PANOREA

RESIDENCE

TALIADOROS

CONSTRUCTION + DEVELOPERS

TECHNICAL SPECIFICATIONS – GENERAL

1. GENERAL

1.1 General

The Specifications shall be read together with the Contract Conditions and the Drawings, and form part of the Contract Documents. The specifications of materials and workmanship shall apply to all works unless otherwise stated. All works shall be executed in accordance with the Laws and the Regulations of the Department of Town Planning and Housing and/or any other Competent Authority.

1.2 Materials

All materials shall be of the best quality as described in these Conditions and shall comply with the Cyprus Standards (CYS) or with the corresponding British Standards (BS).

1.3 Workmanship

The execution and general quality of the works shall be of the highest possible standard and in accordance with the Cyprus and British (where applicable) Specifications and Regulations. The Contractor shall be responsible for the sound execution, solidity, and excellent quality of the works. Special care shall be given to the accurate adherence to dimensions and levels. Constructions with dimensional deviations beyond the permissible tolerances shall be corrected by the Contractor at his own expense. All costs of demolitions, removals, reconstructions, and repairs shall be borne by the Contractor.

1.4 Samples of Materials, Constructions, and Shop Drawings

Before ordering materials, and if these are not specified in the Documents, the Contractor shall ensure the use of the best possible materials always in accordance with the drawings.

1.5 Tests

The costs of routine tests for quality control of materials, works, and constructions, as described in the relevant sections of the Specifications, shall be borne by the Contractor, irrespective of their results.

- Sampling of concrete cubes and compression strength tests of these specimens.
- Tests on composition, quality, and suitability of individual materials (aggregates, water, cements, admixtures, filling materials, plasters, etc.).
- Sampling of reinforcement bars for dispatch to an accredited laboratory for testing of mechanical properties and chemical composition.
- Suitability of borrow materials or excavated materials for backfilling.
- Compaction tests of backfills.

2. PURCHASING VALUES

2.1 For Ceramics inside and outside the House

The purchaser shall have the right to select ceramics of his choice, provided that the purchase value does not exceed €28/m^2, which shall only include the supply cost from the store. The Contractor shall undertake their installation in the house, and this price shall be included in the purchase price of the house. If the purchaser selects ceramic or marble of a higher purchase value, he shall pay the difference.

2.2 For Wooden Laminate Flooring inside the House

The purchaser shall have the right to select laminate flooring of his choice, provided that the purchase value does not exceed €25/m^2, which shall only include the supply cost from the store. The Contractor shall undertake their installation in the house, and this price shall be included in the purchase price of the house. If the purchaser selects parquet or laminate of a higher purchase value, he shall pay the difference.

2.3 For Sanitary Ware

The Contractor shall install sanitary ware and mixers of a brand chosen by the purchaser. All sanitary ware shall be installed at the Contractor's expense and in full working order. If the purchaser selects more expensive sanitary ware, he may do so and shall pay the difference. The purchase cost of sanitary ware and mixers is €2,500 based on the above quality.

2.4 Metalwork

The Contractor shall install metalwork such as railings, miscellaneous metal items, gates, handrails, etc., exactly as shown on the drawings.

2.5 Aluminium Works

- **Hinged aluminium** shall be MU2750 THERMAL series with double glazing, consisting of 5 mm internal glass *Stopray Smart 51/33*, 6 mm external glass *Planibel Clearlite*, and a 15 mm cavity, in natural aluminium colour, with frames in natural aluminium colour, including all necessary fixings and operating accessories.
- **Sliding aluminium** shall be MU114 THERMAL series with double glazing, consisting of 5 mm internal glass *Stopray Smart 51/33*, 6 mm external glass *Planibel Clearlite*, and a 15 mm cavity, in natural aluminium colour, with frames in natural aluminium colour, including all necessary fixings and operating accessories.

2.6 Glass Railings

These shall be 16 mm thick glass railings for verandas, consisting of 8 mm laminated glass and 8 mm clear glass, fixed on an aluminium base of 10 cm thickness. The Contractor shall include in his price both the supply and installation, at a purchase value of €150/m.

2.7 Carpentry Works

The purchase price shall also include the cost of carpentry works with the following technical specifications:

- **Internal Doors:**
  Pressed MDF, 6 mm thickness, with melamine finish, including BLOMBORT wooden frame with melamine finish and matching architraves, lock and handle of purchase value €35/set, and three (3) hinges per leaf. Cost: €450 per door.

- **Counters and Cabinets:**
  Structure made of white melamine, doors with melamine and 2 mm PVC edging, with Soft Close runners for four (4) drawers. Soft Close hinges on all opening doors. Handles of purchase value €3/each. If the purchaser requires additional counters and cabinets beyond the design, an extra charge of €250/m shall apply. Additional granite countertop: €170/m purchase value.

- **Wardrobes:**
  Structure made of white melamine, doors with melamine and 2 mm PVC edging, with runners and handles €3/each. If the purchaser requires additional wardrobes beyond the design, an extra charge of €240/m^2 shall apply.

Decorative Louvers

Made of aluminium battens suitable for external use, with overall dimensions of 80 × 50 mm, including all necessary supports and coatings/finishes, similar to those shown in the 3D drawings.

3. EARTHWORKS

3.1 General

The Contractor shall carry out a detailed leveling survey of the plot to confirm the existing levels shown on the Drawings. Due to the morphology of the ground, the presence of hard soil or rock as well as clay may be encountered. The Contractor is obliged to ascertain the nature of the ground to be excavated, and the construction cost shall not be affected by the discovery of hard soil.

3.2 Condition of Construction Site

Before the commencement of any work, the construction site shall be inspected by the Contractor and the Engineer in order to determine and record the general condition of the site. The details to be recorded shall include anything that may be affected by the Contractor's works, such as fencing, boundary markers, etc.

3.3 Clearing of Construction Site

The site shall be cleared of any debris as well as all vegetation. If, for any reason, a boundary marker is displaced or destroyed due to the Contractor's activities, then the Contractor shall immediately replace it, and this shall not affect the delivery of the project.

3.4 Ground Levels

The plot has already been surveyed and the building levels are based on this survey. The existing and proposed final levels are indicated on the Drawings. After clearing the ground and before the commencement of earthworks, the excavation areas shall be protected.

3.5 Removal of Topsoil

The Contractor and the Engineer shall agree on the areas and the depth of topsoil to be removed before the commencement of earthworks. Once removed, the topsoil shall be taken off-site.

3.6 Setting Out

The general setting out of the building and the establishment of reference points (axes), as well as the implementation of levels, shall be carried out by the Contractor. The Contractor shall be responsible for the correct setting out, the protection of these points, and the maintenance of levels in accordance with the Drawings.

3.7 Materials

All soils to be used for backfilling shall be of "A" quality. The quarry gravel and marl shall be free from vegetable matter and clayey soils. Topsoil shall be sourced from an approved supplier, free from stones and waste substances, and shall contain sufficient organic and biological matter to ensure plant growth.

3.8 Placement of Backfill

Backfill shall be placed and compacted in layers not exceeding 30 cm in compacted thickness, and it shall be continuous over the entire excavation area. Before the placement of a new layer, the surface of the existing layer shall be moistened using appropriate equipment to ensure proper bonding between layers.

3.9 Compaction Test of Backfill Soil

The test to be used for controlling the density and moisture content of the backfill shall be in accordance with B.S. 1377: Part 4 1990, Section 3 *"Determination of dry density/moisture content relationship of soil"*, using a 2.5 kg rammer (Standard Proctor Test).
The optimum moisture content shall be that moisture content which gives the maximum dry density of the soil in the Standard Proctor Test. The construction cost shall include the cost of such material testing.

3.10 In-situ Density Tests of Backfill Soil

The test to be used for determining the in-situ density of the backfill shall be in accordance with B.S. 1377: Part 9 1990, Section 2 *"In-situ density tests, sand replacement method*

suitable for fine-, medium-, and coarse-grained soils (small and large pouring cylinder methods)" (Sand Replacement Test).
The construction cost shall include the cost of such material testing.

3.11 Sampling of Test Specimens

The Contractor shall take soil specimens for the following tests: in-situ dry density, moisture content, and Standard Proctor Test. The normal sampling rate shall be one sample per 100 m^2 for in-situ density and moisture content tests, and two samples from each backfill material for the Proctor Test. The construction cost shall include the cost of such material testing.

4. CONCRETE WORKS

4.1 Cement

The cement (PORTLAND) slow-setting type shall comply with the Cyprus Standards CYS 16:1980. The Contractor shall take all necessary measures to protect the cement from moisture.

4.2 Admixtures

Admixtures shall be used only as specified in the drawings and the design study.

4.3 Quality of Concrete

The characteristic strength of the concrete and the size of the aggregates shall be as specified in the drawings and specifications. The following categories of concrete shall be used and shall meet the requirements shown in the table below.

Table 1: Categories of Concrete

Κατηγορίες σκυροδέμτος	C5	C10	C15	C20	C25	C30
Μέγιστο ονμαστικό μέγεθος αδρανών (MM)	20	20	20	20	20	20
Ελέγχιστη αποδεκτή ποσότητα τσιμέντου (Kg/M3	100	150	220	330	370	410
Μέγιστη αναλογία νερού/τσιμέντου	0,60	0,60	0,50	0,50	0,48	0,45
Χαρακτηριστική ενδεικτική αντοχή κύβων 150χιλ στις 7 μέρες (N/MM2)	3,5	6,5	10	13,5	16,5	20
Χαρακτηριστική ενδεικτική αντοχή κύβων 150χιλ στις 28 μέρες (N/MM2)	5	10	15	20	25	30
Προκαταρκτική εργαστιριακή αντοχή στις 7 μέρες (N/MM2)	5 (8)	9 (11)	13 (17)	18 (22)	21 (25)	24 (28)
Προκαταρκτική εργαστιριακή αντοχή στις 28 μέρες (N/MM2)	8 (12)	13 (17)	20 (25)	27 (33)	32 (38)	37 (43)

The strengths shown in parentheses ( ) refer to concrete that is not produced in ready-mix concrete plants.

4.3.1 Strength Control

The control of concrete strength is considered essential for all concrete works. This control shall be carried out on the concrete delivered to the construction site, with the prescribed workability, by testing test specimens (cubes) of 150 mm edge length.

The specimens shall be prepared and cured in accordance with Cyprus Standard CYS 152 (Parts 1 and 2). All specimens shall be numbered in the order of their sampling on site.

The sampling of test specimens shall be carried out by an independent Laboratory. The Purchaser shall have the right to nominate a laboratory that complies with the legislation, and the Contractor shall ensure, at his own expense, that the cubes are tested. The cost of supplying specimens and the equipment for sampling, as well as the sampling, transportation, storage, and the laboratory compression tests and presentation of the test results, shall be borne entirely by the Contractor.

The Contractor shall keep complete records regarding the category of the concrete, the date, and the location where it was placed, as well as the corresponding details of the specimens taken. The sampling, transport, storage, protection, and testing of the specimens shall be carried out in accordance with the Cyprus Standards.

4.3.2 Transport

The transport of concrete from the place of production to the construction site shall be carried out using self-propelled vehicles with a rotating drum or other suitable means. In general, the time between the production of the concrete and its placement shall not exceed 30 minutes. In the case of using special retarding admixtures, the transport time shall be modified accordingly.

4.3.3 Placement

During placement, the concrete shall be compacted with the aid of suitable mechanical vibrators. The vibrators shall be fully immersed in the concrete at intervals that ensure uniform and adequate compaction of the entire mass without voids. The vibrators shall be withdrawn slowly after immersion to prevent the creation of air bubbles.

4.3.4 Construction Joints

The placement of concrete shall be continuous until the completion of the work or until the completion of a portion of the work located between construction joints, in accordance with the construction drawings.

Before resuming concreting, the hardened surface shall be roughened and washed with sufficient water. It shall then be cleaned, preferably with compressed air, to remove the water previously used for washing. The concrete to be placed in contact with the hardened surface must be thoroughly vibrated.

5. PROCESSING AND PLACEMENT OF REINFORCEMENT

5.1 General

The reinforcement shall be high-strength ribbed steel, with a minimum characteristic yield stress of **fy = 420 N/mm² (S420)**. It shall be of Western European origin (Spanish *Celsa*, Italian *Riva*, Greek *Sidenor*, or other equivalent), both for longitudinal reinforcement and for stirrups, and shall comply with British Standard **B.S. 4449**. Reinforcement meshes shall comply with British Standard **B.S. 4483** or an equivalent standard.

Reinforcement shall be stored on site in a clean area and positioned so as not to come into contact with the ground. It shall be free of dust, oils, paint, and rust. It shall be arranged in such a way that all reinforcement diameters are easily identifiable and usable. Cutting and bending of reinforcement shall be carried out mechanically, in accordance with the drawings and **British Standard B.S. 4466**.

The diameters of reinforcement shall be those specified in the drawings. Straightening of bars that have been previously bent shall not be permitted, and the reinforcement shall be free from any rust.

Reinforcement shall be placed and fixed accurately in position in accordance with the drawings. Special attention shall be given to securing the reinforcement to prevent deformation or displacement, particularly during the placing and compaction of the concrete, and to ensure it can withstand any loads applied during concreting.

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6. FORMWORK

6.1 Ordinary Formwork

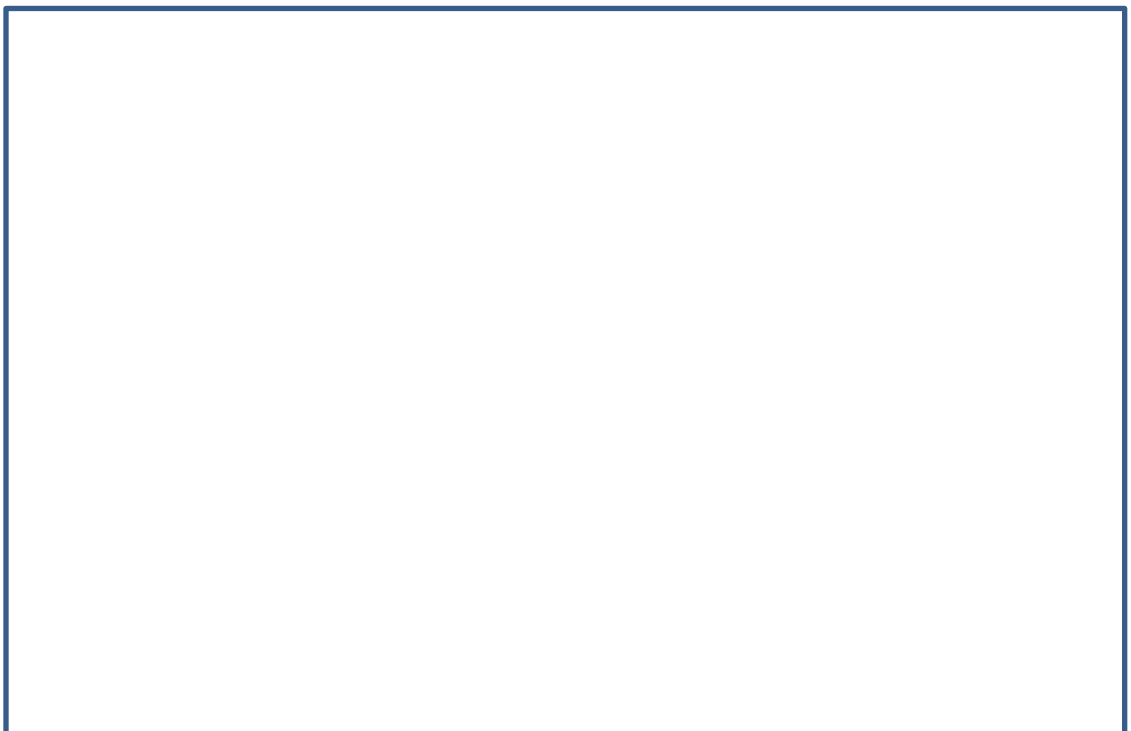
This is the most common formwork, made of rough-sawn softwood boards, with a minimum thickness of 20 mm and varying lengths and widths. Joints between successive boards shall not exceed 3 mm. The finished surfaces from this type of formwork are usually followed by plastering.

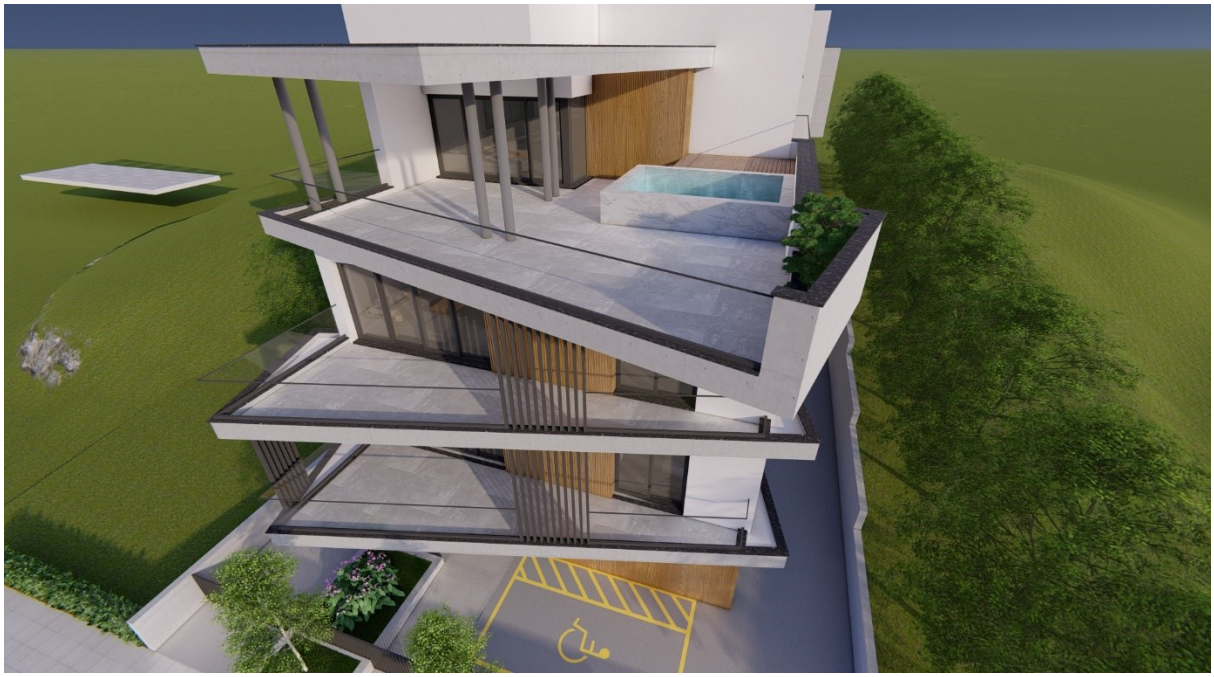
6.2 Fair-Face Formwork

This consists of prefabricated metal panels or new timber panels made of “black marine plywood” or other approved material. After removal, the formwork surfaces shall be smooth and accurately reproduce the intended shape (flat, circular, vaulted, cylindrical, or curved surfaces), free of joints and distortions. Finished surfaces of this type are usually left unplastered, painted, or skim-coated and then painted.

6.3 Formwork Suitable for Exposed Concrete

This consists of new timber or other approved material. After removal, the formwork surfaces shall be smooth and accurately reproduce the intended shape (flat, circular, vaulted, cylindrical, or curved surfaces), free of joints and distortions. The finished surfaces of this type are usually left unplastered to reveal the raw yet aesthetically pleasing texture of exposed concrete.





7. MASONRY WORKS FOR ALL INSTALLATIONS

7.1 General

The term **"Masonry Works"** shall mean the works to be carried out by the Contractor in connection with all installations, and shall include works such as the following:

(a) Cutting and forming openings for wires, pipes, fittings, supports in walls, floors, ceilings, partition walls, etc., and making good after installation.

(b) Construction of bases where required for all installations.

(c) Construction of ducts from concrete, bricks, or timber, and chases in floors, walls, etc.

(d) Breaking out or forming channels and installing sleeves for wires, pipes, fittings, in floors, walls, etc., and making good in accordance with the Architect's instructions.

(e) Fixing metal or other supports for pipes or other installations into walls or concrete.

(f) Painting of all exposed pipes, ducts, metal supports, etc., after installation.

(g) Construction of wooden frames for grilles and ducts.

(h) Construction of wooden junction boxes for electrical installations and fixing them in the wall, including painting.

(i) Sealing of all electrical, mechanical, plumbing, and drainage services that pass through openings in floors, walls, and ceilings with the material described below, or equivalent, which shall ensure smoke and fire resistance for at least **2 hours** as specified in **BS 476: Part 20:1987**.

- (a) When the size of the opening does not exceed 30 mm:
  "Nullifire M701 Fire Resistant Group Mastic to the correct depth required, using Nullifire M710 foam backing pad to control the depth of seal."

- (b) When the size of the opening is greater than 30 mm:
  "Nullifire B200 Fire Stop Compound troweled into the opening to a minimum thickness of 200 mm."

7.2 External Services

The external services shall be executed in accordance with the requirements of the competent authorities and the Drawings.

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8. MASONRY

8.1 Materials

Bricks
Perforated bricks according to CYS 19:1989 or a more recent certificate.

- **Internal walls:** Where masonry is constructed with perforated bricks, these shall be of selected quality, intact, well fired, regular in shape, with rounded perforations. When immersed in water for 24 hours, they must not release salts.
- **External walls:** Bricks shall be thermal insulating, Grade A quality, with a thickness of 250–300 mm, according to the drawings, in order to comply with all energy performance studies.

Sand
The sand for mortar preparation shall be coarse-grained sea sand or a mixture of sea sand and crushed sand (ratio 1:1), with a smooth particle size distribution between 0.1–3.15 mm, and in accordance with Cyprus Standard CYS 14:1986.
The sand shall be free from salts and other impurities.

Cement
Cement shall be *Portland*.

Lime
Lime to be used shall be as described in Section 10.0 (Plasters and Wall Finishes).

8.2 Cement Mortar

Cement mortar shall be in the ratio **1:3** (one part cement to three parts sand), with the addition of an approved plasticizer.

The ratios shall be measured by volume. Materials shall be measured in suitable measuring containers approved by the Architect, and mixing shall be carried out by mechanical mixers.

The mortar shall be used no later than 30 minutes after mixing.

8.3 Workmanship

Masonry shall be constructed smoothly, with regular vertical surfaces and corners. During construction, the verticality of the walls shall be continuously checked using a plumb line.

Joints between bricks shall be completely filled with mortar, and for masonry to be plastered, the joints shall be raked to a depth of 6 mm as work progresses. Joints shall not exceed 10 mm in thickness.

8.4 Lintels – Ring Beams

- All lintels shall be prefabricated steel type *Catnic* or equivalent, and shall extend 200 mm into the masonry on both sides for openings smaller than 2.0 m.
- Where lintels stop in concrete structures, this shall be achieved with special brackets from the same manufacturer.
- For openings larger than 2.0 m, lintels shall be made of reinforced concrete grade C25, supported by at least 200 mm on the masonry on both sides.
- Where wall height exceeds 3.50 m, a reinforced concrete grade C25 ring beam shall be incorporated at lintel height.

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9. FALSE CEILINGS AND GYPSUM BOARD PARTITIONS

9.1 General

Generally, gypsum boards shall be **KNAUF brand**.

- Jointing shall be done with *Knauf-Readyfix* or equivalent, an acrylic-based joint compound of very fine granulometry.
- For moisture-resistant gypsum boards, *Knauf-Uniflott* (green, moisture-resistant) or equivalent shall be used, which is water-repellent.
- For fire-resistant gypsum boards, *Knauf-Fireboard Spachtel* shall be used, a gypsum-based joint filler reinforced with special additives. The entire surface of the fire-resistant gypsum board shall be skimmed with *Fireboard Spachtel*, using glass fiber joint tape.

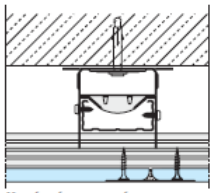
For the other two cases (standard + moisture-resistant gypsum boards), paper joint tape shall be used. For fire-resistant gypsum boards, fiberglass mesh joint tape shall be used. In both cases, tapes must be Knauf or equivalent and applied according to the manufacturer's instructions.

The final stage of jointing shall be achieved with *Knauf-Finish-Pastos* or equivalent, in accordance with the manufacturer's instructions. This is a ready-to-use finishing compound, consisting of artificial resin, fine mineral fibers, and other additives. It is applied as a final coat over the dried jointing materials and skimmed over the entire surface of the element, producing smooth and glossy surfaces of high standard.

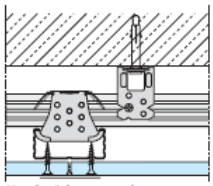
9.1.1 System D112 – Wall Connection

Άμεση ανάρτηση

Κύριος και δευτερεύων οδηγός



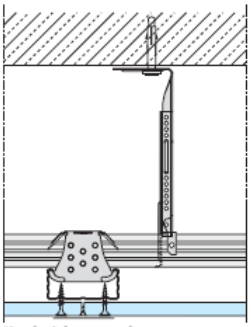
Κατά μήκος αρμός



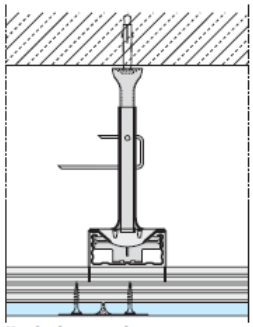
Κατά πλάτος αρμός

Ανάρτηση π.χ. με άκαμπτες αναρτήσεις Nonius 0,40 kN

Κύριος και δευτερεύων οδηγός



Κατά πλάτος αρμός



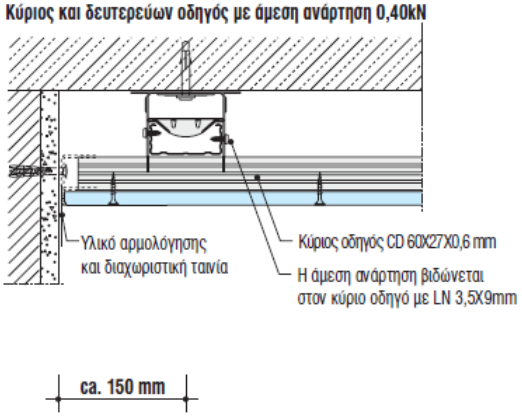
Κατά μήκος αρμός

Άλλες δυνατότητες ανάρτησης:

- Ταχεία ανάρτηση 0.25kN
- Κλειστή ανάρτηση Nonius 0,40kN
- Ανάρτηση Combi -με ντίζα 0,25 kN
  -με πάνω μέρος Nonius

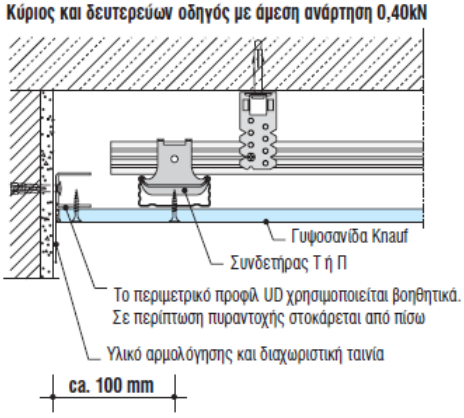
Λεπτομέρειες M 1:5

Κύριος και δευτερεύων οδηγός με άμεση ανάρτηση 0,40kN



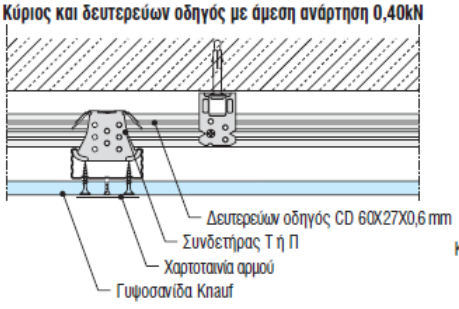
D112-A2 Σύνδεση με τον τοίχο

Κύριος και δευτερεύων οδηγός με άμεση ανάρτηση 0,40kN



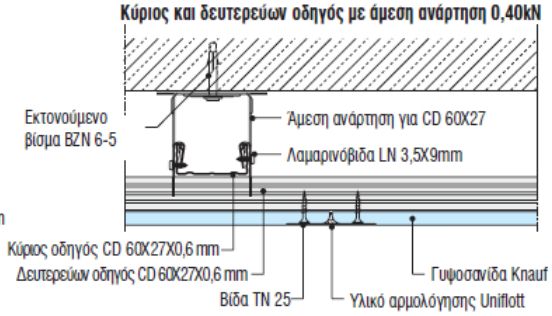
D112-D2 Σύνδεση με τον τοίχο

Κύριος και δευτερεύων οδηγός με άμεση ανάρτηση 0,40kN



D112-C2 Κατά πλάτος αρμός

Κύριος και δευτερεύων οδηγός με άμεση ανάρτηση 0,40kN



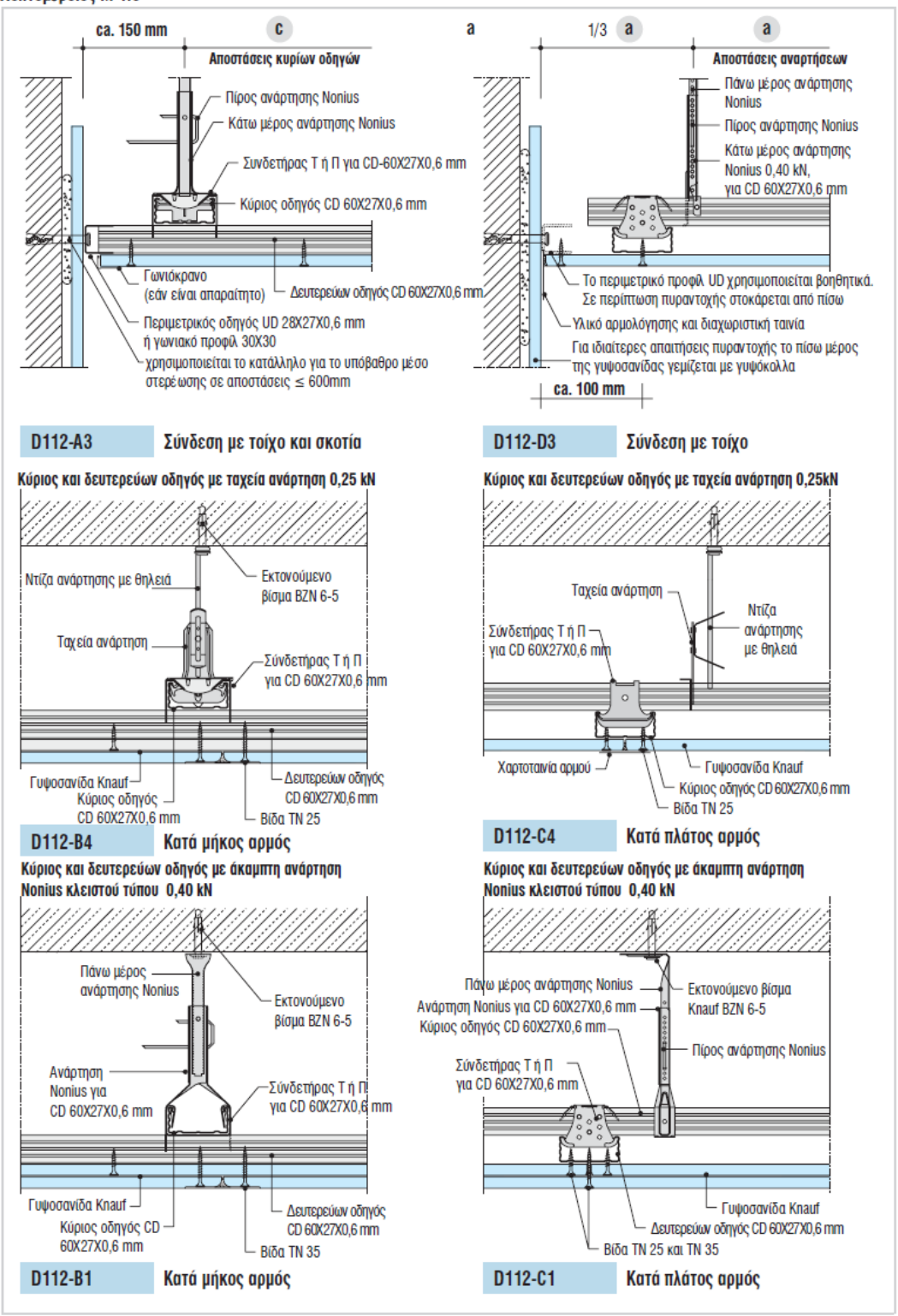
D112-B2 Κατά μήκος αρμός

Υπόδειξη: Το βίδωμα της γυψοσανίδας στο περιμετρικό προφίλ εάν δεν απαιτείται για λόγους πυραντοχής, να αποφεύγεται.

9.1.2 System D112 – Wall Connection & Shadow Gap

Μεταλλικός σκελετός

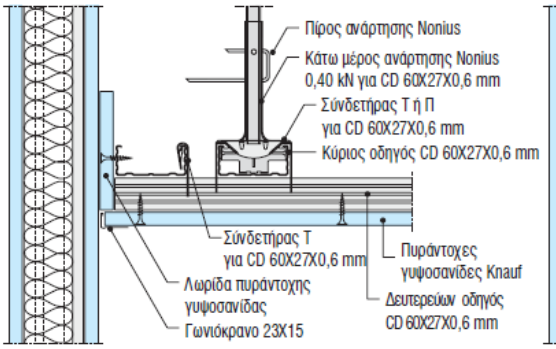
Λεπτομέρειες M 1:5



9.1.3 System D112 – Connection with Fire-Resistant Masonry and Other Details

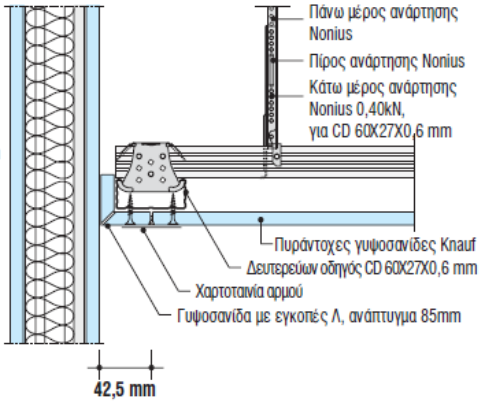
Μεταλλικός σκελετός

Λεπτομέρειες Μ 1:5



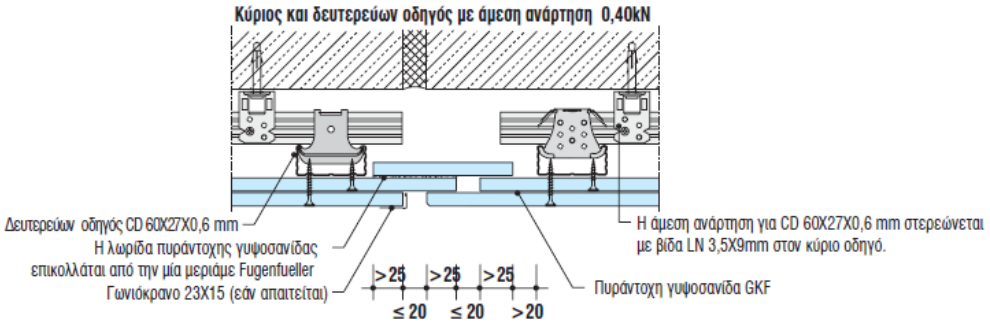
D112-A5 **Ολισθαίνουσα σύνδεση με τοιχοποιία, κατηγορία πυραντοχής F30**

Λύση 1

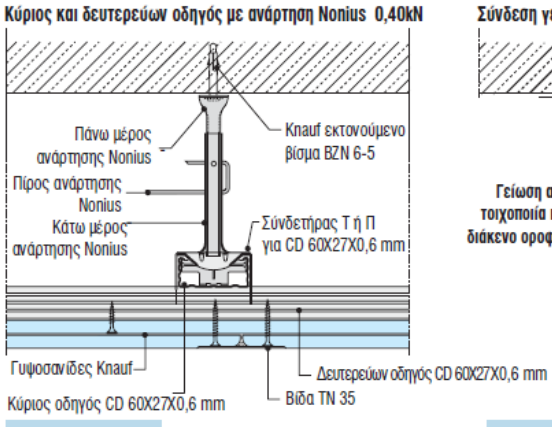


D112-D5 **Ολισθαίνουσα σύνδεση με τοιχοποιία, κατηγορία πυραντοχής F30**

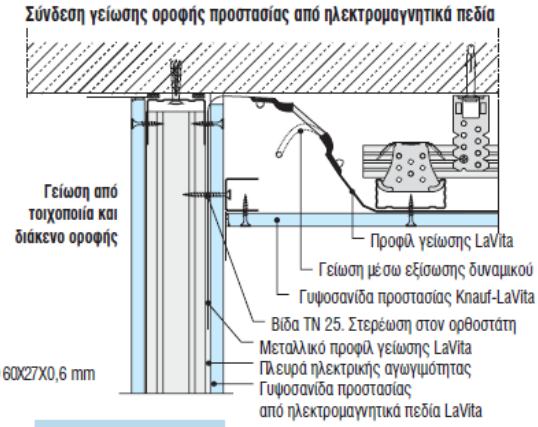
Λύση 2



D112-C3 **Πυράντοχη ολισθαίνουσα σύνδεση**



D112-B3 **Κατά μήκος αρμός**

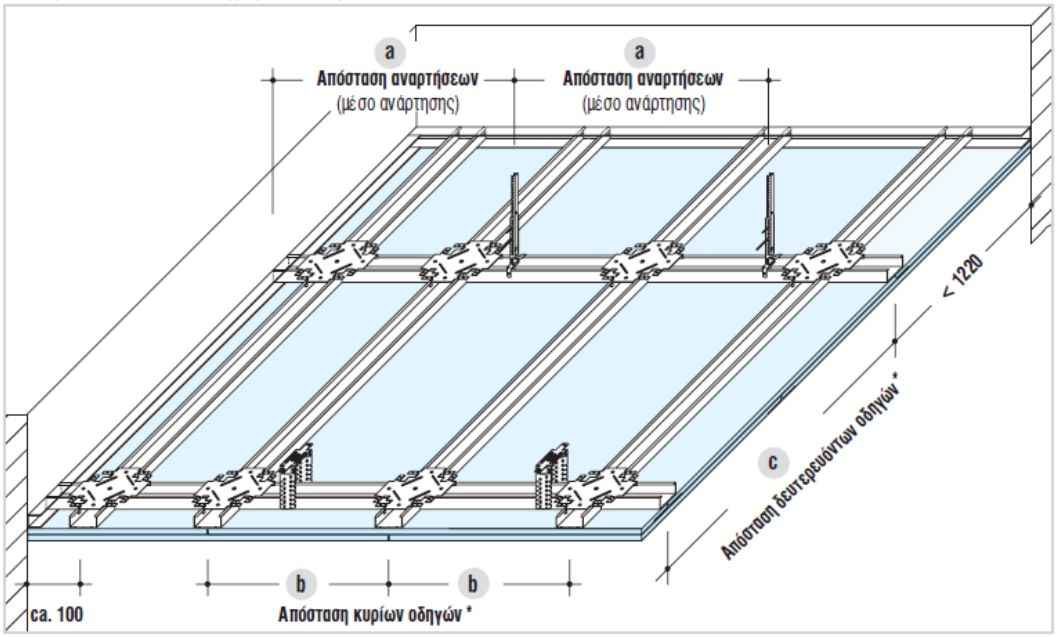


Γυψοσανίδα LaVita **βλέπε τεχνικό φυλλάδιο K736**

9.1.4 With system D113 – Construction Details of Flush Metal Framework

Ισόπεδος μεταλλικός σκελετός

Κύριος και δευτερεύων οδηγός τοποθετημένοι ισόπεδα



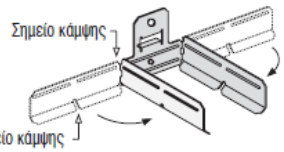
Ισόπεδες ενώσεις μεταλλικών οδηγών

Συνδετήρας X για CD 60X27

Πυροπροστασία από επάνω (διάκενο μεταξύ οροφών)

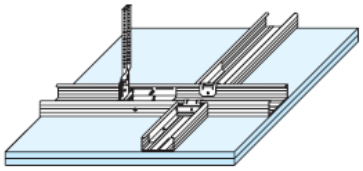
Τα άκρα κάμπτονται και βιδώνονται στον κύριο οδηγό με βίδες LN 3,5X9mm

Συνδετήρας Universal για CD 60X27



- Παραδίδεται σε είπεδη μορφή
- Βασική διαμόρφωση πρίν την τοποθέτηση
- Τελική διαμόρφωση κατά την τοποθέτηση

Συνδετήρας Universal



Χρησιμοποιείται σαν ανάρτηση σε συνδυασμό με το πάνω μέρος της ανάρτησης Nonius 0,40kN. Σε περίπτωση πυραντίστασης πρέπει να βιδώνεται με το οδηγό CD.

Μέγιστες αποστάσεις μεταλλικών οδηγών *

- με πυραντοχή από κάτω
- χωρίς πυραντοχή

Οι διαστάσεις είναι σε mm

Απόσταση κυρίων οδηγών * c	Αποστάσεις αναρτήσεων a, Κατηγορία ανάληψης φορτίου kN/m² (βλ. σελ.2) μέχρι 0,15	μέχρι 0,30	μέχρι 0,50 1)	Αποστάσεις δευτευόντων οδηγών * b	Πάχος επίστρωσης
1200	1100	-	-	500	12,5
	-	650	-	500	2x12,5
	-	-	650	400	25+18 18+15

1) Αναρτήσεις τάξης ανάρτησης φορτίων 0,40kN

Για απαιτήσεις πυραντοχής: Αποστάσεις κύριων οδηγών και τύπος γυψοσανίδας σύμφωνα με τις σελίδες 5-7 (F90 μόνο από κάτω-βλ. επίσης σελίδα 18)

Μέγιστες αποστάσεις μεταλλικών οδηγών*

- Πυραντοχή από πάνω

Οι διαστάσεις είναι σε mm

Απόσταση κυρίων οδηγών* c	Αποστάσεις αναρτήσεων με Nonius: • Ανάρτηση Nonius κάτω μέρος (0,40kN) • Συνδετήρας Universal (0,40kN) a	Αποστάσεις δευτευόντων οδηγών* b
1200	650	500

- Συνδετήρας X: κάμπτονται τα άκρα και βιδώνεται στον κύριο οδηγό με λαμαρινόβιδες LN 3,5X9mm
- Κάτω μέρος ανάρτησης Nonius: τα πλαϊνά βιδώνονται στον κύριο οδηγό με λαμαρινόβιδες LN 3,5X9mm
- Χρησιμοποιούνται μέσα στερέωσης που είναι κατάλληλα για λόγους πυραντίστασης. Πρέπει να ληφθεί υπόψιν η μειωμένη δυνατότητα ανάληψης φορτίου του βισματος. Προτείνεται η χρήση πιστοποιημένου εκτονούμενου μεταλλικού βίσματος ≥M8, με διπλό βάθος εισχώρησης τουλάχιστον 6 cm και μέγιστη αντοχή εφελκυσμού 500N.

Υπόδειξη: Κατά παρέκκλιση μπορεί η διαστασιολόγηση της οροφής να αλλάξει.

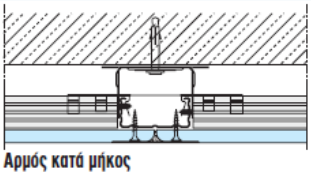
*Οδηγοί CD προφίλ Knauf πάχους 0.6 mm

9.1.5 With system D113 – Flush Metal Framework – Connection Details with Wall and Recess, and Ceiling with Fire-Resistant Plasterboards

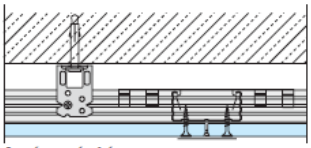
Ισόπεδος μεταλλικός σκελετός

Άμεση ανάρτηση

Κύριος και δευτερεύων οδηγός



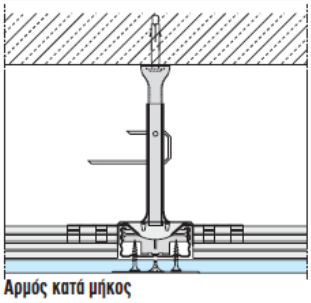
Αρμός κατά μήκος



Αρμός κατά πλάτος

Ανάρτηση π.χ. με Nonius 0,40kN

Κύριος και δευτερεύων οδηγός σε ένα επίπεδο



Αρμός κατά μήκος

Αρμός κατά πλάτος

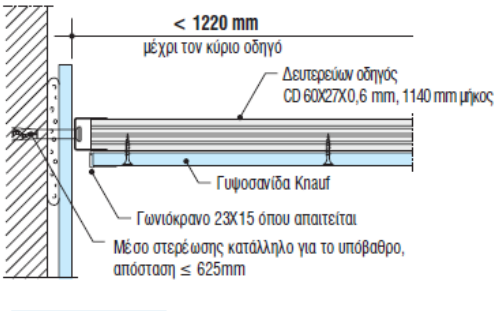
Άλλες δυνατότητες ανάρτησης

- Ταχεία ανάρτηση 0,25kN
- Συνδετήρας Universal σαν ανάρτηση σε συνδυασμό με το πάνω μέρος της ανάρτησης Nonius 0,40kN

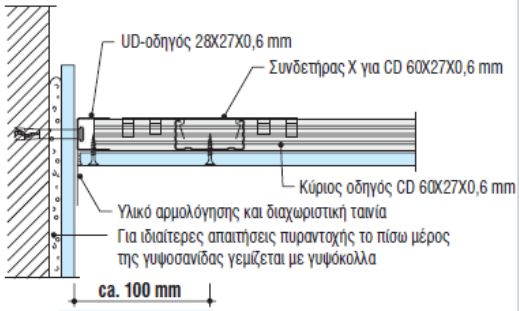
Ανάρτηση Combi

- Με ντίζα 0,25kN
- Με το πάνω μέρος της ανάρτησης Nonius

Λεπτομέρειες M1:5

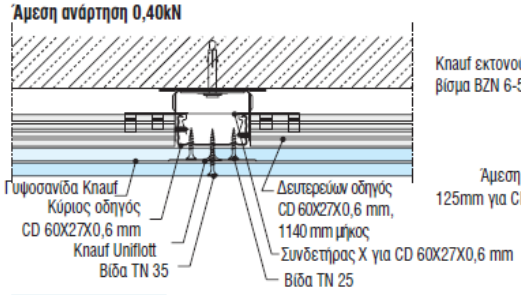


D113-A3 Σύνδεση με τοιχοποιία με σκοτία



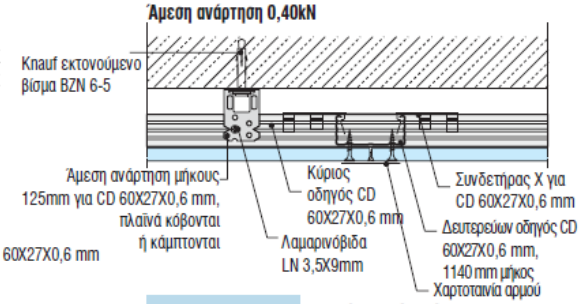
D113-D1 Σύνδεση με τοίχο

Άμεση ανάρτηση 0,40kN



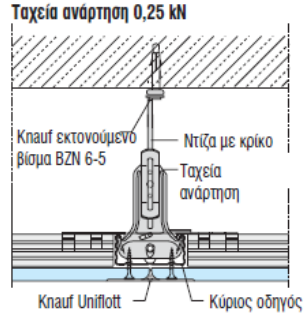
D113-B2 Αρμός κατά μήκος

Άμεση ανάρτηση 0,40kN

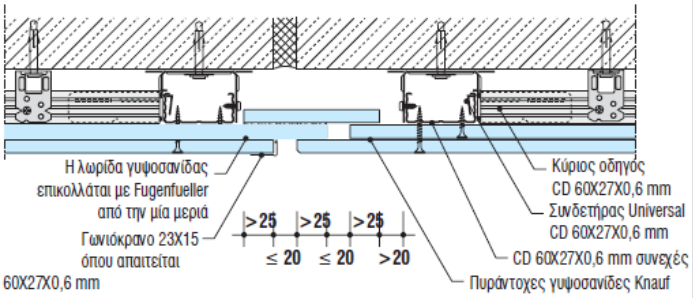


D113-C2 Αρμός κατά πλάτος

Ταχεία ανάρτηση 0,25 kN



D113-B1 Αρμός κατά μήκος



D113-C4 Πυράντοχος αρμός συστολοδιαστολής

9.1.6 With system D113 – Construction Details

Πυράντοχή F90 • μόνο από κάτω

D112 **F90 • μόνο από κάτω** Βλέπε επίσης σελίδα 6

Επίστρωση GKF

25 + 18 mm

ή

2x 20 mm

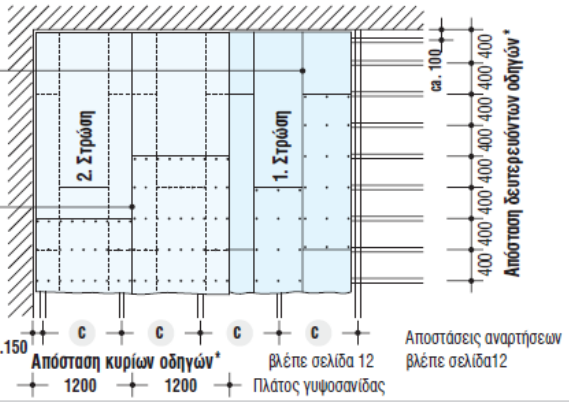
Βίδες στερέωσης

Βίδες	Αποστάσεις
1. Στρώση : TN 3,5x35	300 mm
2. Στρώση : TN 3,5x55	150 mm

Σχήμα στρώσεων

1. Στρώση
Γυψοσανίδα 25mm, 600mm πλάτος

2. Στρώση
Γυψοσανίδα 18mm, 1200mm πλάτος



D113 **F90 • μόνο από κάτω** Βλέπε επίσης σελίδα 6

Επίστρωση GKF

25 + 18 mm

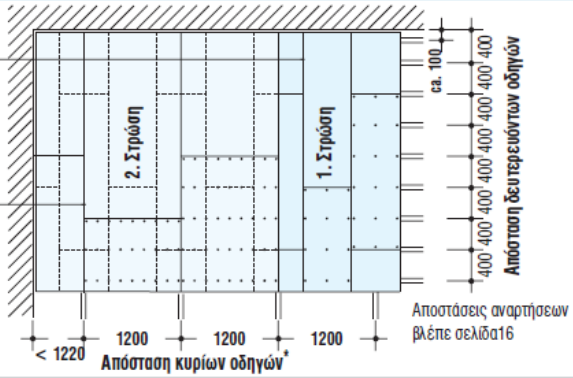
Βίδες στερέωσης

Βίδες	Αποστάσεις
1. Στρώση : TN 3,5x35	300 mm
2. Στρώση : TN 3,5x55	150 mm

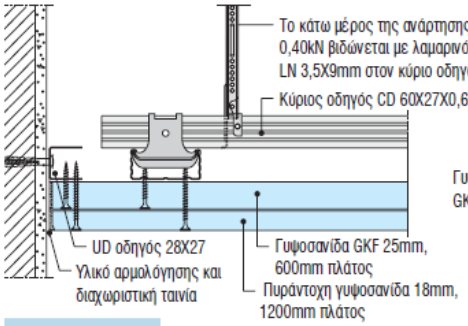
Σχήμα στρώσεων

1. Στρώση
Γυψοσανίδα 25mm, 600mm πλάτος
Ο αρμός πρέπει να συμπίμπτει με τον δευτερεύοντα οδηγό

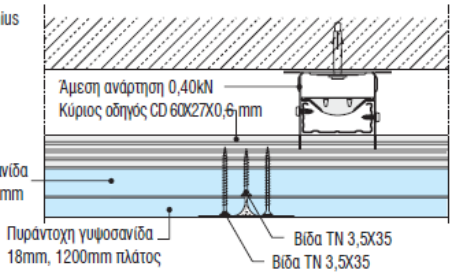
2. Στρώση
Γυψοσανίδα GKF18mm, 1200mm πλάτος



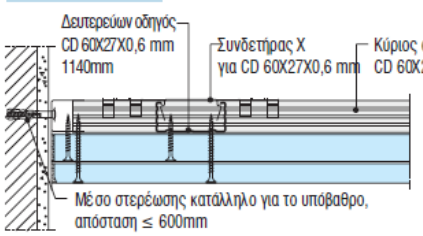
Λεπτομέρειες M1:5



D112F90vu-D2 **Σύνδεση σε τοίχο**

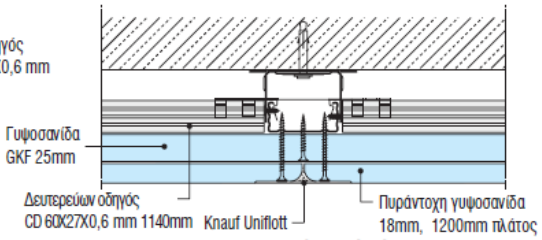


D112F90vu-B1 **Αρμός κατά μήκος**



D113F90vu-D2 **Σύνδεση σε τοίχο**

*Οδηγοί CD προφίλ Knauf πάχους 0,6 mm



113F90vu-B3 **Αρμός κατά μήκος**

10 WATERPROOFING WORKS

10.1 General

In general, the Contractor shall take all necessary precautions and carry out all required works, whether or not described in this technical specification, in order to fully and permanently protect the buildings from moisture and possible water ingress.

Before applying the waterproofing, the surfaces to receive it shall be thoroughly cleaned. Surfaces shall be smoothed, and chamfers or grooves shall be formed where necessary.

The application of waterproofing shall be carried out by a specialized crew and always in accordance with best practices.

10.2 Polyethylene Sheets

The polyethylene sheets shall be heavy-duty type, with thickness as specified in the drawings, and joined with adhesive tape. Sheets shall overlap by at least 30 cm. Special care shall be taken both during laying and throughout subsequent works to prevent damage to the polyethylene.

10.3 Slope Concrete

Where concrete is required to achieve proper slopes, Grade 25 concrete, or equivalent as defined in the drawings, shall be used. The concrete mix shall include coarse gravel, allowing placement of thin layers for slope formation.

10.4 Roof Waterproofing

A. PRIMER INDEX INDEVER 0.5 kg/m^2 or equivalent, or as specified in the drawings.
B. One layer of bituminous membrane INDEX MINERAL TESTUDO or equivalent.

10.5 Waterproofing of Retaining Walls and Ramp Footings

A. PRIMER INDEX INDEVER 0.5 kg/m^2 or equivalent, or as specified in the drawings.
B. Bituminous membrane INDEX TESTUDO SPUNBOND 20 POLYESTER or equivalent, 4 mm thick, 200 g/m^2 or equivalent, subject to Architect's approval, and in accordance with BS 747, BS 6516, BS 398, or as specified in the drawings.
C. Protective waterproofing layer made of plastic material with protrusions (studs), integrated with geotextile by DORKEN or equivalent, or as specified in the drawings.

10.6 Roof Thermal Insulation

The Contractor shall install screed layers for slope formation before placing the final finish. The average screed thickness shall be 10 cm unless otherwise instructed on site. Construction and placement shall strictly follow BS standards. Where screed is applied, plastic ventilators approved by the Architect shall be installed, one every 30 m^2.

On reinforced concrete roofs, thermal insulation boards made of extruded polystyrene type ROOFMATE by DOW, or equivalent approved by the Architect, shall be applied at the thickness specified in the drawings.

11 PLASTERS AND CLADDINGS

11.1 General
The term "plasters" refers to both internal and external plaster works. For each building, a 2 m^2 sample panel shall be prepared for approval by the Architect before plastering of the entire building proceeds.

11.2 Materials

11.2.1 Mixing Water and Sand
The water used shall be as described under "Concrete Works," and the sand shall be as specified under "Masonry."

11.2.2 Cement
Cement shall be of type *PORTLAND* in accordance with Cyprus Standard CYS 16:1980. For lime plaster, *PORTLAND* type cement – BP12 shall be used.

11.2.3 Lime
The Contractor shall use either imported or local hydrated lime. Samples shall be submitted in time for approval by the Architect.

11.3 Mixes
The method of measuring and mixing plaster mortar shall follow the procedures described in "Concrete Works." The mix ratios and minimum thickness shall be as follows:

11.3.1 Two-Coat Plaster on Masonry and Concrete (Interior) – 17 mm thick

- First coat: One part cement to two parts coarse sand, applied with rough finish.
- Second coat: One part cement to two parts lime to eight parts coarse sand, finished lightly with a straightedge.

11.3.2 Three-Coat Plaster on Masonry and Concrete (Interior) – 20 mm thick

- First coat: One part cement to two parts sand, applied with rough finish.
- Second coat: One part cement to two parts lime to eight parts coarse sand, finished lightly with a straightedge.
- Third coat: PELELITE FINISH or equivalent, trowelled smooth with a steel trowel, in accordance with the manufacturer's instructions.

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12 PAINTING WORKS

12.1 General
Where a commercial trade name is specified, an equivalent material of at least equal

properties may be submitted for approval. All applications shall be in strict accordance with the manufacturer's specifications.

12.2 Materials
All materials shall be of the best quality available and sourced from suppliers approved by the Architect.

All painting works shall be carried out in accordance with *Code of Practice No. 231*.

Exterior painting shall be done with exterior-grade paint, and interior painting shall be done with interior-grade paint.

12.3 Samples and Testing
Samples of all colors shall be prepared for approval by the Architect. The Architect may require changes to the colors after review of the samples.

Different colors may be used within the same space. The Architect shall make the final selection of colors when the building is nearly complete and one week prior to commencement of painting works.

12.4 Execution
The Contractor shall use only materials delivered to site in sealed containers, clearly marked with the manufacturer's name, type, and color.

Paints shall be thoroughly mixed in their original containers and poured into clean containers for use.

Thinners shall only be used where strictly necessary and always in accordance with the manufacturer's instructions. Paints shall not be adulterated or mixed with other types.

Before painting begins, floors shall be washed and every precaution shall be taken to minimize dust.

Painting – Continuation
On gypsum board surfaces: All surfaces shall be cleaned of dirt and prepared in accordance with the Architect's instructions (see special specifications in Sections 8 and 25).

Where oil-based paint is to be applied, the following procedure shall be followed:

Interior Woodwork	**Exterior Woodwork**
a) Removal of knots and filling	a) Removal of knots and filling
b) 1 coat wood primer	b) 1 coat wood primer
c) Puttying	c) Puttying
d) 1 coat undercoat	d) 1 coat undercoat
e) 1 coat finish	e) 1 coat finish

Interior Metalwork	**Exterior Metalwork**
a) 1 coat red oxide iron primer	a) 1 coat zinc phosphate primer
b) 1 coat undercoat	b) 1 coat undercoat
c) 1 coat finish	c) 1 coat finish

Interior Galvanized Metal	**Exterior Galvanized Metal**
a) 1 coat etch zinc chromate primer	a) 1 coat etch zinc chromate primer
b) 1 coat undercoat	b) 1 coat undercoat
c) 1 coat finish	c) 1 coat finish

13 SEWERAGE

13.1 Materials

All pipes shall be plastic, in accordance with British Standards **BS 4660** and **BS 556**, and shall be supplied by an approved supplier.
The supply and installation of covers, gratings, and frames for manholes shall comply with the Cyprus Standard **CYS:183 Part 1:1989**.

13.2 Work

All sewerage installations must be carried out in full compliance with the requirements of the Competent Authorities.

The Contractor shall submit a construction drawing showing all drainage lines and invert levels at least **10 working days prior** to the commencement of works.

The Contractor shall check all **invert levels** of the drainage lines and manholes before starting any work, and must notify the Architect in case of any irregularities or discrepancies.

The excavation of all trenches shall be carried out in such a way that the pipelines can be installed in straight lines, with the correct slopes.
The bottom of the trench shall follow the required slope, and the width of the trench shall be at least **300 mm wider** than the external diameter of the pipes.