

Sound-control solutions *for resilient flooring*



► Reducing sound transmissions through resilient flooring

When sound is a problem in the residential, multi-unit housing industry, it is generally due to noise being transmitted from the floor above one's living quarters. Unwanted sounds can be unpleasant at their best and debilitating at their worst.

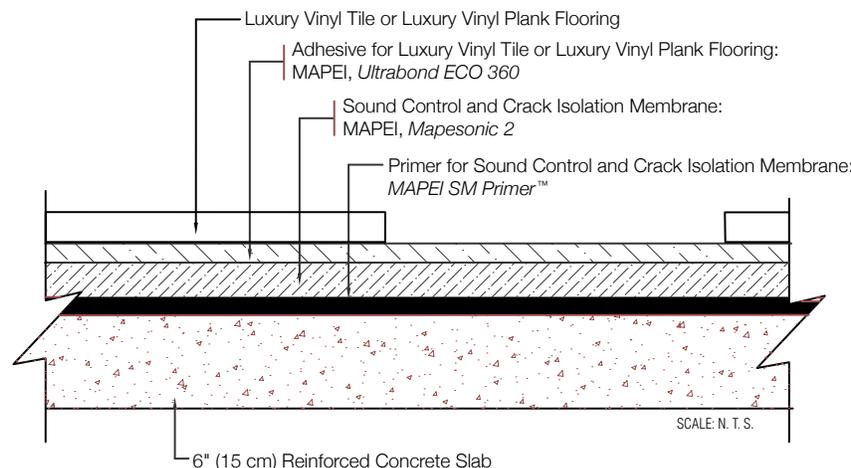
To help regulate this noise or sound, local building codes state specific structural requirements that attempt to control the amount of sound being transmitted from an upper unit to a lower one. These building codes use standards of measurement: ASTM E90 and ASTM E492, which measure STC and IIC respectively.

- STC measurements refer to surface sound transmission. For example, this would describe the level of sound from your upstairs neighbor's TV or stereo system that is transmitted through to your living quarters.
- IIC measurements refer to sound that is transferred via impact. Examples of IIC include the sound made on an upstairs neighbor's floor by high heels and dropped objects.

Sound-reduction requirements most often apply to tile and stone installations for multi-unit housing projects. But, the same sound-control codes also apply to resilient flooring. With the incredible advances being seen in luxury vinyl tile and plank, along with their relative ease of installation, a sound-control solution that is proven and documented for resilient flooring will be in great demand.

► MAPEI's solution to sound reduction for resilient flooring

MAPEI has combined the use of *Mapesonic*[™] 2 sound-reduction membrane and *Ultrabond ECO*[®] 360 premium high-performance adhesive into a system for installing luxury vinyl tile and plank. *Mapesonic 2* provides IIC and STC test values of 50/52 respectively when applied directly over a 6" (15 cm) concrete slab without a suspended ceiling. *Mapesonic 2* also provides a Delta IIC of 20. When a suspended ceiling is installed, the values are even higher: 70/67 (IIC/STC). Complete testing data is available by contacting MAPEI's Technical Services Department. Summary findings are shown below:



Sound-Reduction Ratings – Luxury Vinyl Plank installed with *Ultrabond ECO 360* on *Mapesonic 2* over 6" (15 cm) Concrete Slab*

ASTM test method	No suspended ceiling**	Suspended ceiling***
E492-09/E989-09 (IIC) impact sound	50 (NGC Test No.: NGC7013214)	70 (NGC Test No.: NGC7013213)
E2179-03 (Delta IIC) impact sound	20 (NGC Test No.: NGC7013215)	N/A
E90-04/E413-10 (STC) airborne sound	52 (NGC Test No.: NGC5013141)	67 (NGC Test No.: NGC5013140)

* 1 layer of 6" x 48" (15 x 122 cm) luxury vinyl plank at 0.12" (3 mm) thickness, applied using 1/16" x 1/32" x 1/32" (1,5 x 1 x 1 mm) square-notch trowel

** 1 layer of *Mapesonic 2* installed over MAPEI SM Primer

*** 6" (15 cm) thick reinforced concrete slab; weight 70 psf (366.1 kg/m²)

Sound-control solutions for **resilient flooring**

Mapesonic 2 is a peel-and-stick membrane that can be easily applied to a primed surface. As soon as *Mapesonic 2* has been placed, *Ultrabond ECO 360* can be used to install luxury vinyl tile (LVT) or the very popular luxury vinyl plank (LVP). This process saves time for the installer when compared to the use of a cork underlayment. Cork must be installed with a double-glue-down technique. The cork has to be applied with adhesive, which must then be allowed to dry before the resilient flooring can be installed on top of it.

Cork underlayments are generally 1/4" (6 mm) in thickness, while *Mapesonic 2* has a thickness of only 76 mils. The reduced thickness of *Mapesonic 2* minimizes the build of the entire floor-covering installation.

MAPEI's R&D laboratories have tested the point load resistance of *Mapesonic 2* and have found it to be significantly higher than cork underlayment. In addition to its excellent sound-reduction properties, *Mapesonic 2* also provides a stronger base for the resilient installation.



Mapesonic 2



Ultrabond ECO 360

Ultrabond ECO 360 is a proprietary, high-performance, wet-lay and pressure-sensitive adhesive designed specifically for installing homogeneous and heterogeneous solid vinyl flooring. With its strong, durable, moisture-resistant and alkali-resistant bond, it is ideal for resilient floor-covering applications in residential, commercial and even institutional settings.

Ultrabond ECO 360 has an excellent open time, develops strength quickly, resists shrinkage, performs well under rolling loads and resists indentation. Its low volatile organic content makes it ideal for use in occupied buildings. Its easy trowelability promotes rapid installation.

Working together, *Mapesonic 2* and *Ultrabond ECO 360* make resilient floor-covering installation easier for installers, specification- and code-compliant for contractors, with much quieter results for the homeowner. These two great products are part of MAPEI's systems for success.

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