



GYPSUM CEMENT UNDERLAYMENT  
 RECOMMENDED SPECIFICATION FOR THERMA-FLOOR® FLOOR UNDERLAYMENT AS  
 THE THERMAL MASS FOR RADIANT HEATING OVER MAXXON SOUND MATS

PART 1 GENERAL

1.01 SUMMARY

- A. This is the recommended specification for Therma-Floor Underlayment as the heat mass for radiant floor heating.
- Therma-Floor gypsum
  - Maxxon Floor Primer
  - Maxxon Overspray
  - Maxxon Set Modifier

1.02 REFERENCES

- |    |                      |  |
|----|----------------------|--|
| A. | GREENGUARD Certified | Air Quality Sciences GREENGUARD Indoor Air Quality Certified<br><a href="http://www.greenguard.org">www.greenguard.org</a>   |
| B. | ASTM C472M           | Compressive strength of gypsum concrete  |
| C. | ASTM F2170           | Standard Test Method for Determining Relative Humidity in Concrete Floor Slab  |
| D. | ASTM F2419           | Standard Test Method for Installation of Thick Poured Gypsum Concrete and Preparation of Surface to Receive Resilient Flooring   |
| E. | ASTM F2678           | Standard Practice for Preparing Panel Underlayments, Thick Poured Gypsum Concrete Underlayments, Thick Poured Lightweight Cellular Concrete Underlayments, and Concrete Subfloors with Underlayment Patching Compounds to Receive Resilient Flooring |
| F. | TCNA F 180           | Tile Council of North America Installation Handbook<br><a href="http://www.tileusa.com">www.tileusa.com</a>  |
| G. | NWFA                 | National Wood Flooring Association Instructions<br><a href="http://www.nwfa.org">www.nwfa.org</a>  |
| H. | Maxxon Corporation   | Maxxon Procedures for Attaching Finished Floor Goods to Maxxon Underlayments<br><a href="http://www.maxxon.com">www.maxxon.com</a>   |

1.03 SUBMITTALS

- A. Product Data: Submit sale sheets *Therma-Floor Sales Sheet, Acousti-Mat Ultimate Sound Control Systems, Procedures for Attaching Finished Floor Goods to Maxxon Underlayments, and Drying Conditions for Maxxon Underlayments* with project materials clearly identified for each required product or system.

1.04 SYSTEM REQUIREMENTS

- A. Performance Requirements:
  - 1. Therma-Floor Floor Underlayment (Always a "Green" building material)
    - i) Compressive strength 2000 to 3000 psi (14MPa to 21 MPa)
    - ii) Density 115 pounds per cubic foot (1,840 kg/m<sup>3</sup>)

\*\*\*\*\*This product may contribute to USGBC LEED Credits (MR 2, 4, 5; EQ 3.2, 4.2, 4.3; ID 1)\*\*\*\*\*

USGBC LEED	Category	Credit	
Material Resource	Construction Waste Management	MR 2	Recyclable/Reusable shipping materials
Materials & Resources	Recycled Content	MR 4	Pre-consumer: Fly Ash
Materials & Resources	Regional Materials	MR 5	Blue Rapids, KS 66411 Camden, NJ 08103 Las Vegas, NV 89124  Job site manufactured with local sand & water
Indoor Environmental Quality	Air Quality Before Occupancy	EQ 3.2	GREENGUARD Children and Schools Certified (Testing MUST be performed before credit is claimed.)
Indoor Environmental Quality	Low Emitting Materials: Paints and Coatings	EQ 4.2	
Indoor Environmental Quality	Low Emitting Materials: Floor System	EQ 4.3	GREENGUARD Children and Schools Certified
Innovation & Design	Sound Control	ID 1	

\*\*\*\*\*

1.05 QUALITY ASSURANCE

- A. Performance Standards:
  - 1. All materials, unless otherwise indicated, shall be manufactured by Maxxon Corporation and shall be installed in accordance with its current printed directions and by a Maxxon Corporation Authorized Applicator.
  - 2. Underlayment mix shall be tested for a slump using a 2" (i.d.) x 4" (50 mm x 101 mm) cylinder resulting in a patty size of 8 (203mm) inches plus or minus 1 inch (25mm) diameter.
  - 3. Compressive strength tested in accordance with ASTM C 472M.

1.06 DELIVERY, STORAGE AND HANDLING

- A. All materials shall be delivered in their original unopened packages and protected from damage and exposure from the elements. Damaged or deteriorated materials shall be removed from the premises.

1.07 PROJECT CONDITIONS

- A. Before, during and after installation of product, building interior shall be enclosed, with adequate ventilation and heat maintained at a temperature above 50° F (10°C) to allow for drying of product.

## PART 2 GENERAL

### 2.01 PRODUCTS AND MANUFACTURERS

- A. Manufacturer: Maxxon Corporation, Hamel, MN. Telephone: (800) 356-7887

### 2.02 MATERIALS

- A. Proprietary products/systems: Poured flooring underlayment and topping products, including the following:
  - 1. Therma-Floor Floor Underlayment
- B. Maxxon Floor Primer:
  - 1. Material Standard: Comply with specifications outlined in manufacturer's Design and Installation Guide for wood.
- C. Mix Water:
  - 1. Material Standard: Potable, free from impurities and from a domestic source.
- D. Sand Aggregate:
  - 1. Sand shall meet Maxxon Sand Specification 101.
- E. Maxxon Overspray Primer Sealer:
  - 1. Seal all areas that receive glue down floor goods with Maxxon Overspray according to manufacturer's specifications.
- F. Maxxon Acrylic Primer Sealer (Alternate to Overspray):
  - 1. Seal all areas that receive glue down floor goods with Maxxon Acrylic according to manufacturer's specifications.
- G. Maxxon Set Modifier:
  - 1. Maxxon set modifier can be used in the first lift to accelerate the set-time.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Site Verification of Conditions:
  - 1. Installation shall not begin until the building is enclosed, including roof, windows, doors, and any other apertures.
  - 2. Wood substrate shall be structurally sound, properly fastened, and dry. Contractor shall clean subfloor to remove mud, oil, grease, and other contaminating factors before arrival of the authorized applicator.
  - 3. Wood substrate:
    - i) The wood subfloor must be adequate to withstand live and dead loads with a deflection limitation of L/360.
    - ii) Wood should be agency approved 23/32" (1.8cm) T & G subfloor sheathing.

### 3.02 REQUIREMENTS

- A. Leak Prevention:
  - 1. Fill cracks and voids in subfloor where leakage of slurry could occur.
- B. Priming subfloor:
  - 1. Prime substrate according to manufacturer's recommendations.
- C. Application:
  - 1. Install in accordance with reference standards and manufacturer's instructions.

### 3.03 GENERAL INSTALLATION REQUIREMENTS

#### A. Mixing Proportions:

1. General Requirements: Mix proportions and methods shall be in strict accordance with product manufacturer recommendations.

#### B. Application:

1. Place the Therma-Floor heat mass in a two pour application. Install the first lift (pour) to the top of the tubing or cable, then allow to set-up. Maxxon Set Modifier may be used to accelerate the time of the first lift per Maxxon Corporation's recommendations. Install the second lift  $\frac{3}{4}$ " (19 mm) above the first lift. Spread and screed Therma-Floor to a smooth surface. The Therma-Floor minimum thickness over radiant heat systems is  $\frac{3}{4}$ " (19 mm) over the top of the tubes or cables.

#### C. Drying:

1. The general contractor must provide and maintain correct environmental conditions to keep the building clean and dry, and protect against infestation of moisture from a variety of potential sources. The general contractor must supply mechanical ventilation and heat if necessary to remove moisture from the area until the Therma-Floor is dry.
2. Protection from Heavy Loads: During construction, place temporary wood planking over Therma-Floor wherever it will be subject to heavy wheeled or concentrated loads.

### 3.04 PREPARATION FOR INSTALLATION OF GLUE DOWN FLOOR GOODS

#### A. Sealing:

1. Seal all areas that receive glue down floor goods with Maxxon Overspray or Maxxon Acrylic according to the Maxxon Corporation's specifications. Any floor areas where the surface has been damaged shall be cleaned and sealed regardless of floor covering to be used. Where floor goods manufacturers require special adhesive or installation systems, their requirements supersede these recommendations.

#### B. Moisture Testing:

1. ASTM F2170 Test Method for Determining Relative Humidity in Concrete. Follow the respective floor goods manufacturers' recommendations for relative humidity requirements. When manufacturer does not have a relative humidity requirement, refer to Maxxon's *Procedures for Attaching Finished Floor Goods to Maxxon Underlayments* brochure.

#### C. Finished Floor Goods:

1. There are many reference standards for the installation procedures and recommendations for finished flooring applications over gypsum underlayments. These include instructions of the manufacturers of the finished flooring, adhesives and thin-set as well as national agency reference standards. The national standards are listed below:

Flooring Type	Reference Standard
Resilient	ASTM F2419
Ceramic Tile	TCNA F180
Wood	NWFA Instructions

See Maxxon Corporation's *Procedures for Attaching Finished Floor Goods to Maxxon Underlayments* brochure for guidelines for installing finished floor goods. This procedure is not a warranty and is to be used as a guideline only.

END OF SECTION