**Concrete Moisture Testing**

Depending on the concrete formula, thickness of the slab, temperature, humidity and other factors, it may take from 21 to 45 days for the slab to reach sufficient compressive strength to be referred to as "cured". However, a slab that is "cured" is not necessarily "dry". Long after concrete has cured, it will continue to emit moisture vapor emissions. Before proceeding with the installation of any athletic flooring system over a concrete sub-base, proper moisture tests must be conducted. Moisture testing is essential in determining whether the slab is sufficiently dry, and if the current conditions are conducive to optimal performance and bond strength of the specified adhesives.

It remains the responsibility of the general contractor or owner to deliver a slab that meets project specifications. For conducting moisture testing prior to installation, it is recommended to utilize third party testing professionals, as these agencies will ensure all testing is performed following specified guidelines, that results obtained are documented as well as archived, and will be effectively distributed to project representatives. While third party testing agencies remain the best source of expertise for professional moisture testing, we recognize that current industry practices show the flooring contractor often performs said tests before installing an athletic flooring system. Regardless of the selected route, moisture testing must be conducted following the specified method(s), results must be properly documented and archived, followed by a timely distribution of these documented results to all those concerned. Furthermore, results are only recognized as "valid" at the time of testing, as moisture levels and vapor emissions may change over time. Possible future changes in the slab's moisture are unpredictable and will depend on various factors, such as climatic conditions. Moisture related issues and failures are often costly and rarely covered by the athletic flooring system's warranty; as such, the best defense remains a proactive approach in determining and understanding the conditions of the jobsite, and effectively addressing and correcting issues as they present themselves. Installation of the athletic flooring system will not begin until moisture vapor emissions are within the specified tolerances, and any moisture related issues have been corrected. Moisture related issues include, but are not limited to, pH and/or alkalinity. High alkalinity is often an indicator of excessive vapor emissions.

Most athletic flooring manufacturers today recommend following ASTM (American Society for Testing and Materials) standard test methods for conducting moisture tests. ASTM has standardized various testing methods on the subject, but some manufacturers may prefer or suggest a specific method. As such, it is essential to refer to the respective athletic flooring manufacturer's specifications to determine which method is required for the flooring system that has been specified. Generally, manufacturers will suggest one or both of the following test methods:

- ASTM F1869-09: Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- ASTM F2170-09: Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In Situ Probes.

Visit www.astm.org for updates on current standards, as well as related references such as ASTM F710-08 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.

*Differences in site conditions require variations in construction and repair methods and materials. Readers are advised to consult a qualified contractor or design professional before undertaking construction or repair of an indoor facility. Rev. 02/16.*

*The above recommendations are provided for general guidance only and are not meant to supersede Manufacturer instructions. The enclosed guidelines and requirements apply to both new construction and renovation projects, and therefore apply to concrete slabs of all ages. Differences in site conditions require variations in construction and repair methods and materials. Readers are advised to consult a qualified contractor or design professional before undertaking construction or repair of an indoor facility. Rev 02/16*