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SECTION 03 54 10

GYPSUM UNDERLAYMENT

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**PART 1 - GENERAL**

1.1 SUMMARY

- A. Section Includes: Provide high strength poured gypsum concrete underlayment with accessories as required for complete installation.
  - 1. Provide special acoustical underlayment sound deadening system underneath gypsum concrete to achieve maximum possible impact isolation class (IIC).

1.2 ADMINISTRATIVE REQUIREMENTS

- A. Design Requirements: Completed system to provide maximum impact isolation class (IIC) rating possible for system indicated.
- B. Scheduling: Schedule application as late as possible during construction to avoid damage by heavy trades.
  - 1. Schedule pour after installation of drywall to minimize damage to installed underlayment and to complete fire and sound seals.

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's literature.
- B. Shop Drawings: Submit for items of work not clearly dimensioned or detailed in manufacturer's product data.

1.4 QUALITY ASSURANCE

- A. Qualification of Installers: Manufacturer approved applicator using approved mixing/placement equipment.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original unopened packages, protected from exposure to elements; remove damaged or deteriorated materials from premises.

1.6 PROJECT CONDITIONS

- A. Before, during and after installation, building interior shall be enclosed and maintained at temperature above 50 degrees F until structure and sub-floor temperatures are stabilized.
- B. Provide continuous heat and adequate ventilation to rapidly remove moisture from area until underlayment is dry; provide mechanical ventilation if necessary.

**PART 2 - PRODUCTS**

**2.1 SYSTEMS MANUFACTURERS**

- A. Maxxon Corp./Dura-Cap Gypsum Concrete with Maxxon Overspray.
- B. Hacker Industries, Inc./Firm-Fill High Strength Gypsum Concrete with TopCoat SP.
- C. USG Corp./Levelrock 2500 with SE-100 Surface Enhancer.
- D. Substitutions: Refer to Section 01 25 00.

**2.2 MATERIALS**

- A. System Requirements: Provide high strength poured gypsum concrete underlayment with accessories.
- B. Gypsum Cement: Mill mixture of calcined gypsum and aggregate complying with ASTM C317.
  - 1. Type: High strength gypsum concrete minimum 2500 psi compressive strength.
- C. Primer: As recommended by gypsum concrete manufacturer.
- D. Sand: 1/16" or less washed mason, mortar or plaster sand.
- E. Water: Potable, free from impurities.
- F. Sealer: Provide manufacturer recommended sealer for gypsum underlayment to ensure sealing of underlayment and bonding of flooring systems to underlayment.
- G. Acoustical Underlayment: Manufacturer's standard dense acoustical underlayment for sound deadening system providing maximum impact isolation class (IIC) rating.
  - 1. Basis of Design: Provide acoustical underlayment comparable to Maxxon Corp./Acousti-Mat II HP as integral part of gypsum concrete system.
  - 2. Impact Isolation Class (IIC) Rating: Not less than IIC 50 or better unless otherwise noted based on Acoustical Consultant reports.

**PART 3 - EXECUTION**

**3.1 PREPARATION**

- A. Inspect subfloor for structurally sound condition required for type of underlayment and conditions under which work will be performed.
  - 1. Start of work indicates acceptance of conditions.
- B. Inspect area to be poured for proper nailing of plywood and replace any areas of plywood that have weakened or delaminated during construction.

- C. Remove stud wall base plates in doors and other openings.
- D. Prevent leakage at cracks; fill cracks and voids with quick setting drywall patching material.
- E. Ensure area to be poured is clean and free of mud, oil, grease or other contaminants.
- F. Acoustical Underlayment: Install acoustical underlayment system in accordance with manufacturer's recommendations and installation instructions over prepared substrate for maximum impact isolation class (IIC) rating.
  - 1. Treat joints and perimeter in accordance with manufacturer's recommendations.

### 3.2 INSTALLATION

- A. Priming: Apply in accordance with manufacturer's recommendations for type of substrate and underlayment to be poured.
- B. Underlayment Application: Comply with manufacturer's recommendations and installation instructions for application indicated.
  - 1. Mix gypsum concrete in accordance with manufacturer's recommendations for type of placement operation employed; do not exceed amounts of water determined by manufacturer.
  - 2. Keep mixing and placement equipment clean and free of hardened lumps of gypsum concrete.
  - 3. Provide adequate equipment and personnel to ensure uniform, continuous flow of gypsum concrete at point of delivery without segregation and loss of material.
- C. Thickness: Comply with manufacturer's recommended minimum thickness for type of substrate.
  - 1. Install gypsum concrete in one layer at 1-1/4" minimum thickness unless greater thickness indicated.
- D. Do not interrupt placement of gypsum concrete until entire section is completed; ensure no slurry is placed against underlayment that has obtained initial set, except at authorized joints.
- E. Immediately after placement, screed and level to required thickness and trowel to smooth, even plane.
- F. Provide adequate ventilation and heat, if necessary, after placement of gypsum concrete to ensure complete drying of underlayment.
- G. Seal gypsum underlayment in accordance with manufacturer recommendations and installation instructions.

**3.3 CLEANING**

- A. Clean spatter from supporting structure and walls before it sets.

**3.4 FIELD QUALITY CONTROL**

- A. Site Tests: Provide following tests.
  - 1. Compressive Strength: In accordance with ASTM C 472 testing procedures, using 2" by 2" cube molds.
  - 2. Record and identify each set of test specimens listing area underlayment is being placed.

**3.5 PROTECTION**

- A. During construction, place temporary wood planking over underlayment wherever it will be subjected to heavy wheeled or concentrated loads.
- B. Replace damaged work.

**END OF SECTION**