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## Testing Concrete Substrates

Before direct glue-down, double-glue down and some stretch-in (non-porous cushion or carpet) installations, the owner or general contractor, or their designated testing agent, should submit to the flooring contractor a written report on the moisture and alkalinity conditions of the **Concrete Substrates**.

**Note:** It is recommended that qualified independent third-party testing agencies be used for determining moisture and alkalinity conditions of a concrete slab. Testing by an independent third party specialist to determine installation suitability is a prudent and necessary safeguard for general contractors, owners, architects, flooring product providers and installation contractors to reduce the risk of concrete slab moisture related flooring problems

Due to the number of available carpet backing types and other variances to be addressed in a successful installation, the testing agency, or individual, should consider contacting the carpet and adhesive manufacturer for specific guidelines relative to the appropriate moisture and pH testing protocol(s) to be conducted before the carpet installation. The testing should conform to the appropriate ASTM standard(s).

### Moisture Vapor Emission Rate (MVER) Testing

MVER tests should be conducted in accordance with the latest edition of ASTM F 1869, "Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride."

### Relative Humidity (RH) Testing

Testing for internal relative humidity of concrete slabs should be conducted in accordance with the latest edition of ASTM F-2170, "Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes."

### Testing for Alkalinity

Testing the pH at the surface of a concrete slab should be conducted in accordance with the latest edition of ASTM F 710 "Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring".

**Note:** Preparing the surface of a concrete slab for pH testing can be problematical. Make sure the concrete surface is adequately cleaned of adhesives, curing compounds etc. When pH readings are less than 8.5, it may be an indication of a residue remaining on the concrete surface. Also use care not to over-clean the surface of the concrete, consequently removing the (usually) thin layer of carbonation. This can result in pH readings >12.



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**Caution:** The results obtained from testing reflect only the condition of the concrete floor at the time of testing. Further, it is highly recommended that the test site or building be at the same temperature and humidity expected during normal use. It is critical that these conditions be maintained 48 hrs prior to, and during testing. The installation of a permanent, effective moisture vapor retarder with a minimum thickness of 0.010 inch and a permanency of 0.1 perms, as described in ASTM Specification E 1745, may be specified for all on-grade or below-grade concrete floors.