



شركة ديكو مصر للإنشاءات الحديثة

GRC

General Submittal Work Procedures Joints and finishing

with compliance to



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GFRC method of statement

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1/ Scope.

- 1.1 Scope of this method of statement covers the manufacturing of GFRC units & erection t_also covers joint treatment & repairs for GFRC.
- 1.2 this method of statement could be extended to other area where GFRC Works is specified.

2 / Purpose.

The purpose of this method of statement is to describe all material used , work procedures , sequence of works and methods of inspection to GFRC units as total work .

3 / references.

- 3.1 GFRC - PCI/128.
- 3.2 Previous shop drawing by contractor side and contractor / manufacturer recommendation.
- 3.3 ASTM C 947-81
ASTM C 948-81
Standard test and methods for GFRC pre-casted section and comparison.
- 3.4 BS EN 1170-1 1998 to 1170-7 1998 , referring to the needed tests and test methods for glass-fiber reinforced cement.

4 / Materials.

- 4.1 White Portland Cement.
- 4.2 Pure graded sand .
- 4.3 Fiberglass (Alkali – Resistant) Cem-fill/NEG production.
- 4.4 Latex base bonding agent .
- 4.5 Acrylic base Paint .
- 4.7 Joints In situ GFRC mix.

5 / Procedure.

5.1 Survey:

Survey and determination of areas that needed to be covered by GRC pieces or repaired , and final areas level and shapes , also the areas of external pieces and accurate DMs according to site conditions.

5.1.2 Shop DWG.

Shop-Dwg will be furnished upon survey and due to site condition measurement which includes :

- 1 – Actual Dms. (Architectural) due site condition as built.
- 2 – Type of fixation required upon manufacturer recommendations.
- 3 – Samples of connectors that will be used and data sheet if required by consultant.

5.2 Molding:

- 5.2.1 According to actual areas and DMs Gypsum / wood master pieces will be furnished , upon casting design.
- 5.2.2 Cleaning the edges of Waxing master piece with appropriate wax material in order for molding start.
- 5.2.3 molds application on surface of master piece according to manufacturer recommendations .
- 5.2.4 De-molding and mold final adjustment .
- 5.2.5 GRC casting .

5.3 – Production:

All production tech. will be according To PCI -128 & Cem fill power spray recommendation & premix recommendations

5.4 Installation :

5.3.1 installation of section & erection:

- 5.3.1.1 GFRC pieces instillation according to Shop Dwg to main supporting done by others.

- 5.3.1.2 Joint treatment , surface leveling & Repairs of the new pieces with extra latex GFRC manual mortar 3% fiber content by weight sand :cement ratio 1:1 by weight (Repair layer) max width of joint 25 mm.
- 5.3.1.3 Fine cement sand mortar 1:1 for face finishing of joint areas treated to mach wit the rock texture.
- 5.3.1.4. Joint insulation with concentrated Latex material emulsion If needed with area under movement.
compose in-situ with 1:1:2 Cement :Resin :Water.
- 5.3.1.5 Repainting and matching colors with old colors used.

6 / Repair and joint treatment

6.1 Rigid non movable area due to fixation or handling :

- 6.1.1 sanding the repaired area 50mm+ on each sine and cleaning.
- 6.1.2 Latex paint for area that needed to be repaired .
- 6.1.3 Applying GRC mortar similar as casting mortar with higher water content and latex content to ensure bond between the two surfaces .
- 6.1.4 sanding the repaired area after treatment for leveling and smoothness a putty for paint can be applied or soft cement latex putty .
- 6.1.5 paint treatment or acid wash or cement color wash as per project specs .

6.2 Movable Joints between pieces

- 6.2.1 sanding the repaired area 50mm+ on each sine and cleaning and adjusting edges to be ready for rubber treatment material.
- 6.2.2 Latex paint for area for joints and flexible joint edge adjustment .
- 6.2.3 filing the joint gap(20mm max width) with the appropriated foam backing size rod .
- 6.2.4 Joint filling with polyurethane rubber material such as sika-flex .
- 6.2.5 surface smoothness of rubber joint with water and solvent .

Note 1 : Joints are visible and modules of grc sections will be approved prior treatment in shop dwg .

Note 2 : non visible solid joint may be applied but a non visual hair crack must occur between areas .

7 / Material Characteristics – GFRC

- 7.1. Shell thickness 12 mm (field area) 20 mm (attachment pts)
- 7.2. Weight (depending on reinforcement) 28-32 kg/m².
- 7.3. Flexural strength 150 kg/cm² +/- 10% (ASTM C947)
- 7.4. Compressive strength 450-550 kg/cm² +/- 10% (ASTM C109)
- 7.5. Density 1850-2050 kg/m³.

8 / Inspection:

Inspection of section is visual inspection and according to Architectural Precast Association specifications , any deflections that exceeds the tolerance mentioned in Architectural Precast Association specifications that may be visual according to lightning conditions , to be repaired or equilibrated upon recommendation of consultant based on extra prices.

For non- Visual Joints , customer must agree on acceptance of hair-cracks that may occur in some joints , These hair-cracks will be visual from 6 m and closer .

8 / Attachments:

- 8.1 GFRC mixing ratios – Matrix .
- 8.2 Cem-fill tech data For Fibers Used In GRC .
- 8.3 GRC complete Method of Statements.
- 8.4 Architectural Precast Association specifications.
- 8.5 Fiber Glass NEG-Cemfill samples .