

LONG FORM GUIDELINE ESPECIFICATIONS

SECTION 09300 – CERAMIC TILE

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Work Included materials necessary to complete the work of this section, including but not limited to the following:

1.- Wall tile

B. Related work: The following items are not included in this section and shall be performed under the designated sections:

1. Section 07920 - Sealing expansion joints and other joints in tile work (types, colors, and manufacturers of joint sealants specified by the Architect).

2. Section 03300 - Concrete.

1.2 PERFORMANCE REQUIREMENTS.

Comply with current editions and applicable Specifications of the following:

1. Technical Building Code (CTE)- Royal Decree 314/2006, of March 17

2. European Regulation (EU) No. 305/2011

3. UNE 138002 – “General rules for the installation of ceramic tiles with bonding materials”.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Wall Drawing: show locations of each tile type. show with details, contraction, isolation joint in substrates and finished Tiled Surface.

C. Samples for verification:

- 1.- Tile samples of each color type or colors approved for the finished work

1.3 QUALITY ASSURANCE

A. Provide materials for tiles of each type, color and finish GRUPO GRECO GRES INTERNACIONAL S.L. – Avda. Castilla – La Mancha, 1 – 45240 Alameda de la Sagra – Toledo – Spain.

B. Source Limitations for setting and grouting materials: obtain ingredients of a uniform quality for each mortar, adhesive, and grout components from a single manufacturer and each aggregate from Single source or producer.

C. Deliver, store, and handle materials in accordance with manufacturer's instructions.

D. Tile contractor, upon commencing work under this section, assumes overall responsibility for ensuring that all assemblies, components, and parts shown or required within the work under this section comply with the contract documents and are interoperable with the conditions and intended use.

E. Skilled Labor (Because tile is a permanent finish, the lowest bid should not be the deciding factor, but rather who is most qualified to perform the specified scope of work (Refer to the TCNA Handbook for a list of recognized programs). Hire an installer with a minimum of five (5) commercial tile installations similar in material, design, and scope to those listed.

F. Pre-Installation Meeting: Prior to tile installation, hold a pre-installation project meeting. The Contractor's representative, Subcontractor, Material Suppliers, Architect and Owner shall be notified of the meeting.

1.5 PROJECT CONDITIONS.

A. Project shall comply with requirements of referenced standards and material manufacturers' recommendations for environmental conditions before, during and after installation.

B. Environmental conditions must be maintained and work protected during and after installation to comply with reference standards and manufacturer's printed recommendations.

C. Minimum and maximum temperature limits recommended by manufacturers must be maintained.

D. Adjacent surfaces need to be protected during progress of work in this section.

E. The work area shall be illuminated during installation providing the same level and angle of illumination that will be available for final inspection. The use of flush or cove lighting where lights are located at the wall/ceiling interface, or mounted directly on the wall, causes the light to strike the tile finish at a right downward angle, creating unwanted shadows of the grout lines, giving the tile pattern an irregular, not flat, appearance. Installing overhead lighting at a wide downward angle at a distance of 18" to 24" from the tile wall will provide a flatter, more uniform appearance to the tile surface.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Ceramic Tile: exterior wall setting on concrete; thin-set mortar, C2TES2, standard EN 12004 and EN 12002.

B. Shall comply with the standard for Tile Setting Materials and the current Tile Council of North America (TCNA) Handbook of Products and Materials Indicated for Installation and Grouting.

2.2 TILE

A. The glazed porcelain stoneware tiles must be of first quality manufactured by GRUPO GRECO GRES INTERNACIONAL S.L., and must meet the requirements of the ISO 13006 annex M standard.

1. Size: 1200 x 3000 mm. (47,24 x 118,1 inch)
2. Type: porcelain tile, group A1a (ISO 13006 or EN 14411)
3. Thickness: Porcelain tiles shall have a nominal value of 6 mm. (0.236 inch.)
4. Color:
 - a. CAUCASUS
 - b. LAVENZA
 - c. CARTHAGE
5. Product test data:
 - a. Reaction to fire: Class A (Decision 96/603 EC)
 - b. Water absorption (ISO 10545-3): 0,3%.
 - b. Bending resistance (ISO 10545-4): $\geq 28\text{N/mm}^2$
 - c. Breaking Strength: (ISO 10545-4): $\geq 700\text{ N}$
 - d. Frost resistance (ISO 10545-12): Resist
 - e. Coefficient of thermal expansion (ISO 10545-8): $\leq 9 \times 10^{-6}/^{\circ}\text{C}$
 - f. Moisture Expansion (ISO 10545-10): $\geq 10\text{ mm/m}$
6. Environmental Properties
 - a. Environmental Product Declaration ISO 14025:2010

2.3 SETTING AND GROUTING MATERIALS:

A. Use appropriate setting mortars per EN 12004 and EN 12002.

B. Grout Materials: Select grout materials according to the following types: Epoxy Grout and Tile Setting: A118.6-2010, High Performance Cement Grout or A118.8-2010, Modified Epoxy

Emulsion Grout. Provide grout in colors selected by the Architect from standard colors available from approved manufacturers.

2.4 EXPANSION, CONTROL, CONTRACTION AND ISOLATION JOINTS:

A. Refer to latest TCNA Manual, Method EJ171 for recommendations on location, treatment, and details of various types of construction joints. NOTE: Architect shall specify type of expansion joints and show location and details on drawings.

B. Use sealant complying with ASTM C920 for type, grade, class, and uses required.

C. Prefabricated expansion joints may also be used where appropriate for the installation.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrates where tiles will be installed for compliance with installation tolerance requirements and other conditions affecting performance of installed tiles. Prior to setting tile on saturated dry saturated concrete (SSD) surfaces, free of standing water, verify that tile substrates are well cured, structurally sound, dry, clean, and free of oil or wax films, curing compounds, or other surface coatings and treatments. Nonstructural shrinkage cracks should be pretreated with a crack suppressant membrane (to prevent cracks from telegraphing through the finished tile installation) ANSI A118.12.

B. Do not proceed with installation until unsatisfactory conditions have been corrected. Commencement of work assumes acceptance of substrate and installation conditions.

3.2 PREPARATION

A. Substrate Preparation: Prepare and clean substrate in accordance with installation standards and manufacturer's instructions, and as follows:

1. Remove lumps, bumps and ridges by sanding or chipping.
2. Repair, fill and level cracks, holes, depressions, and rough or chipped areas of the substrate using the installation materials manufacturer's recommended repair material.
3. Tiles shall have a lightly brushed finish when installed using the thin-set method.
4. 4. Prior to setting tile, check that all surfaces to be set are structurally sound to plane and within the maximum variations shown below: Ensure that the substrate is within the following tolerances:

B. Vertical Surfaces (Walls): Maximum substrate variation shall not exceed 1/4" within ten feet* of the required plane, depending on substrate.

** When using a large format defined by the TCNA Handbook as tiles with at least one border 15" or longer; a tighter tolerance of 1/8" in 10' or 1/16" in 24" when measurement from the high points of the surface is required. Inform the architect in writing of all unacceptable surfaces and do not tile such surfaces until that are level enough to meet the above requirements.*

C. Field Mixing: Mix tiles prior to installation according to reference standards to produce a uniform range and distribution of color and finish.

3.3 INSTALLATION

A. Manufacturer's Instructions: Perform work in accordance with accepted standard installation guidelines, GRUPO GRECO GRES INTERNACIONAL S.L. instructions, and installation materials manufacturer's instructions.

B. Comply with the appropriate ANSI A108-2014 specification and the current Tile Council of North America (TCNA) Handbook for the appropriate installation method for each specification. For thin-set mortar application, use the following technique:

- Using the flat side of the trowel, drive the mortar into the substrate.
- With an appropriate size trowel, comb the mortar in one direction with the notched side of the trowel.
- Set tiles in a sliding motion, perpendicular to the ridges of the mortar.
- Get as close to 100% coverage of mortar to tile as possible.

- Mortar coverage must not be less than 85% and must be sufficiently distributed to provide full support under all corners and edges of the tile.
- Note: 95-100% coverage is required for wet and outdoor areas. Periodically remove individual sheets or tiles to ensure adequate joint coverage in accordance with industry specifications.

C. Tile installation:

1. Install the tile in the pattern indicated. Align joints when adjoining tiles on the floor, base, walls, and trim are the same size. Adjust to minimize tile cutting and to avoid tiles less than half the size.
2. When possible, smooth cut edges of tiles and/or use an appropriate cutter or wet saw to produce smooth cuts. Provide straight cuts that align with adjacent materials.
3. Lay tiles in alcoves and under equipment and fixtures to form a complete cover without interruption.
4. Finish tiles neatly at obstructions, edges and corners, without disturbing the pattern or alignment of the joints.
5. Provide tile joints uniform in width, subject to allowable tolerance variances in tile size. Make smooth, even joints with no voids, cracks, or excess mortar or grout.
6. Mix mortar strictly according the manufacturer's recommendations.
7. Apply setting material according to manufacturer's instructions and install tiles before mortar has begun initial cure. For thin-set mortar application, use a notched trowel which will achieve the recommended mortar coverage after the tiles have been installed. Consult standard coverage information and follow manufacturer's recommendations for trowel size when using mortar.
8. Do not spread more material than can be covered in 10 to 15 minutes. If "peeling" occurs, remove mortar and spread fresh material. Spread the notched mortar in a direction that will be perpendicular to the pressure, push and pull of the tile during setting.
9. Set the tile into the fresh mortar, press, push and pull the tile lightly to achieve 100% coverage and the closest possible contact of the tile with the setting material and substrate. Coverage should not be less than 85% and should be sufficiently distributed to fully support the tile. Ensure that all corners and edges are well supported with mortar. Do not leave hollow corners or edges.

Note: 95-100% coverage is mandatory for wet or exterior areas. A thin coat ("back butter") of mortar may be trowel applied over the entire back of the tile to help achieve optimum adhesion and coverage of the mortar being used.

10. Ensure that there is a minimum of 1/8" of mortar between the tile and substrate after proper placement. The installer should periodically remove individual sheets or tiles to ensure adequate bond coverage per specifications. If it is determined that coverage is insufficient, use a notched trowel with a larger trowel bed size.
11. Use a rubber buffer block to bring the faces and edges of individual tiles flush and level with the faces and edges of adjacent tiles, and to reduce beading.
12. For continuous seam/brick stitch patterns using tiles (square or rectangular) where the side to be offset is greater than 18" (nominal dimension), the continuous seam offset shall be a maximum of 33%, unless otherwise specified by the tile manufacturer. If an offset greater than 33% is specified, the specifier and owner must approve the layout and edge.

D. Grout:

1. Install grout in accordance with ANSI A108.10, A108.6, A108.8, A108.9-2010 in correlation with the type of grout chosen and manufacturer's recommendations.
2. Mix the grout material strictly following the manufacturer's instructions.
3. Apply grout to produce smooth, full grout joints of uniform width and free of voids and voids.
4. Before grouting the entire area, test to ensure that there is no permanent staining or discoloration of the tile and to verify that grout is easily removed from the surface. If necessary, pre-coat exposed tile surfaces with a grout release agent as recommended by the manufacturer, as this will make grout removal easier.
5. Cure all setting and grouting materials in accordance with the manufacturer's recommendations.

E. Cleaning and Protection:

1. If such a product has been used, remove grout residue and clean tile surfaces of grout residue and foreign matter in accordance with manufacturer's instructions. If grout residue or residue remains, use an appropriate grout cleaner or grout residue remover and contact the grout manufacturer for recommendations. Rinse the surface with clean water before and after cleaning. Do not use strong hydrochloric, muriatic or sulfuric acid-based cleaners or acid to clean glazed tile or tile grouted with latex-modified grout.

2. Where Portland cement grout residue is present, acceptable acids may be used for tile cleaning. However, the grout should be allowed to cure for a minimum of 10 days before using this aggressive cleaning method. The tile and grout should be soaked with water prior to cleaning.

3. Protect all tile installations with clean construction paper or other heavy covering during the construction period to prevent staining or damage. After cleaning, provide protective covering and maintain conditions to protect tile work from damage or deterioration.

The owner/specifier is responsible for protecting the tile from damage, including allowing sufficient time for the installed materials to cure properly, typically 30 to 45 days is required for full curing of thin-set mortars.

4. Leave the finished installation clean and free of cracked, chipped, broken, unbonded or defective tiles.

5. Refer to GRUPO GRECO GRES INTERNACIONAL S.L.'s most recent brochure "Use and Maintenance Manual" for information on post-installation cleaning and routine maintenance.

This form document is intended as a general guide only. It is the responsibility of the design professional to review this form to adapt it to specific project requirements. GRECO GRES GROUP INTERNATIONAL makes no representations or warranties that the general information contained in this document is appropriate to the specific requirements of the project. Consult your ARGOS / USA representative and manufacturers of specified maintenance and installation materials for technical assistance. The design professional should consult the current edition of the TCNA manual and other reference standards for additional information. The design professional should coordinate this section with the plans and with the general provisions of the contract, including general and supplemental conditions and Division I general requirements.

Inquiries – GRUPO GRECO GRES INTERNACIONAL S.L. - Technical services

+34 925 50 00 54 Tel. +34 925 50 02 70 Fax

EMAIL- informacion@grecogres.com