



## Technical Newsletter #34 2.0

### Subject: Underlay (soundproofing) criteria for glued down installation with Mirage Lock product

The goal of this technical newsletter is to review acoustic underlayments and the minimum criteria needed to maintain the Mirage Lock structural lifetime warranty.

For acoustical reasons, you can install the Mirage Lock floors glued to an underlayment. However, the pad/assembly must meet the following minimum criteria:

|               | Criteria  | Standard                            | Limit  | Note   |
|---------------|---|-------------------------------------|--|--|
| Underlay only | Compression @ 25% deflection<br><br>or<br>Maximum Deflection @ 5 psi of load<br><i>test done on one membrane only</i> | ASTM D-3575                         | ≥ 5 psi<br>thickness less than 3 mm<br>≥ 7 psi<br>thickness between 3 and 5 mm | To avoid movement (comfort and squeaking)<br>5 mm is the maximum thickness |
|               | Tensile @ 100% elongation or less   | ASTM D-412 (method A) or equivalent | 60 psi (min. 0.4 Mpa)  | To limit expansion/contraction and to ensure wear resistance of membrane   |
|               | Adhesive transfer to flooring   | N/A                                 | 75%  | To ensure proper adhesion  |
|               | Service temperature   |                                     | 20 to 110°F (-6 to 43°C)   | To sustain radiant heat systems  |
|               | Water vapor transmission  | ASTM E-96                           | Min. 0.6 lb./1,000 sq. ft./24 hrs  | To be considered a moisture vapor protection                               |

*Underlayment: Do not confuse with vapor resistant/barrier products designed for concrete or wooden subfloors.*

|                   |   |                             |  |   |
|-------------------|---|-----------------------------|--|---|
| Typical assembly* | Tensile<br>(perpendicular to gluing plan)         | EN 14293<br>(or equivalent) | 50 psi (0.35 Mpa) (7-day cure)<br>Max. 4 mm @ 50 psi (0.35 Mpa)        | This value is not a percentage, in order to avoid thickness affecting results |
|                   | Creep (tensile)<br>(perpendicular to gluing plan) | EN 14293<br>(or equivalent) | Max. 2 mm (from loading)<br>Loading 30 psi (0.2 Mpa)<br>30-minute load | To limit expansion/contraction and excessive deformation                      |

\* **Typical assembly:** subfloor + adhesive + underlay + adhesive + Lock floor. Both underlayment and adhesive effects should be taken into account to ensure good product performance.

**Note 1:** The acoustical performance of the underlayment is dependent on the building construction elements such as the subfloor preparation.

#### Important notes:

All the criteria must be met to ensure proper performance of the product.

- The adhesive used must meet the standards set out in Technical Newsletter #33.

#### Mirage will not be held responsible for:

- The acoustical performance of the membrane used (see note 1)
- The long-term resistance to wear (moisture, mildew)
- The content of the underlayment, the raw materials and the adhesives (contaminants, VOCs or formaldehyde content)
- The compatibility with sealants or adhesives (according to manufacturer)
- The warranty (should be at least equal to Mirage flooring)
- Any problems related to the use and installation of the membrane or accessories

**Mirage Technical Service Department**  
**1-800-463-1303**  
[technical@miragefloors.com](mailto:technical@miragefloors.com)