

DESIGN AND BUILDING REQUIREMENTS

Notes to Architects, Builders and Developers Concerning Installation of Maxxon Underlayments



Building Considerations

INTERIOR BUILDING CONDITIONS

Building interior should be enclosed and maintained at a temperature above 50°F (10°C) before, during, and after installation of a Maxxon Underlayment. This temperature should be maintained until both the structure and subfloor temperatures are stabilized and underlayment meets the acceptable dryness level. For steel deck applications contact Maxxon Corporation for preparation/installation details.

DESIGN

The structural floor should be adequate to withstand design loads, including construction loads, with deflection limitations of L/360. Both the structural subfloor and floor joist must comply with manufacturers' maximum span criteria. Typically a deflection limitation of L/360 is adequate for Maxxon Underlayments. Some floor coverings, such as marble, stone, travertine and ceramic tile, may require a stiffer floor system. Maxxon Underlayments are non-structural and therefore cannot be expected to reinforce structurally deficient subfloors. Necessary allowances should be made for expected live, concentrated, impact, and/or dead loads including the weight of the finished floor goods assembly.

Additional consideration should be taken for concentrated/dynamic loads. U.S. building codes typically specify a uniform live load of 40 pounds per square foot for residential floor designs. This load is intended to account for large loads that can occur in a building. In reality these loads are not uniform, but rather consist of items such as furniture and appliances that actually induce concentrated loads far exceeding 40 lbs per sq ft. Rolling concentrated loads such as office chairs, wheelchairs, and motorized scooters add turning, twisting, repetition, and other dynamics which should also be taken into consideration. Determining the appropriate structural design of the floor is not the responsibility of Maxxon nor the Maxxon applicator.

Maxxon Underlayments will not structurally bridge over expansion joints, saw cuts or structural cracks. Expansion joints should be allowed to continue through the underlayment. The architect or structural engineer must specify expansion joints and show their location in areas that will receive hard surface floor goods such as ceramic or marble tile, and hardwood flooring.

END USE

Maxxon Underlayments are not resurfacing toppings for heavy-duty industrial floors or chemical environments requiring customized industrial toppings. Excessive service conditions, such as steel or hardplastic wheeled traffic, dragging heavy metal equipment or loaded pallets with protruding nails over the floor can cause gouging and indentation. Maxxon Underlayments cannot resist stresses caused by structural movement, and are intended for interior use only. They are not intended for use as a wear surface* or where they will come in prolonged contact with water.

Moisture Mitigation

Maxxon Underlayments installed above crawl spaces must be protected by a vapor barrier.

Maxxon Underlayments are not a vapor barrier and are not designed to be installed on or below grade except over properly tested concrete substrates. The general contractor/project superintendent, architect, specifier, or building owner shall test on grade, below grade, or elevated slabs for MVER (Moisture Vapor Emission Rate) as per ASTM F1869 (Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride) or RH (Relative Humidity) as per ASTM F2170 (Standard Test Method for Determining Relative Humidty in Concrete Floor Slabs Using in situ Probes). Maxxon strongly recommends determining the RH content (%) on slabs to be treated using in situ probes. Alternatively, Anhydrous Calcium Chloride testing may be used to determine the MVER in lb/24 hrs • 1000 ft² (grams/hr • m²) as per ASTM F1869. The testing must be carried out before application of a Maxxon Moisture Vapor Barrier. If the MVER or RH of the concrete substrate exceeds the floor covering manufacturer's respective requirements for the finished flooring system, the concrete should be treated with a moisture vapor barrier, such as Maxxon DPM or Maxxon MVP, before installing a Maxxon Underlayment.**

Underlayment Installation

PRODUCT THICKNESS OVER WOOD SUBFLOORS

SUBFLOOR THICKNESS	TRUSS, BEAM OR JOIST SPACING	MINIMUM THICKNESS OF UNDERLAYMENT
19/32" (15 mm) [5/8"]	16-19.2" o.c. (406-487 mm)	3/4" (19 mm)
19/32" (15 mm) [5/8"]	19.2-24" o.c. (487-610 mm)	1" (25 mm)
23/32" (19 mm) [3/4"]	16-24" o.c. (406-610 mm)	3/4" (19 mm)

The subfloor must be broom clean and contaminant free. Before pouring Maxxon Underlayment, the subfloor is coated with a company-approved primer.

*Certain Maxxon Underlayments may be used as a wear surface with Maxxon approved sealers. Contact your Maxxon Regional Representative for more information.

**For details on moisture vapor barrier installation, contact your Maxxon Regional Representative.

Underlayment Installation (cont.)

Maxxon Underlayments may be scheduled before or after drywall is installed. During construction, place temporary wood planking over the underlayment wherever it will be subjected to heavy wheeled or concentrated loads. Due to the unique nature of light gauge steel construction, it may be necessary to pour underlayments before doors and windows are installed. Contact Maxxon Corporation for installation details.

Continuous ventilation and adequate heat should be provided to rapidly remove moisture from the area until the underlayment is dry. The general contractor/project superintendent must supply mechanical ventilation and heat if necessary (see Drying Conditions). Drying time varies with the underlayment and depth. The minimum/maximum depth varies among underlayments. Consult your Maxxon Regional Representative for the specific recommendations. Reference the *Building Conditions Guide* for complete installation guidelines.

For underlayments that require a floor covering, contact your authorized dealer for recommendations for adhering floor goods or contact Maxxon Corporation for a copy of the brochure *Procedures for Attaching Finished Floor Goods to Maxxon Underlayments*. It is the responsibility of the floor goods installer to determine the compatibility of their product with a particular floor underlayment.

Underlayment Testing

Compressive strength testing must be performed in accordance with modified ASTM C472 or modified ASTM C109, depending on product. Before independent sampling, contact the Maxxon Corporation Quality Control department to ensure that proper procedures are followed.

Sound Test Information

International Building Code (IBC) requires a minimum 50 STC/IIC (45 F-STC/F-IIC) in multifamily construction. Because an STC/IIC of 50 provides only marginal sound control, the International Code Council (ICC), author of the IBC, now recommends that an "acceptable" level of performance for both STC and IIC is 55 (52 if field tested). The "preferred" level of performance for STC and IIC is 60 (57 if field tested). Maxxon Underlayments and Acousti-Mat are but single components of an effective sound control system. No sound control system is better than its weakest component. Care must be taken in the selection and installation of all construction components to ensure the designed acoustical performance. Sound flanking paths such as penetrations or openings in construction assemblies must be sealed, lined, insulated, or otherwise treated to maintain the specified ratings. For sound test information, contact Maxxon Corporation.

Drying Conditions

Maxxon Underlayments are inorganic and provide no source of nutrients to sustain mold growth. Prolonged contact of moisture with other construction materials, however, can result in mold growth. To avoid growth of mold on construction materials such as wallboard, drywall compound and even dust, it is vital to maintain a low relative humidity both before and after placement of Maxxon Underlayments.

The general contractor/project superintendent 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. Moisture can be introduced by other trades through spillage, tracked in mud and rain, plumbing leaks, etc. Often stored in damp conditions, building products may arrive on site laden with moisture that releases after installation. Outside sources such as rain, snow, wind, etc. can also increase moisture levels.

Controlling moisture levels in the building through appropriate trade sequencing and prevention of potential damage by other trades is the responsibility of the general contractor/project superintendent — not Maxxon Corporation nor the Maxxon Underlayment installer. The general contractor/project superintendent must supply mechanical ventilation and heat if necessary. See Maxxon Building Conditions Guide for additional information.

Finished Floor Preparation

Installation of certain types of finished floors (e.g. tile, stone, vinyl tile, carpet) may require surface preparation to ensure that certain floor flatness and smoothness requirements are met. Floor goods such as vinyl, VCT, laminate wood, engineered wood, and large floor tiles typically have tighter flatness tolerances than standard concrete and gypsum underlayments provide during traditional installation.

ASTM Standards and floor good manufacturers have specifications for how finished flooring contractors should prep gypsum based underlayments to bring them within the desired floor good material's flatness specifications. Floor prep is what brings the original specified substrate into the finished flatness expectation defined by the different finished floor goods required on the job. It has to be bid by the flooring contractor. In general, minor floor preparation to be expected should include (but is not limited to) filling holes and indents from minor abuse, patching joints, basic flattening, and sanding off slag or bumps. Once this is complete, the floor needs to be broom cleaned.

Adhesive manufacturers are now offering moisture tolerant adhesives with protection to 90% RH. While these adhesives are compatible with Maxxon Underlayments, it is imperative that both the substrate and the Maxxon Underlayment are fully dry prior to installation of the adhesive. Alternatively, the substrate may be treated with a surface applied moisture vapor barrier; however it still remains essential that the Maxxon Underlayment be fully dry before the adhesive is installed.

SUBMITTAL APPROVALS

Job Name	Date
Approved Signature	Title



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