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GigaCrete Specification PlasterMax

PlasterMax™: Fire Rated, Abuse Resistant Interior Wall Plaster for applications over gypsum board or cement based interior wall finishes.

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Materials and installation of interior PlasterMax plaster.

1.02 REFERENCED DOCUMENTS

A. ASTM Standards:

- NFPA 286 Standard fire test method for evaluating contribution of room fire growth
- ASTM E-84 Standard Test Method for Surface Burning Characteristics of Building Materials
- UBC 26-3 Room fire test standard for interior foam plastic systems.
- ASTM C1929-06 Abuse resistance
- ASTM-C587-04 Bond strength, Impact strength, Joint strength
- ASTM D 4977-03 Abrasion resistance
- ASTM D 5420-04 Impact resistance
- ASTM G21 Fungal contamination resistance
- ASTM C109 Compressive strength
- ASTM E 136 Building materials combustibility

1.03 DESIGN REQUIREMENTS

A. Joints

1. Provide expansion joints in the PlasterMax application where building movement is anticipated and at specified locations

2. Control joint spacing shall not exceed 30’ for partition walls

1.04 PERFORMACE REQUIREMENTS

TEST	METHOD	CRITERIA	RESULT
Corner Room Fire Test	NFPA 286	No flame growth	Pass
Surface Burning Test	ASTM E 84	Flame spread < 25, Smoke < 450	Zero flame spread, Zero smoke
Combustibility Test	ASTM E 136	No combustion	Pass
Fungal Resistance	ASTM G21	Harbor no mold, mildew	Pass

1.05 SUBMITTALS

A. Manufacturer's technical data sheet, specifications and Best Practice Guide

B. Samples for architect's approval (when specified)

1.06 QUALITY ASSURANCE

A. Manufacturer

1. All materials manufactured, sold and distributed by GigaCrete, Inc. Las Vegas, NV
2. PlasterMax product manufactured under Intertek quality control program

B. Contractor Requirement

1. Contractor must be licensed, insured and engaged in application practices of similar materials to those herein this specification
2. Employ skilled mechanics who are knowledgeable and experienced in similar material applications
3. Contractor must provide proper equipment, manpower and supervision on the jobsite to install the product in accordance with GigaCrete's Best Practice Guide publication.

1.07 DELIVERY, STORAGE AND HANDLING

A. Delivery

1. Material shall be delivered to the jobsite in their original unopened package
2. Material shall be inspected for damaged packages with damaged packages removed the from the usable stock

B. Storage

1. Product shall be stored indoors in a dry location free of moisture, high humidity, direct sunlight, off the floor and under cover
2. Storage location shall be protected from excessive heat or freezing conditions

C. Handling

1. Do not to throw, drop or mishandle unopened packages using caution to preserve condition of sealed packages
2. Product shall be moved to the installation space and normalized to space ambient conditions at least 24 hours prior to the actual installation

1.08 PROJECT CONDITIONS

A. Ambient and Surface Temperature

1. Temperature shall be greater than 35°F and lower than 110°F prior to and during the installation and maintained during the initial 7 day cure period. However ideal working temperatures are 50°F to 80°F with a relative humidity above 35%. Provide temporary heat if ambient temperature is less than 35°F so that the specified temperature range is met as in section 1.08A.1. Provide proper ventilation such that temporary heat source fumes do not accumulate or interact with freshly applied PlasterMax. Provide means to regulate heat source such that ambient temperatures do not exceed the specified range and that heat is evenly distributed throughout the space.

B. Humidity

1. Relative humidity shall not be below 35%. Measures must be taken to increase and maintain humidity prior to and during the installation and for the 7 day cure period if necessary. Wetting floor in work area (if possible) can raise humidity levels.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. GigaCrete Inc. Las Vegas, Nevada

2.02 ACCESSORIES *(non metallic – plastic supplied by others)*

A. Provide plastic as needed to meet architects specifications

B. Provide plastic control joints for all areas of dissimilar materials to avoid cracking, dissimilar material expansion or contraction, corrosion or reaction with coatings

C. Provide 11 ounce mesh at inside and outside corners and in locations where impact or additional protection is required

D. Provide minimum 4.5 ounce fiberglass mesh (11.0 ounce preferred)

Note: accessory items serve as installation termination points that compensate for potential structural movement. Plastic/vinyl accessories are recommended.

FASTENERS

A. Mechanical

1. Provide 2" roofing nails for plastic accessory trim fastening. Nails are installed by hand through the edge flange of the accessory item directly into the EPS substrate. For ICF walls avoid hitting the plastic webs.

B. Chemical

1. Provide low expansion urethane spray foam adhesive to adhere accessory items to the EPS surface at specified locations. "Foam to Foam" by Windlock preferred.

2.04 JOBSITE INGREDIENTS

A. Clean potable water (50-75°F ideal). Provide means to heat or chill water outside the specified temperature range. (sealed bags of ice work well to chill B3 Activator Solution once mixed)

2.03 JOBSITE MIXING

A. **B3 Activator Solution**- Identify the package labeled B3. In a suitably sized vessel (large vinyl garbage can ideal) place the dry concentrate of the B3 bag and add cool potable water at a ratio of 50 lbs of dry concentrate to 8 gallons 16 ounces of water. Stir well and allow to fully dissolve overnight or at least 4 hours. Store out of direct sunlight in a cool area. Cover to avoid evaporation and to keep out contaminates. Prevent solution temperature from warming higher than 70°F. Use B3 hydrometer supplied by GigaCrete to test for ideal density and follow simple instructions on hydrometer.

B. **PlasterMax** - Pour 4.5 quarts of aged B3 Activator into a mixing bucket and mix in the contents of the PlasterMax bag. Mix 4 to 5 minutes until a smooth lump free consistency is met. Add small amounts of additional B3 Activator Solution if needed for workability.

PART 3 – EXECUTION

A. Installers must qualify under the Quality Assurance requirement in this specification (section 1.06)

3.01 EXAMINATION

A. Inspect surface for:

1. Dirt, form oil, grease, paint, laitance, concrete spatter or any other foreign material that may act as a bond breaker.

2. Moisture on the surface. Ensure that surface is dry before the application.
3. Wall areas must be plumb, square and straight within ¼" in 10". Identify and mark problematic wall areas.

B. Report any deviations from the specification requirements or any other conditions that may adversely affect the PlasterMax installation to the general contractor.

3.02 SURFACE PREPARATION

A. Clean the substrate to remove potential bond breakers listed in section 3.01A.1 and to ensure good adhesion.

B. Identify and layout all specified accessory locations (control joints, casing beads, outside corner beads and inside corner beads).

C. Fasten accessory items using optional fastening methods in section 2.03

3.03 INSTALLATION

Apply PlasterMax material between any two accessory items without interruption to create a monolithic panel without cold joints. At no part of the installation shall wet PlasterMax abut set PlasterMax. Accessory item shall serve as termination points for each monolithically placed panel. Apply a thin coat of PlasterMax by hand or spray equipment to the prepared substrate and work flat (first pass). Hang pre cut mesh to the thin coat and work PlasterMax through the mesh with a flat trowel, avoiding mesh wrinkles. (Second pass) re-apply PlasterMax over the embedded mesh to the specified depth and trowel flat and determine final finish (smooth or textured). General awareness of ambient conditions is critical. Do not install PlasterMax in ambient outside of conditions spelled out in this specification. Do not install PlasterMax on wet or moist substrates or if the installation space is susceptible to moisture or overnight condensation. Adjustments in application, scheduling and curing must be made if hot, dry, moist or freezing conditions exist or may occur during any part of the installation or cure. The installation shall be true, plumb and square. Material must be removed from control joint centers, if filled, before the PlasterMax sets.

A. Accessory Items – Non Metallic/Non Rigid

1. Casing Beads – Install casing beads at all PlasterMax termination points such as doors, windows, floors, ceilings or any other intersection point of dissimilar construction. Refer to architectural drawings for specified space width.
2. Control Joints – Install control joints where specified on the architect's drawings. Place the control joint into the voided area ensuring that the joint flange has sufficient support on either side of the void for fastening.
3. Outside Corner Beads if desired – Install outside corner beads such that the edge bead is revealed at the specified PlasterMax thickness in each direction.

4. Door and Window corners – (VERY IMPORTANT) Provide detail mesh at all corners and openings of doors, windows and rough openings using butterfly technique, also known as 90 degree corners, “T’s” and bandages. This is additional reinforcement for the most common areas where cracking can occur.

Note: Accessory end cuts must be square and undamaged when abutting end to end. Use a straight edge to align end to end accessories before fastening.

B. Finishes

1. Smooth – Apply specified skim coat material to set PlasterMax per the manufacturer’s recommendations.
2. Textured – use a urethane texturing roller or similar tool to emboss a design into the PlasterMax surface. Lightly mist the tool and wall with liquid release agent to prevent sticking. PlasterMax is ready to emboss shortly after its initial set.
3. If blistering is seen, it indicates the wet mix is being overworked. Allow some time between working the material before finishing.

Note: Initial set time depends on material viscosity and ambient conditions. PlasterMax installation should be installed true, plumb, square and free of irregularities regardless of aesthetic intention.

3.04 PROTECTION

A. Provide protection of installed PlasterMax from excessive heat, cold, water, wind and other trade activity.

B. Provide protection of stored material from excessive heat, cold, high humidity and water and other trade activity.

3.05 ARCHITECTURAL SPECIFICATION FOR NON SUBSTITUTION

PERFORMACE REQUIREMENTS

PlasterMax is the only code approved abuse resistant plaster over eps foam and or gypsum board that will not support the growth of mold or mildew and at a thickness of 1/8” is fire rated equal to ½” gypsum board. **The following specifications may not be substituted with alternate materials.**

Recognized by LEED and US Green Building Council as a sustainable “green building material”. Contains NO PORTLAND type cement or latex/acrylic polymers.

Minimum 8,000 PSI compressive strength (Per ASTM C109) Typical 9,000 psi
Minimum 3,000 PSI compressive strength in 36 hours (Per ASTM C109) Typical 3,500 psi.

Meets the following Class “A” fire rating:
Meets ICC-ES code required fire protection for EPS foam walls (UBC-26-3, NFPA 286 and IBC803.2.1, Room Corner Fire Tests)

Meets 30 Minute Elevated Temperature Exposure Test outline in IBC Section 803.3
NFPA 286 Standard fire test method for evaluating contribution of room fire growth
ASTM E-84 Standard Test Method for Surface Burning Characteristics of Building Materials
UBC 26-3 Room fire test standard for interior foam plastic systems.
Non-combustible building material (Per ASTM E136)

Meets the following abuse resistance testing:
ASTM C587 Joint Strength Standard Specification for Gypsum Veneer Plaster
ASTM C1629/C 1629M Abuse Resistance Test
ASTM E C1629-06 Abuse Resistance Test & ASTM D 4977-03 Abrasion Test
ASTM C 587-04 Bond Strength, Impact Strength, Joint Strength & Flexure Test
ASTM G21-96 Fungal Resistance Test will not support mold or Mildew
Exceeds Surface abrasion ASTM D 4977 a measure of resistance to scratch and score
Meets all the emission level requirements of GREENGUARD Report No. 15995-06)
Exceeds stringent California Air Quality Standards