If there are laths on the edges of the windows, the measurement shall be taken from there.

c) For displays and windows;

1) The area in the vertical plane on an out-to-out basis for the casing for window displays and windows with casing and from plaster surface to plaster surface for windows without casing. Only one surface shall be taken into account, and two surfaces shall be painted. The glazing gap shall not be excluded, and windowsill, frame and edges shall be measured separately and included in the area if they are present.

2) Double windows shall be measured without any change. The wooden frame between the two windows shall be measured separately and the area is included. Two surfaces of both windows shall be coated, and one surfaces of each shall be calculated. The glazing gap shall not be excluded.

d) The projection of a surface in the vertical plane shall be measured for handrails and railings. Gaps shall not be deducted.

e) The coated surfaces shall be measured for columns, roof trusses, beams, areaways and similar other iron manufacture.

### **CW 39 Providing and installation of the cage ladder to reach the roof**

The ladder to the roof shall be manufactured with 40/40 in dimensions and at least 2 mm thick box profiles. It shall be manufactured in accordance with the following example. Weld lengths and thicknesses shall be appropriate. The staircase will be installed on the floor and sub-floor. Steel profiles will be painted with anticorrosion paint. 2 layers of industrial paint will be applied on the antirust.

*Figure 2 Sample ladder to be constructed*



MEASUREMENT: Calculated as lumpsum.

### **CW 40 Covering of the existing pipes with wood on steel base**

Existing pipes will be covered with OSB / 3 after being wrapped with carcass system formed by steel profiles. The top of the coated material shall be covered with carpet. The profiles shall be 40/40 and at least 2 mm thick. The length of the pipes to be closed shall be 8 m and the width shall be 0,3 m. In addition, a protrusion of 1.m in length and 0.3 m in width will be formed on the wall.

MEASUREMENT: Calculated as lumpsum.

### **CW 41 Plastering with rough and fine mortar with 200/250 kg lime/cement mixture content (interior plaster)**

Price per m<sup>2</sup> for any material and losses, labor, loading, horizontal and vertical carriage and unloading at the work site, and contractor's overheads and profit for applying rough plaster with 2 cm thickness on average using the mortar prepared by adding 200 kg cement and 0.128 ton slaked lime in bags to 1 m<sup>3</sup> angular sand, and applying fine plaster with 0.8 cm thickness on average using the grout prepared by adding 250 kg cement and 0.076 ton slaked lime in bags to 1 m<sup>3</sup> of mill sand on the first layer of plaster, wetting it at required intervals, cleaning the wall surface:

MEASUREMENT: The plastered surfaces shall be calculated on the relevant project design.

**CW 42 Applying primer and two layers of water-based matte antibacterial coating on surfaces with new plaster (interior)**

Price per m<sup>2</sup> including any material and losses, labor, contractor's overheads and profit for applying the first layer of 0.150 kg water-based antibacterial primer on the surface to be coated after it is cleaned, sanded and grinded, and applying a second layer of 0.100 kg water based acrylic matte antibacterial paint on the first layer at the desired color:

MEASUREMENT: Painted surfaces within the project are measured. All gaps are deducted.

NOTE: Additional scaffolding shall be provided for walls and ceilings higher than 3 m. If there is a scaffold for plastering, no additional scaffold shall be provided for coating.

**CW 43 Providing and installation of the 120 cm by 200 cm in dimension whiteboard**

A board shall be provided and assembled in accordance with TSE EN standards. It will be white and corrugated.

MEASUREMENT: Calculated in units.

**CW 44 Providing and installation triple curtain rail**

Cornices complying with TSE EN standards in related dimensions shall be provided and assembled. Cornices shall have 3 rails.

MEASUREMENT: Calculated in m.

**CW 45 Laminated wall protection strip**

The bands to be produced from chipboard will be coated with appropriate color and material. The bands shall be 27 or 30 cm thick.

MEASUREMENT: Calculated in m.

**CW 46 Supplying child friendly space equipment**

A child-friendly area will also be provided is summarized below. Relevant products shall be identified together with the administration.

1 pcs / 5 Compartments Shoes and hanger (30x125x40 cm)

5pcs / Plastic table (60x120x50cm)

20pcs / Plastic chair (35cm)

20 pcs / Cushions

1pc / Wooden Kitchen Set

1pc / Wood Repair Set

1 pcs / Wooden Greengrocer Set

1pc / Steel glazing writing board

1 pcs / Bookcase

2 pcs / Wooden cabinet with 12 doors (100x120x35 cm)

MEASUREMENT: Calculated as lump.

## **2. TECHNICAL SPECIFICATIONS FOR MECHANICAL WORKS**

### **MW 01 Fire Cabinet According to the Standard TS EN 671-1: Hose diameter: DN 25 Hose Length 30 m**

Reel: Manufactured in compliance with the Directive 97/23/EC) on Pressure Equipment, in compliance with the standard TS EN 671- 1, TS EN 671-2, the Regulation (EU) No.305/2011 Construction Products - CPR, released with CE compliance marking, consisting of two steel discs with a maximum diameter of 800 mm and a circular inner piece with a diameter not less than 200 mm and a drum for hoses with a diameter of 25 mm. Hose: Round, semi-rigid, conforming to the standard TS EN 694 + A1, hose diameter 25 mm and length not exceeding 30 m. Nozzle: Can be shut-off, with water jet or spray options, conforming to the standard TS EN 671-1, 671- 2. Fire water valve: Hand operated, DN50 diameter, with coupling, valve and coupling in conformance with TS 12258, 12259, cabinet in appropriate sizes as to take all the equipment, use of warning signs in conformance with the Directive (92/58/EEC) on Minimum Requirements For Safety and/or Health Signs In Work Sites.

NOTE: For the portable extinguishers, the supply and on-site installation of the cylinder with 6 kg ABC type dry powder inside in compliance with TS 862 EN 3.

### **MW 02 Antibacterial Washbasin. First class: (Faucet: TS EN 200 or TS EN 817, Siphon: TS-EN 274- 1-2-3)**

Supply to the work site with a sink siphon and sewer pipe connection adapter, and installation and delivery in working order of brass-chromized or plastic-based (acetal copolymer) washbasin installation sized to comply with TS-EN 274-1-2-3, certified for quality, resistant to min. 80°C and acids for use with the washbasins given in the item 25.100.1000, with a 15-mm tap and rosette or faucet certified for compliance with TS-EN 274-1 2-3, a 6-cm anti-odor part, a min. 16-cm extension, brass-chromized or hard plastic rosette, which can be removed and cleaned, and tightened by a 32-mm wrench.

MEASUREMENT: The price is calculated per washbasin.

### **MW 03 Supply and installation of hard PVC rainwater downpipes Ø100 mm in diameter and with a bell mouth at one end**

Price per m including connection parts, brackets and miscellaneous parts, any material and losses, labor, loading, horizontal and vertical carriage, and unloading at the work site, equipment costs, and contractor's overheads and profit for supply of PVC pipes Ø100 mm in diameter, installing the clamps on the walls, installing the pipes from gutters including brackets, tightening the clamps with galvanized machine screws to complete attachment of rainwater pipes to the walls:

MEASUREMENT: To be measured by the length of an installed pipe's axis, and curved parts shall be charged double.

**MW 04 Supply and installation of hard PVC rain gutters Ø100 mm in diameter**

Price per m including any material and losses, labor, loading, horizontal and vertical carriage, unloading, and contractor's overheads and profit for providing rain gutters in round or rectangular profile made of Ø100 mm diameter PVC or making suspended gutters and flashing strips in accordance with the approved project, placing a layer of bitumen cardboard beneath the flashing strips, installing strainers and installing the gutters in their designated locations with galvanized two iron hooks per meter with 5 x 30 mm section:

MEASUREMENT: To be measured by the length of an installed pipe's axis, and curved parts shall be charged double.

**MW 05 Rigid PVC Plastic Drainpipes (slip-on or stick-on bell mouth) (TS EN 1329-1);**

Supply to the work site of rigid PVC plastic drainpipes in accordance with TS 1329-1, installation in its designated location as slip-on or stick-on bell mouth

MEASUREMENT: The price calculated per plastic drainpipes.

**MW 06 Corner-type radiator valve: (TS 579) Ø20 mm (3/4")**

**RADIATOR VALVE: (Measurement: Qty., Materials on construction site: 60%).**

Supply to the work site and installation of radiator valves and connection bushes (with connection bushes for thermostat heads and adapters for those with a thermostat) in compliance with TS EN 215 or TS 579.

ÖLÇÜ: Radyatör adedi ile tespit edilir.

**MW 07 35x45 cm, threaded, the washbasins shall be as described in the standard TS 13420 with an indelible ABY (Antibacterial Surface) logo inscribed on a visible part of the product**

ANTİBAKTERİYEL LAVABOLAR

Lavabolar, TS 13420 standardında tarif edilen tanıma uygun, ürün üzerinde görünür bölgede hiçbir şekilde silinmeyen, ABY (Anti Bakteriyel Yüzey) logolu,

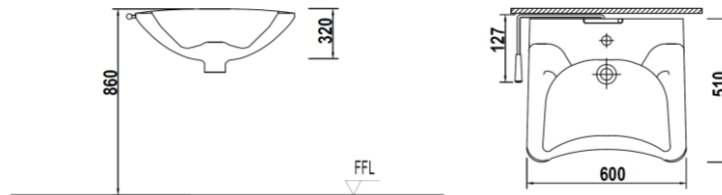
MEASUREMENT: The price calculated per washbasin.

**MW 08 50x60 cm Physically Handicapped Washbasin (The washbasin should be min. 43 cm, max. 49 cm deep.)**

Supply to the work site and installation of white washbasins of the types and dimensions given below with or without fixed soap dishes, including fittings. Washbasins shall be in compliance with the Regulation 305/2011/EU on Construction Products and released with a CE compliance marking.

NOTE: If colored glazed ceramic is used, installed prices shall be increased by 15% with the installation fee remaining unchanged.

Figure 3 Handicapped basin dimensions and installation height



MEASUREMENT: The price calculated as per washbasin.

**MW 09 Plastic siphon for washbasins and sinks (sized to comply with TSEN 274-1-2-3, resistant to temperatures up to 80°C, and equipped with a 6-cm anti-odor part)**

Supply to the work site and installation of reservoirs which can be directly connected to the plumbing system (piping) and used in Squat Toilet Pans and toilet bowls.

MEASUREMENT: The price calculated as per plastic siphon.

**MW 10 Approximately 50x70-cm accessible mirrors. Supply and installation of adjustable-til, accessible mirrors with 304-quality stainless steel frame.**

5-mm glass thickness, ground edges, and with beveled stripes, if any. Wall attachment screws shall be brass with min. 5-micron nickel plating or stainless steel. Installation on a wall with braces, screws and dowel pins. Mirrors shall be in compliance with the Regulation 305/2011/EU on Construction Products and released with a CE compliance marking.

MEASUREMENT: The price calculated as per mirror.

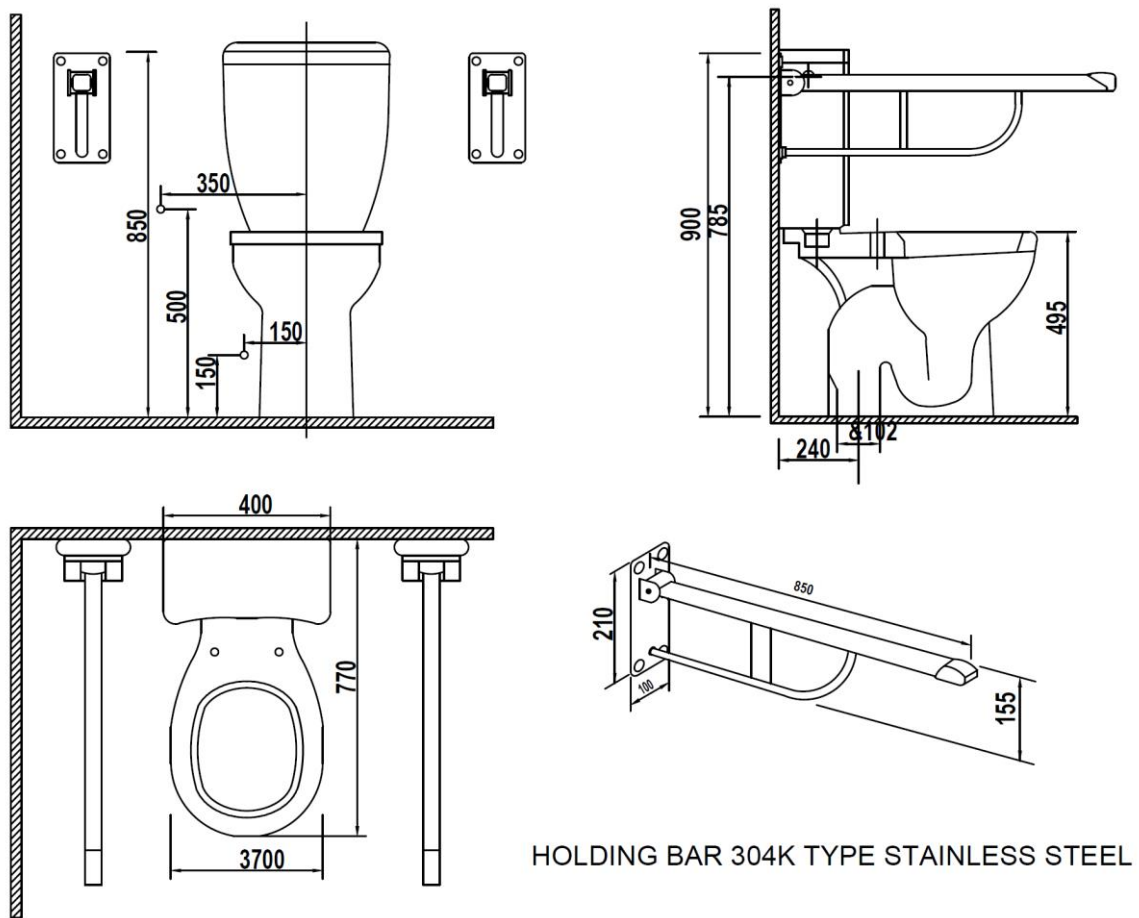
**MW 11 Approximately 35 x 70 cm for the physically disabled Extra-quality. (The toilet seat shall be 43 to 48 cm high from the floor)**

Supply to the work site, installation and delivery in working order of white (glazed) ceramic flush toilets with sufficient spacing for installation of a cistern, with min. 13-liter ceramic bowl, fully hard plastic cistern, brass-chromized seat and cover, complete with copper pipes for utility water connection of the cistern and bidet nozzle, rosettes and chrome-plated set screws and fixing blocks.

NOTE: If colored glazed ceramic is used, installed prices shall be increased by 15% with the installation fee remaining unchanged.

MEASUREMENT: The price calculated as per installed toilet seat.

Figure 4 Position and installation of closet and grab bars for disabled toilets



## MW 12 Paper dispenser for displaced

Supply to the work site and installation of a stainless-steel sheet paper dispenser with chromized set screws and special wedges or dowel pins.

MEASUREMENT: The price is calculated as per installed paper dispenser.

## MW 13 Flush toilet handlebar for the disabled: Chrome-plated stainless steel, approximately 700 x 740 mm, min. Ø30 mm (prices in installed form shall be decreased by 10% with the installation fee remaining unchanged in case of spray coating instead of chrome plating.)

MEASUREMENT: The price is calculated as per installed flush toilet handlebar.

## MW 14 Foldable handlebar for the disabled: Chrome-plated stainless steel, approximately 800 mm, min. Ø30 mm (prices in installed form shall be decreased by 10% with the installation fee remaining unchanged in case of spray coating instead of chrome plating.)

MEASUREMENT: The price is calculated as per installed foldable handlebar.

**MW 15 Addressable fire alarm repeater panel (Measurement: Qty., Materials on construction site: 80%)**

The repeater panel should be equipped with all indicator and control buttons on the master fire alarm control panel, allow monitoring of all alarm and failure states related to the system and conduct system checks. The repeater panel should have a master fire alarm and failure lamp, and individual alarm, failure lamps and illuminated alphanumerical indicator for each fire zone as well as local audible alarm component. Location numbers indicating the assigned location of a fire lamp should be placed next to each local fire lamp. In case of mains power outage, the fire alarm system shall continue to perform detection functions for min. 24 hours, and be equipped with enclosed, sealed, maintenance-free accumulators to ensure that the functions of alarm, control and communication remain enabled for min. 30 minutes at the end of the said period. The control panel shall be earthed for the required ohm value independently. The control panel shall be manufactured in compliance with the TS EN 54-2 and TS EN 54-4 standards, the Regulation (EU) No.305/2011 Construction Products - CPR, released with a CE compliance marking, and the manufacturer shall have a declaration of performance and Certificate of Constancy of Performance issued by an organization accredited by the European Union. Supply to the work site, and delivery in working order, including any small material, of the repeater panel.

MEASUREMENT: The price is calculated as per installed panel.

**MW 16 Plastic cistern: Cistern made of plastic**

Supply to the work site and installation of a white, rectangular, monobloc toilet pan made of TS-EN 274-1-2-3-compliant Ø100-mm PVC, resistant to temperatures up to 80°C and acids, which shall be equipped with a 6-cm anti-odor part: it shall be in compliance with TS 799a and certified for quality.

NOTE: If colored glazed ceramic is used, installed prices shall be increased by 15% with the installation fee remaining unchanged.

MEASUREMENT: The price is calculated as per installed plastic cistern.

**MW 17 Maintenance of the existing elevator**

Mevcut asansörler çalışır hale getirilip testleri yapılarak teslim edilecektir. Asansörler bakımı kapsamlı The existing elevators do not work and should be repaired and tested. The maintenance of the elevators is not comprehensive, and the main problem arises from not being used for a long time. However, if during the investigation any different defect is observed, the administration should be informed to make decision whether the elevator will be repaired or not.

ÖLÇÜ: The price calculated as per elevator and lump sum for each elevator.

#### **MW 18 Providing necessary infrastructure for clean water and sewage**

The necessary infrastructure for the clean and sewage water should be provided for the containers those will be transported from Suruç refugee camp.

MEASUREMENT: The price is calculated as lump sum.

#### **MW 19 Pressurized toilet washer**

Supply and installation of Ø20-mm brass-chromized, die-cast, pressurized toilet washers in compliance with TS-366 and awarded with a quality certificate for washing toilets, etc. by connection to the utility water pipe.

MEASUREMENT: The price is calculated as per toilet washer.

#### **MW 20 45 x 60 cm semi-pedestal set**

The item number MW 08 in that technical specifications also covers that item.

#### **MW 21 1/2" Long tap, including filter rosette**

Installation of taps in compliance with TSE EN 200 in their designated locations with their rosettes.

MEASUREMENT: The price is calculated as per tap.

#### **MW 22 Washbasin faucet with a single elevated control and single body (for countertop washbasins)**

Gövde dahil piring parçalar döküm, sıcak dövme veya hadde mamulün çubuktan talaş kaldırılarak

Brass parts including the body shall be cast, hot forged or rolled by chip removal and made of materials in compliance with the standards TS EN 12164-1,-2,-3 and TS EN 12165; manufactured as per TS EN 248 for surface standard requirements, and TS EN 200, TS EN 274, TS EN 817, TS 3143 for functions and size, one-control mixers manufactured in compliance with TS EN 1759-1, TS EN 1092-1, two-control faucets manufactured in compliance with TS 200; mills, bodies, etc. of the standard seal group used with two-control Measurements machined by chip removal from the raw material complying with TS EN 12164, parts such as seals, O-rings, etc. used in any product made of EPDM or NBR materials; such components as oil, seals, o-rings, etc. used any products certified for compliance with the KTW (KaL Trinken Wasser), WRC (Water Byelaws Scheme, a measure of toxic materials transferred to water from the non-metal parts that it contacts), and DVGW (Deutsche Vereinigung des Gasund Wasserfaches); the aerators shall be in compliance with the TS EN 246 and certified and marked for compliance with KIWA (Mechanical tests, acoustic tests, and measurement of the changes of color and taste in water) or DVGW; aerator hubs shall be plastic, flexible connection tubes shall be made of stainless steel wire mesh exterior and an EPDM internal tube, and awarded any of the certificates and markings of

compliance with DVGW, KIWA or SWGW (Mechanical tests, acoustic tests, and measurement of the changes of color and taste in water). The levers and flywheels used in any product shall be metallic, and the cartridges used in non-acrylic or non-plastic one-control faucets shall be certified for compliance with NSF (The Public Health and Safety Company) or WRAS (Water Regulations Advisory Scheme) and the products equipped with sensors shall be CE certified. The manufacturer shall have a current certificate of production competence, certificate of service competence, certificate of after-sales competence, ISO 9000 and ISO 14000 certificates, and certificate of TSE compliance.

NOTE: If mixers undergo PVD (Physical Vapor Deposition), installed prices shall be raised by 25%, and the installation fees shall remain unchanged.

**MW 23 Supply and installation of bathtub wastewater piping with a faucet, chain, plug, base siphon, and overflow pipe**

The wastewater pipes should be satisfied the TS EN 274-1-2-3 standard and the installation will be also covered.

MEASUREMENT: The price is calculated as per wastewater pipe.

**MW 24 Welded steel hot water generator heating boilers with 3 atm construction pressure: (100,000 kcal/h) 115 kw**

Three-pass boilers with tube bundles except for the cooker outlet, and with the thermodynamic and endurance values calculated in accordance with the required construction pressure as per such standards as TS EN 303-5, TS EN 303-1-2-3, TS 497, and TS EN 12953;

NOTES:

1-

- a.) The equipment that is supplied manually with solid fuel, have a greater PS x V value than 50 bars x liter and a maximum temperature of 110 C as per the Directive 2014/68/EU on Pressure Equipment shall be in compliance with the basic requirements specified in the article 2.10, 2.11, 3.4, 5 (a) and 5 (ç) of the annex (ANNEX 1) of the said Regulation, and comply with the "Regulation on Controlling the Air Pollution Caused by Heating" and the "Regulation on Controlling the Industrial Air Pollution."
- b.) Liquid or gas-powered hot water boilers with minimum 4 kW and maximum 400 kW power shall be in compliance with the Directive (92/42/EEC) Hot-Water Boilers and the Directive 2016/426/EU on Appliances Burning Gaseous Fuels, and be in compliance with the "Regulation on Controlling the Air Pollution Caused by Heating" and the "Regulation on Controlling the Industrial Air Pollution."

2- The boiler shall be manufactured, transported to the work site, installed on the designated base, and delivered in working order.

3- Values for other capacities shall be interpolated.

4- The boiler shall be awarded capacity and efficiency test reports as per the standards that the boiler is subject to, and the capacity and thermal efficiency values found by the capacity and thermal efficiency tests shall not be below the minimum values specified in the relevant Turkish Standards, and boilers with lower efficiency shall not be used. The said results shall be documented. (Testing only the largest and the smallest boiler provided that the ratio of the nominal power of the largest boiler to the smallest boiler is 2:1 for the boilers in the same structural design and product range in accordance with TS EN 303-3).

SOIL FUEL: Measurement: Quantity, Measurement: (kcal/h) KW,

1. TS EN 303-5 for  $Q \leq 500$  kW and up to 6-bar operating pressure,
2. TS 497 for  $Q > 500$  kW and up to 5-bar construction pressure,
3. TS 12953 for  $Q \leq 500$  kW and construction pressures greater than 5 bars,
4. TS EN 12953 for  $Q > 500$  kW and construction pressures greater than 5 bars,
5. TS EN 12953 for  $Q \leq 500$  kW and construction pressures greater than 0.5 bars, and
6. TS EN 12953 for  $Q > 500$  kW and construction pressures greater than 0.5 bars.

#### **MW 25 45x55 cm set with semi-pedestals**

Supply to the work site and installation of white washbasins of the types and dimensions given below with or without fixed soap dishes, including fittings. Washbasins shall be in compliance with the Regulation 305/2011/EU on Construction Products and released with a CE compliance marking. Note: If colored glazed ceramic is used, installed prices shall be increased by 15% with the installation fee remaining unchanged.

MEASUREMENT: The price is calculated as per washbasin.

#### **MW 26 Stainless steel soap dispenser**

Suction and discharge system, stainless steel body, approximately 400 gr. soap capacity and wall-mountable soap dispenser and delivery.

MEASUREMENT: The price is calculated as per soap dispenser.

**MW 27 Insulated stainless steel chimney (with stainless steel plating) diameter Ø300**

For metal chimneys: Supply to the work site, installation by the MYK Level 3-certified employees of the Manufacturer or Distributor's Authorized Technical Service, inspection and award of the approval of compliance by the MYK Level 4-certified employees, of a flue manufactured as per the standards TS EN 1856-1, TS EN 1856- 2, with a flue pipe, tee pieces, brackets, condensate collector, carrier base, adapter, flue cleaning cap, a second horizontal cap for cleaning where necessary, bell mouth or clamp fitting, a console, leaning and supporting parts to support horizontal and vertical parts, an earthed flue system, material description markings, and matching description tags in the CE certificate of the manufacturer and the markings on the flue, with the flue plate made of standard compliant materials of the flue placed on a visible spot at the boiler room and the flue section and draught calculated and reported as per TS EN 13384-2+A1 or TS EN 13384-2+A1. (Measurement prices for other values shall be interpolated.) Note: Flue carrier racks, carrier consoles, wire ropes, ladders, steel structures, lighting arresters and holders shall be calculated per the item Y.23.176. Manufactured to comply with the Regulation (EU) No.305/2011 Construction Products - CPR and released with a CE compliance marking, the chimneys shall be delivered in working order as installed with connections with all components specified in the approved project completed.

**MW 28 Flush toilet for use by minors, and piping system**

Supply, installation and delivery in working order of white or colored glazed ceramic flush toilets sized approximately 30\*55\*30 cm, in compliance with TS EN 997+A1, certified for quality, performs a full wash with min. 4 liters of water and allowing installation of a glazed ceramic cistern, with hard plastic seat, brass-chromized reservoir and bidet utility water valves, reservoir internal installation with a discharge group controlled by a graded flush button and a filling group with water inlet at the bottom, complete with a plastic bidet tube, rosettes and toilet installation kit. (Flush toilets shall be in compliance with the Regulation 305/2011/EU on Construction Products and released with a CE compliance marking)

### **3. TECHNICAL SPECIFICATIONS FOR ELECTRICAL WORKS**

#### **EW 01 Surface-mounted LED ceiling fixtures sized minimum 60x60 (with minimum 3300 lm light flux, and maximum 36 w consumption).**

LED Clean Room Ceiling Fixture (Measurement: Qty.)

Supply to the work site, and delivery in working order, including any material, labor and installation, of fixtures of minimum IP 65 degree of protection, and with a body 0.5-mm DKP sheet metal and a diffuser of tempered glass.

#### **EW 02 Flush-mounted regular switch**

Supply, transportation to the work site, and installation, including its casing, any small material and labor, of regular switches compliant with TS EN 60669-1 with contacts and threaded connection terminals resistant to at least 250 V and 6 A, and fireproof housing and cover.

#### **EW 03 Flush-mounted earthed socket**

Supply and installation, including its casing, any small material and labor, of regular power sockets in compliance with the TS 40, with contacts that can be connected to the security line, and threaded connection terminals resistant to 250 V and 10 A, and fireproof housing.

#### **EW 04 Automatic circuit breaker, Up to 25 A (6 kA)**

Aynı zamanda anahtar vazifesi gören 6 kA kısa devre kesme kapasiteli, 2 ve 4 kutupluları nötr ve faz kesme özelliğine haiz, B veya C eğrisi, TS 5018-1 EN 60898-1 standartlarına uygun olarak üretilmiş, CE uygunluk işareti ile piyasaya arz edilmiş otomatik sigortanın temin ve montajı, her nev'i malzeme ve işçilik dahil.

#### **EW 05 Automatic circuit breaker, Up to 40 A (6 kA)**

Supply and installation, including any material and labor, of an automatic circuit breaker with 3-kA short-circuit breaking capacity, 2 and 4 pole versions of which are capable of breaking neutral and phase lines, B or C curve, which was manufactured in compliance with the TS 5018-1 EN 60898-1 standards and released with CE compliance marking, and which also functions as a switch.

#### **EW 06 Providing necessary electrical infrastructure for the container**

The necessary electrical infrastructure will be provided for the containers. The infrastructure power line shall be delivered to the containers and the electrical panel of the container shall be controlled and connected to the main line. Existing fuses will be replaced. The cable thickness should satisfy the standards and the safe handling of the cables shall be ensured.

## EW 07 18000 BTU capacity wall mounted AC

Air conditioners will meet the minimum standards given in the table.

MEASUREMENT The number of air conditioners installed is measured.

Table 2 Minimum properties of the air-condition

Captured Power	V/Ph/Hz	230/1/50
Capacity (Cooling)	kW	6,5
Min. - Max. Cooling Capacity	kW	2,0 - 8,2
Drawn Power (Cooling)	kW	2
SEER (Cooling Measurement Value)	W/W	6,3
Efficiency Class (Cooling)		A++
Capacity (Heating)	kW	6,5
Min. - Max. Heating Capacity	kW	2,0 - 8,5
Drawn Power (Heating)	kW	1,7
SCOP (Heating Measurement Value) *		5,1
Efficiency Class (Heating) *		A+++
Air Flow Volume (Turbo / H / M / L)	m3/h	1.250/1.050/950/850
Sound Level (Indoor Measurement)	db (A)	49/44/41/39
Sound Level (Outdoor Measurement)	db (A)	58
Outdoor Measurement Dimensions	mm	700x955x396
Indoor Measurement Dimensions	mm	325x1.078x246
Net Weight (Indoor / Outdoor Measurement)	kg	16,5 / 52,5
Outdoor Temperature Range (Cooling) (min.-max.)	° C	-15 ~ 48
Outdoor Temperature Range (Heating) (min.-max.)	° C	-15 ~ 24
Fan Motor Type		AC
Compressor Type		Rotary
Pipe Connection (Liquid - Gas)	inches	1/4" – 5/8"
Maximum Copper Tube Distance (Without Additional Refrigerant) (Length)	m	5
Maximum Copper Tube Distance (Length)	m	25
Cooler liquid	gr	R32
Refrigerant Weight	gr	1700
Additional Refrigerant (Load / Meter)	gr	40

**EW 08 Surface-mounted, circular (downlight) luminaries (with minimum 1,700 lm light flux, maximum 24 W consumption)**

Supply to the work site, and delivery in working order, including any material, labor and installation, of fixtures of minimum IP 40 degree of protection, and with cast aluminum body and cooler and opal PMMA diffuser.

MEASUREMENT: The number of luminaires installed is measured in pieces.

**EW 09 PVC Cable Tray at least 20 x 12 mm (single cell)**

Supply, transportation to the work site, installation in its designated location, establishment of the connections, and delivery, including internal corners, external corners, brackets, terminals, T-brackets and frames, of flame-retardant in compliance with TS EN 60695-2-11 standard, RAL 9010 white (with internal locking and foil coating for the ducts sized 100 mm and above), self-extinguishing PVC (UL 94 V0 M1) ducts resistant to mechanical impacts, atmospheric and UV rays, and 260 kW/cm dielectric current, operable in an ambient temperature range of -25 C to +60 C, designed for safe carriage of high and low current conductors within the building, equipped with hinged and movable internal corner, external corners and brackets, and horizontal and vertical installation holes at the bottom to facilitate wall installation, which shall comply with the standards TS EN 50085-1, TS EN 50085-2-1, bear IP 40 degree of protection, was released with CE marking, and comply with the Restriction of the Use of Certain Hazardous Substances (RoHS) Directive.

MEASUREMENT: The price calculated per m.

**EW 10 360° ceiling-type, surface-mounted motion sensor**

Supply, transportation to the work site, establishment of the connections and settings, and delivery in working order, including any material and labor, of wall-type, flush-mounted motion sensors of IP 44 degree of protection, in compliance with the Restriction of the Use of Certain Hazardous Substances Directive, the 2014/35/ EU Low Voltage Directive (LVD), TS EN 60669-2-1 standards and released with a CE compliance marking, which shall operate in 220 to 240-volt mains voltage, a temperature range of -20°C to +40°C, allow connection of loads up to 400 Watts for fluorescent lamps and up to 1000 Watts for glow-filament lamps as well as adjustment of activity period and daylight by means of trimmers. Wall-type motion sensors shall be equipped with a digital optical detector and have a detection range of 180°, and ceiling-type motion sensors shall have a detection range of 360°.

MEASUREMENT: The price calculated per unit.

**EW 11 4 automatic circuit breakers box**

IEC 60331, TS 61034, TS 50200, TS EN 50266, TS EN 50267

Note:

- 1- Type tests shall be conducted, and the tests results shall be submitted to the Administration.
- 2- Fuses shall be paid separately as specified in the relevant items.

### **EW 12 Providing and installation of HDMI cable**

HDMI cable of desired length will be supplied and installed.

MEASUREMENT: Calculated in m.

### **EW 13 Deinstallation of the existing air-condition**

The air conditioner in the relevant space shall be removed and the gaps shall be filled, and plaster and paint shall be made.

MEASUREMENT: Calculated as lump.

#### 4. CODES and STANDARTS

The standards/norms/guidelines referred in these specifications can be obtained from the relevant web sites below:

[www.tse.org.tr](http://www.tse.org.tr)

[www.bsigroup.com](http://www.bsigroup.com)

[www.din.de](http://www.din.de)

[www.iso.org](http://www.iso.org)

[www.cen.eu](http://www.cen.eu)

A general and comprehensive list of codes and standards are given in the sections below.

##### 4.1 Standards for construction and architectural

DIN 1045	Concrete reinforced and prestressed concrete structures
DIN 1048	Testing Concrete
DIN 1164	Special Cement
DIN 488	Reinforcing Steels
DIN 4030	Assessment of water, soil and gases for their aggressiveness to concrete
TS 11222	Concrete- Ready mixed concrete- Classification specification performance production and conformity
TS 1247	Mixing, Placing and Curing of Concrete (Normal Weather Conditions)
TS 1248	Mixing, Placing and Curing of Concrete abnormal Weather Conditions
TS 1500	Classification of so in for civil engineering purposes
TS 19	Portland Cement
TS 1900	Methods of Testing Soils for Civil Engineering Purposes
TS 2871	Testing fresh concrete- Part 2: Slump test
TS 3068	Concrete tests- Test specimens- Part 2: Making and curing of test specimens for strength tests
TS 3114	Concrete-Determination of compressive strength of test specimens
TS 4559	Steel Mesh for Concrete
TS 500	Requirements for design and construction of reinforced concrete structures
TS 706	Concrete Aggregates
TS 708	Steel Bars for concrete
TS 707	Method for Sampling of Aggregates for Concrete Reducing Samples to Testing Size
TS 802	Design Concrete Mixes

BS 476	General requirements for components used in discharge pipes, drains and sewers for gravity systems
BS 882	Aggregates for concrete
BS 1199	Specifications for building sands from natural sources
BS 1200	Chemicals used for treatment of water intended for human consumption. Trisodium orthophosphate
BS 1369-1	Steel lathing for internal plastering and external rendering. Specification for expanded metal and ribbed lathing
BS 1186-2	Materials and articles in contact with foodstuffs. Plastics. Test methods for overall migration into olive oil by total immersion
BS 4800	Schedule of paint colours for building purposes
BS 5385-3	Wall and floor tiling. Code of practice for the design and installation of ceramic floor tiles and mosaics
BS 5977 -2	Lintels. Specification for prefabricated lintels
BS 5385-5	Wall and floor tiling. Design and installation of terrazzo, natural stone and agglomerated stone tile and slab flooring. Code of practice
BS 5642	Sills and Copings
BS 8203	Code of practice for installation of resilient floor coverings
DIN 4102	Fire behaviour of building materials and building components
DIN 4099 T1	Aerospace series - Aluminium alloy AL-P2219-T6 or T62 - Clad sheet and strip - 0,5 mm ≤ a ≤ 6 mm
EN 607	Eaves gutters and fittings made of PVC-U - Definitions, requirements and testing
EN 1097-2	Tests for mechanical and physical properties of aggregates - Part 2: Methods for the determination of resistance to fragmentation
EN 1092	Flanges and their joints. Circular flanges for pipes, valves, fittings and accessories, PN designated. Steel flanges
EN 1313	Round and sawn timber. Permitted deviations and preferred sizes. Softwood sawn timber
EN 10143	Continuously hot-dip coated steel sheet and strip - Tolerances on dimensions and shape
EN 428	Resilient floor coverings - Determination of overall thickness
EN 429	Resilient floor coverings - Determination of the thickness of layers
EN 430	Resilient floor coverings - Determination of mass per unit area
EN 426	Resilient floor coverings - Determination of width, length, straightness and flatness of sheet material
EN 434	Resilient floor coverings - Determination of dimensional stability and curling after exposure to heat

EN 424	Resilient floor coverings - Determination of the effect of simulated movement of a furniture leg
EN 425	Resilient and laminate floor coverings - Castor chair test
EN 13501-1	Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests
EN 1815	Resilient and textile floor coverings - Assessment of static electrical propensity
EN 140-8	Acoustics - Measurement of sound insulation in buildings and of building elements - Part 8: Laboratory measurements of the reduction of transmitted impact noise by floor coverings on a heavyweight standard floor
EN 13893	Resilient, laminate and textile floor coverings - Measurement of dynamic coefficient of friction on dry floor surfaces
EN 717-2	Wood-based panels - Determination of formaldehyde release - Part 2: Formaldehyde release by the gas analysis method
DIN 18155	Stone + Artificial Stone + Terrazzo
EN 301	Adhesives, phenolic and aminoplastic, for load-bearing timber structures - Classification and performance requirements
EN 302	Adhesives for load-bearing timber structures
EN 315	Plywood - Tolerances for dimensions
EN 338	Structural timber - Strength classes
EN 485	Plate, sheet and strip
EN 515	Aluminium and aluminium alloys - Wrought products - Temper designations
EN 573	Plate, sheet and strip
EN 573 -3	Aluminium and aluminium alloys - Chemical composition and form of wrought products - Part 3: Chemical composition and form of products
EN 635	Plywood - Classification by surface appearance
EN 654	Resilient floor coverings - Semi-flexible polyvinyl chloride tiles - Specification
EN 681-1	Elastomeric seals - Materials requirements for pipe joint seals used in water and drainage applications - Part 1: Vulcanized rubber
EN 754	Aluminium and aluminium alloys - Cold drawn rod/bar and tube
EN 942	Timber in joinery - General requirements
EN 10025	Hot rolled products of structural steels
EN 10219-1	Cold formed welded structural hollow sections of non-alloy and fine grain steels - Part 1: Technical delivery conditions
EN 10088-2	Stainless steels - Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes-

EN 13748-1	Terrazzo tiles - Part 1: Terrazzo tiles for internal use
EN 1563	Founding - Spheroidal graphite cast irons
EN 1564	Founding - Austempered ductile cast irons
EN 1676	Aluminium and aluminium alloys - Alloyed ingots for remelting - Specifications
EN ISO 10545	Ceramic tiles
EN ISO 1460	Metallic coatings - Hot dip galvanized coatings on ferrous materials - Gravimetric determination of the mass per unit area (ISO 1460:1992)
ISO 65	Carbon steel tubes suitable for screwing in accordance with ISO 7-1
TS 202	Ceramic tiles-Çini tiles (Anatolian tiles)
TS 213-1	Terrazzo tiles - Terrazzo tiles for internal use
TS 11988	Textile floor coverings - Machine made carpets
EN 433	Resilient floor coverings - Determination of residual indentation after static loading
EN 435	Resilient floor coverings - Determination of flexibility
EN 636	Plywood - Specifications
EN 649	Resilient floor coverings - Homogeneous and heterogeneous polyvinyl chloride floor coverings - Specification
EN 660-1	Resilient floor coverings - Determination of wear resistance - Part 1: Stuttgart test
EN 660-2	Resilient floor coverings - Determination of wear resistance - Part 2: Frick-Taber test
EN 684	Resilient floor coverings - Determination of seam strength
EN 685	Resilient, textile and laminate floor coverings - Classification
EN 13163	Thermal insulation products for buildings - Factory made products of expanded polystyrene (EPS) - Specification
EN 13164	Thermal insulation products for buildings - Factory made products of extruded polystyrene foam (XPS) - Specification
EN 10055	Hot rolled steel equal flange tees with radiused root and toes - Dimensions and tolerances on shape and dimensions
TS 39	Paints-Organic Solvent Based-Top Coat
TS 46	Plywood - Specifications
TS 213-1	Terrazzo tiles - Terrazzo tiles for internal use
TS 500	Requirements for design and construction of reinforced concrete structures
TS 706	Aggregates for concrete
TS 910	Hot Rolled -I- Beams
TS 911 EN 10055	Hot Rolled T-Bars-Round Edges
TS 912	Hot Rolled Steel Channels With Round Edges

TS 10449	Marble-Calcium Carbonate Based-Used for Building and Facing
TS 11989 EN 13164	Thermal insulating products for buildings factory made products of extruded polystyrene foam-Specification
TS 1265	Sawn timber for building construction (Coniferous)
TS 2717	Aggregates for Masonary Mortar
TS 275-1 EN 1329-1	Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure unplasticized poly (vinyl chloride) (PVC-U) Part 1: Requirements for pipes fittings and the systems
TS 275-2 EN 1329-2	Plastics piping systems for soil waste discharge (low and high temperature) within the building structure-Unplasticized polyvinyl chloride)(PVC-U)-part 2:Guidance for the assessment of conformity
TS 4645	Plywood - Specifications
TS 4559	Steel Mesh for Concrete
TS 4922	Anodic Oxidation Coatings On Aluminium and Wrought Aluminium Alloys
TS 5246	Precision Extrusion of AlMgSi0,5 Dimensions and Tolerances
TS 5247	Aluminium and aluminium alloys - Extruded precision profiles in alloys EN AW-6060 and EN AW-6063 - Part 1: Technical conditions for inspection and delivery
TS 624-1	Resilient Floorcoverings-Homogeneous and heterogeneous polyvinil chloride floor coverings- Specification
TS 7316	Thermal insulation products for buildings - Factory made products of expanded polystyrene (EPS) - Specification
TS 9967	Design Construction and Erection Methods for Precast Reinforced and Prestressed Concrete Elements Structures and Buildings
TS EN 10058	Hot rolled flat steel bars for general purposes - Dimensions and tolerances on shape and dimensions
TS EN 1309-1	Round and sawn timber-Method of measurement of dimensions-Part 1:Sawn timber
TS EN 1310	Round and sawn timber-Method of measurement of features
TS EN 1311	Round and sawn timber-Method of measurement of biological degrade
TS EN 1313-1	Round and sawn timber-Permitted deviations and preferred sizes-Part 1:Softwood sawn timber
TS EN 1313- 2	Round and sawn timber- Permitted deviations and preferred sizes- Part 2: Harwood sawn timber
TS EN 1467	Natural stone - Rough blocks - Specifications
TS EN 438	High-pressure decorative laminates (HPL) - Sheets based on thermosetting resins (Usually called laminates)
TS EN 755-1	Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 1: Technical conditions for inspection and delivery

TS EN 755-2	Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 2: Mechanical properties
TS EN 755-3	Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 3: Round bars, tolerances on dimensions and form
TS EN 755-4	Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 4: Square bars, tolerances on dimensions and form
TS EN 755-5	Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 5: Rectangular bars, tolerances on dimensions and form
TS EN 755-6	Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 6: Hexagonal bars, tolerances on dimensions and form
TS EN 755-7	Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 7: Seamless tubes, tolerances on dimensions and form
TS EN 755-8	Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 8: Porthole tubes, tolerances on dimensions and form
TS EN 755-9	Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 9: Profiles, tolerances on dimensions and form
TS EN 844-6	Round and sawn timber-Terminology-Part 6:Terms relating to dimensions of sawn timber
TS EN 844-9	Round and sawn timber-Terminology-Part 9:Terms relating to features of sawn timber
TS EN 844-12	Round and sawn timber- Terminology- Part 12: Additional terms and general index
DIN 4226	Aggregates for concrete and mortar
ISO 4427	Plastics piping systems -- Polyethylene (PE) pipes and fittings for water supply
ISO 6259	Thermoplastics pipes -- Determination of tensile properties
ISO 1183	Plastics - Methods for determining the density of non-cellular plastics
ISO 1133	Plastics -- Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics
ISO 6259	Thermoplastics pipes -- Determination of tensile properties

## 4.2 Standards for Mechanical Works

DIN 1614	Health informatics - Representation of dedicated kinds of property in laboratory medicine
DIN 8077	Polypropylene (PP) pipes - PP-H, PP-B, PP-R, PP-RCT - Dimensions
DIN 8078	Polypropylene (PP) pipes - PP-H, PP-B, PP-R, PP-RCT - General quality requirements and testing
DIN 16892	Crosslinked polyethylene (PE-X) pipes - General requirements, testing
DIN 16893	Crosslinked polyethylene (PE-X) pipes - Dimensions
DIN 18126	Soil, investigation and testing - Determination of density of non-cohesive soils for maximum and minimum compactness
EN 12897	Water supply - Specification for indirectly heated unvented (closed) storage water heaters
DIN 18127	Soil, investigation and testing - Proctor-test
ISO 9001	Quality management systems -- Requirements
TS ISO 1129	Steel tubes for boilers, super heaters and heat exchangers- Dimensions tolerances and conventional masses per unit length
TS EN ISO 4126-1	Safety devices for protection against excessive pressure – Part 1: Safety valves
TS EN ISO 4126-4	Safety devices for protection against excessive pressure - Part 4: Pilot operated safety valves
TS EN ISO 4126-6	Safety devices for protection against excessive pressure – Part 6: Application, selection and installation of bursting disc safety devices
TS EN ISO 4126-7	Safety devices for protection against excessive pressure - Part 7: Common data
TS ISO 8142	Thermal insulation bonded preformed man-made mineral fibre pipe sections-specification
TS 3147	Industrial valves - Copper alloy gate
TS 549	Valves for water supply - Fitness for purpose requirements and appropriate verification tests
TS 822	Galvanized Plain and Corrugated Steel Sheets (Hot-Dip Galvanized)
TS-824 ISO 4064-1	Water meters - Part 1: General requirements
TS-105	Asphalt for Use In Build - Up Roof Construction
TS EN 215-1	Thermostatic radiator valves - Requirements and test methods
TS 931 EN 10241	Steel threaded pipe fittings
TS EN 671-1	Fixed firefighting systems-Hose Systems-Part 1: Hose Reels With Semi-Rigid Hose
TS EN 671-2	Fixed firefighting systems-Hose systems-Part 2: Hose systems with lay-Flat hose
TS EN 593	Industrial valves – Metallic butterfly valves

TS 6728	Fire-fighting hoses - Semi-rigid hoses for fixed systems
TS 12258	Couplings and reducing for land fire fighting
TS 12259	Valves For Fire Hose, For Land Fire Fighting PN 16
TS 5229 EN-1036	Glass in building – Mirrors from silver-coated float glass for internal use
TS EN 10025	Hot rolled products of structural steels
TS 11389 EN 13384-1	Chimneys - Thermal and fluid dynamic calculation methods - Part 1 : Chimneys serving one appliance
TS EN 13229	Inset appliances including open fires fired by solid fuels - Requirements and test methods
TS 11389 EN 13384-1	Chimneys - Thermal and fluid dynamic calculation methods - Part 1 : Chimneys serving one appliance
TS 11382	Steel stacks (Industry type)
TS EN 303	Heating boilers
TS EN 1856	Chimneys - Requirements for metal chimneys
TS 11388 EN 13384-2	Chimneys - Thermal and fluid dynamic calculation methods - Part 2: Chimneys serving more than one heating appliance
TS 7936 EN 60335-2-40	Safety of household and similar electrical appliances Part 2-40: Particular requirements for electrical heat pumps, air - conditioners and dehumidifiers
TS 6814 EN ISO 1127	Stainless steel tubes - Dimensions, tolerances and conventional masses per unit length (ISO 1127:1992)
TS 824 ISO 4064-1	Measurement of water flow in fully charged closed conduits -- Meters for cold potable water and hot water -- Part 1: Specifications
TS 301	Seamless and Welded Steel Pipes With Thread
TS 327	Drains For Waste Water of Cast Iron With Lamellare Graphite
TS 481	Taps- Fill and Drain-For Hot Water Heating Systems
TS 579	Valves and Fittings for Central Heating Radiators
TS 605	Sanitary appliances - Wash basins - Functional requirements and test methods
TS 617	Hydrometers - Principles of Construction and Adjustment
TS 799	Squatting WC-Bowls (Made of Ceramic and Cast Iron)
TS-824	Water meters - Part 1: General requirements
TS 931	Steel threaded pipe fittings
TS 2747	Wall-hung urinals - Functional requirements and test methods
TS 3148	Ball Valves- For General Use
TS 5437	Welding ends - Preparation of ends of steel tubes and fittings for welding
TS 6814	Stainless steel tubes - Dimensions, tolerances and conventional masses per unit length
TS 7843	Pipeline Valves, steel (Gate, Plug, Ball and Check Valves)
TS 7402	Steel tubes; tolerance systems

TS 7936	Safety of household and similar electrical appliances Part 2-40: Particular requirements for electrical heat pumps, air - conditioners and dehumidifiers
TS EN 200	Sanitary tapware - Single taps and combination taps for water supply systems of type 1 and type 2 - General technical specification
TS EN 442-1	Radiators and convectors - Part 1: Technical specifications and requirements
TS EN 442-2	Radiators and convectors-Part 2: Test methods and rating
TS EN 442-3	Radiators and convectors Part 3: Evaluation of conformity
TS EN 10255	Non-alloy steel tubes suitable for welding and threading - Technical delivery conditions
TS EN 12071	Welding consumables - Tubular cored electrodes for gas shielded metal arc welding of creep-resisting steels - Classification
TS EN 12535	Welding consumables - Tubular cored electrodes for gas- shielded and non-gas-shielded metal arc welding of high- strength steels - Classification
TS EN 12952-1	Water-tube boilers and auxiliary installations - Part 1: General
TS EN 12952-3	Water tube boilers and auxiliary installations - Part 3: Design and calculation for pressure parts
TS EN 14511-4	Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling - Part 4: Requirements
TS 12073	Paints And Varnishes-Modified Alkyd Resins Used As Binders
TSE 10761	Plastics piping systems for hot and cold water installations - Crosslinked polyethylene (PE-X) - Part 2: Pipes (ISO 15875-2:2003)
TSE 10762	TSE 10762-7 CEN ISO/TS 15875-7: Plastics piping systems for hot and cold water installations - Crosslinked polyethylene (PE-X) - Part 7: Guidance for the assessment of conformity (ISO/TS 15875-7:2003)
TS EN 274-1	Waste fittings for sanitary appliances - Part 1: Requirements
TS EN 274-2	Waste fittings for sanitary appliances-Part 2: Test methods
TS EN 274-3	Waste fittings for sanitary appliances – Part 3: Quality control
TS EN ISO 11124	Preparation Of Steel Substrates Before Application Of Paints and Related Products-Specifications For Metallic Blast-Cleaning

### 4.3 Standards for Electrical Works

DIN VDE 0815	Wiring cables for telecommunication and data processing systems
EN 60044-1	Measurement transformers-Section 1 Current transformers
EN 60051-2	Electrical measurement devices and accessories
EN 60400	Specification for lampholders for tubular fluorescent lamps and starterholders
EN 60439-1	Low voltage switches and control units
EN 60598-1	Luminaires. General requirements and tests
EN 60898	Circuit breakers, prevention of excess current at houses or similar installations
EN 60920	Ballasts for tubular fluorescent lamps. General and safety requirements
EN 60921	Ballasts for tubular fluorescent lamps. Performance requirements
EN 60922	Auxiliaries for lamps. Ballasts for discharge lamps (excluding tubular fluorescent lamps). General and safety requirements
EN 60923	Auxiliaries for lamps. Ballasts for discharge lamps (excluding tubular fluorescent lamps). General and safety requirements
EN 60926	Specification for auxiliaries for lamps. Starting devices (other than glow starters). General and safety requirements
EN 60947-2	Low voltage switching and control apparatus Section 2 Circuit breakers
EN 61008-2-1	Residual current operated circuit breaker without integral overcurrent protection for household and similar uses (RCCB) Part 2.1:Applicability of the General Rules to RCCB'S functionally independent of line voltage.
TS IEC 227-6	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750
TS EN 61008-2-1	Residual current operated circuit breaker without integral overcurrent protection for household and similar uses (RCCB) Part 2.1:Applicability of the General Rules to RCCB'S functionally independent of line voltage.
TS EN 61107	Electricity metering - Data exchange for meter reading, tariff and load control
TS10922	Safety rules for the construction and installation of lifts
TS EN 61107	Electricity metering - Data exchange for meter reading, tariff and load control
TS EN54-7	Fire detection and fire alarm systems - Part 7: Smoke detectors; Point detectors using scattered light, transmitted light or ionization
ISO 11801	Information technology -- Generic cabling for customer premises
IEC 60331	Tests for electric cables under fire conditions - Circuit integrity
IEC 60332	Tests on electric and optical fibre cables under fire conditions
IEC 60502	Extruded Solid Dielectric Insulated Cables
IEC 60754	Test on gases evolved during combustion of materials from cables
ISO 4190-1	Lift (US: Lift) installation -- Part 1: Class I, II, III and VI lifts
IEC 61034	Measurement of smoke density of cables burning under defined conditions

TS 914	Hot dip galvanized coatings on fabricated iron and steel articles - specification and test methods
TS 8697 EN 60598	Luminaires
TS 1058	Low-Voltage Switchgear and Controlgear-Part 2: Circuit breakers
TS 10922	Safety rules for the construction and installation of lifts- Part 1: L Electric lifts
TS 1178	Plastics-Unplasticized pol(vinyl chloride) (PVC-U) moulding and extrusion materials-Part 1:Designation system and basis for specifications
TS 3367	Low-voltage switchgear and controlgear assemblies -- Part 1: Type-tested and partially type-tested assemblies
TS 3930	Low Frequency Cables With Polyolefin Insulation and Moisture Barrier Polyolefin Sheath
TS 4915 EN 60669-1	Switches for household and similar fixed electrical installations - Part 1: General requirements
TS 5018	Circuit-Breakers for Overcurrent Protection for Household and Similar Installations.
TS 5590	Direct acting indicating analogue electrical measuring instruments and their accessories; part 2: special requirements for ammeters and voltmeters (IEC 51-2: 1984)
TS 6249	Textiles - Tests for colour fastness - Part E12: Colour fastness to milling: Alkaline milling.
TS 8237	Lift (US: Lift) installation - Part 1: Class I, II, III and VI lifts
TS 8697	Luminaires; part 1: requirements and tests
TS EN 12016	Electromagnetic compatibility - Product family standard for lifts, escalators and moving walks - Immunity
TS EN 54-11	Fire detection and fire alarm systems - Part 11: Manual call points
TS EN 54-2	Fire detection and fire alarm systems part 2: Control and indicating equipment
TS EN 54-3	Fire detection and fire alarm systems – Part 3 : Fire alarm devices - Sounders
TS EN 54-4	Fire detection and fire alarm systems - Part 4: Power supply equipment; Amendment
TS EN 60529	Degrees of protection provided by enclosures (IP Code)Amendment 1
TS EN 60598-1	Luminaires - Part 1: General requirements and tests
TS EN 60598-2	Particular requirements-Section 23:Extra low-voltage lighting systems for filament lamps (IEC 598-2-23:1996)
TS EN 61008-1	Residual current operated circuit breakers without integral overcurrent protection for house hold and similar uses /RCCB)-Part 1:General rules
TS EN 61036	Alternating current static watt-hour meters for active energy (classes 1 and 2)
TS EN 81-1	Safety rules for the construction and installation of lifts - Part 1: Electric lifts
TS EN 81-2	Safety rules for the construction and installation of lifts- Part 2: Hydraulic lifts

