GYPSUM CEMENT UNDERLAYMENT
RECOMMENDED SPECIFICATION FOR GYP-CRETE 2000®/3.2K FLOOR UNDERLAYMENT OVER A PARALLEL CHORD OPEN WEB FLOOR TRUSS ASSEMBLY

PART 1 GENERAL

1.01 SUMMARY

A. Description of Work: Work of this section includes underlayment for interior finish flooring and is not limited to, the following:
   1. Maxxon Gyp-Crete 2000/3.2K Floor Underlayment covering normal project conditions and applications.
   2. Division 3 Section Concrete: “Cast Underlayment” and “Gypsum Cement Underlayment”
   3. Division 9 Section Finishes: “Acoustic Treatment”

1.02 REFERENCES

A. Underwriters Laboratory	Fire Resistance Volume 1 www.ul.com
B. ASTM E336 and E1007	Field Sound Transmission Class (F-STC), Field Impact Insulation Class (F-IIC)
C. ASTM E90 and E492	Sound Transmission Class (STC), Impact Insulation Class (IIC)
D. GREENGUARD Certified	Air Quality Sciences GREENGUARD Indoor Air Quality Certified www.greenguard.org
E. ASTM C472M	Compressive strength of gypsum concrete
F. ASTM F2170	Standard Test Method for Determining Relative Humidity in Concrete Floor Slab
G. ASTM F2419	Standard Test Method for Installation of Thick Poured Gypsum Concrete and Preparation of Surface to Receive Resilient Flooring
H. 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
I. TCNA F 180	Tile Council of North America Installation Handbook www.tileusa.com
J. NWFA	National Wood Flooring Association Instructions www.nwfa.org

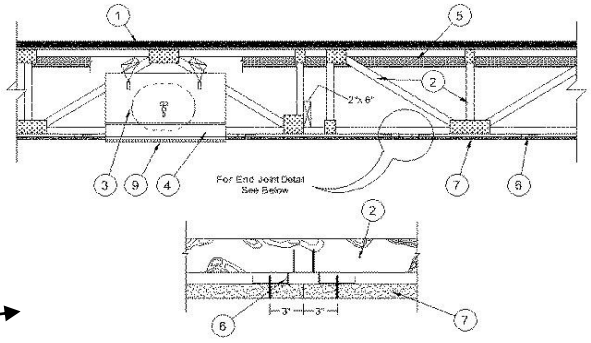
K. Maxxon Corporation — Maxxon Procedures for Attaching Finished Floor Goods to Maxxon Underlayments
www.maxxon.com

1.03 SUBMITTALS

A. Product Data: Submit *Gyp-Crete 2000/3.2K sales sheet*, *Ultimate Sound Control Systems*, *Procedures for Attaching Finished Floor Goods to Maxxon Underlayments*, and *Drying Conditions for Using Maxxon Underlayments* with project materials clearly identified for each required product or system.

B. UL Directory Fire Resistance Volume 1 - Architect to utilize one or more of the following:

Rating	Underwriters Laboratory File Number
1 Hr Fire Rating	L546, L555, L558, L562, L563, L574, L579, L585, L592
2 Hr Fire Rating	M500



Example: UL L546

C. Acoustical Data: Submit sound tests according to IBC code criteria ASTM E492 (IIC) and ASTM E90 (STC) or ASTM E1007 (F-IIC) and E336 (F-IIC).

D. Code Approvals: See www.maxxon.com for the current list of code approvals.

1.04 SYSTEM REQUIREMENTS

A. Performance Requirements:

1. Gyp-Crete 2000/3.2K Floor Underlayment (Always a "Green" building material)
   i) Compressive strength 2000 to 3200 psi (14MPa to 22 MPa)
   ii) Density 115 pounds per cubic foot (1,840 kg/m^3)

*****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	

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*****Note: The following is for 2009 IBC Acoustical Requirements Section 1207*****

2. Sound Control – 2009 International Building Code: Section 1207.2 & .3
   i) Minimum Sound Transmission Class, 50 STC (45 if field tested) – Section 1207.2
      (1) ASTM E90 and E336
   ii) Minimum Impact Insulation Class, 50 IIC (45 if field tested) – Section 1207.3
      (1) ASTM E492 and E1007

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 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. Gyp-Crete 2000/3.2K Floor Underlayment

   *****Note: The following is for 2009 IBC Acoustical Requirements Section 1207*****

B. Proprietary products/systems: Optional Sound Control that does not negate the fire rating and is specified in UL design. Acoustical performance is dependent on system design and construction. Values shown represent typical improvements.
   1. Acousti-Mat® LPR Sound Mat
      i) Up to 8 IIC points
   2. Acousti-Mat® I Sound Mat
      i) Up to 8 IIC points
   3. Acousti-Mat® II Sound Mat
      i) Up to 10 IIC points
   4. Enkasonic® Sound Mat
      i) Up to 12 IIC points
   5. Acousti-Mat® 3 Sound Mat
      i) Up to 17 IIC points

*****These products may contribute to USGBC LEED Credits (ID 1; MR 4, 5; EQ 4.3)*****

USGBC LEED	Category	Credit	
Innovation & Design	Sound Control	ID 1	
Materials & Resources	Recycled Content	MR 4	Nylon-6 40% Pre-consumer Recycled Content
Materials & Resources	Regional Materials	MR 5	Enka, NC 28728
Indoor Environmental Quality	Low emitting materials: Floor system	EQ 4.3	GREENGUARD Children and Schools Certified

C. Maxxon® Floor Primer:
   1. Material Standard: Comply with specifications outlined in manufacturer's Design and Installation Guide for wood.
D. Mix Water:
   1. Material Standard: Potable, free from impurities and from a domestic source.
E. Sand Aggregate:
   1. Sand shall meet Maxxon Sand Specification 101.
F. Maxxon® Overspray Primer Sealer:
   1. Seal all areas that receive glue down floor goods with Maxxon® Overspray according to manufacturer's specifications.
G. 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.
H. Maxxon Reinforcement or Maxxon CSM (Crack Suppression Mat):
   1. If reinforcement in the Maxxon underlayment is needed or required.

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. (Optional) Acousti-Mat Installations: Install Acousti-Mat following manufacturer's recommendations and specifications.
   2. Pour floor topping to recommended thickness. Immediately spread and screed product to a smooth surface. Expansion joints in all types of work shall be brought through the underlayment.
      i) Minimum Maxxon Underlayment Depth:

Substrate	Depth of Pour
Wood	¾" (1.9 cm)
Acousti-Mat LPR	¾" (1.9 cm)
Acousti-Mat I	¾" (1.9 cm)
Acousti-Mat II	1" (2.5 cm)
Enkasonic	1 ½" (3.8 cm)
Acousti-Mat 3	1 ½" (3.8 cm) with Reinforcement or Maxxon CSM (Crack Suppression Mat)

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 Gyp-Crete 2000/3.2K is dry.
   2. Protection from Heavy Loads: During construction, place temporary wood planking over Gyp-Crete 2000/3.2K 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.
   2. Maxxon UWR can be used over Maxxon underlayments in low traffic areas such as utility rooms, storage rooms and closets, as a protective surface.

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