

Product Data / Standards

What international standards does Armstrong Commercial flooring meet?

Globally there are many other consensus organizations developing standards. These include, but are not limited to : Standards Association of Australia/New Zealand, American Society of Testing and Materials, British Standards institution, Japanese Standards Association, European Committee for Standardization, Deutsches Institute fur Normung, Chinese National Standard, Japanese Industrial Standard, National Center for Quality Supervision & Testing of Fire Building Material (PRC).

Armstrong tests their commercial flooring materials to meet standards of the respective countries in which these materials are sold. Please consult the Armstrong sales representative or sales office in the country of interest for details on applicable specifications.

How do resilient floors affect sound transmission?

Transmitted impact-noise specifications for floor/ceiling assemblies are generally written in terms of Impact Insulation Class, which measures impact sound transmission through floor/ceiling assemblies via a tapping machine.

Resilient flooring products will not subdue reverberant noises originating from such sources as typewriters, telephones and conversation. Resilient floors, as with other flooring materials, will have little effect on airborne sound transmission between contiguous rooms. Therefore, flooring materials do not significantly reduce the Sound Transmission Class (STC), which is a rating of airborne sound transmission loss of the floor/ceiling assembly or the partitions.

What is AS/NZS 1530.3:1999 “Methods for Fire Tests on Building Materials, Components and Structures – Part 3: Simultaneous Determination of Ignitability, Flame Propagation, Heat Release and Smoke Release”?

In this test, a vertically mounted floor covering system is subjected to an increasing intensity of radiant heat, simulating that which could be experienced during the early development of a building fire. The floor covering system moves towards the vertically mounted gas-fired ceramic panel, in steps, over a period of 20 minutes or until ignition (induced by a pilot flame) occurs.

What is ASTM E 648, Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source (Flooring Radiant Panel Test)?

In this test, a horizontally mounted floor covering system is exposed to radiant energy from a gas/air fuel radiant panel mounted above one end of the sample and inclined at a 30 degree angle. The radiant panel generates a heat profile along the length of the sample. A gas-fired pilot burner is used to ignite the sample, and the distance the floor covering system burns to extinguishment is converted to watts per square centimeter (watts/cm²). This value is reported as the Critical Radiant Flux (CRF) and is the minimum radiant energy needed to sustain flame propagation in the test. A CRF of 0.45 watts/cm² or more, Class I rating, may be requested for floor finish materials installed in corridors and exits of certain buildings, such as health care facilities.

What is ASTM E 662, Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials (Smoke Obscuration Test)?

Smoke obscuration is measured in the Smoke Density Chamber. Inside this chamber, a specimen is exposed to either radiant heat (non-flaming condition) or radiant heat in combination with a pilot flame (flaming condition). The result is expressed as a maximum Specific Optical Density, as determined by the amount and density of the smoke emitted from the specimen.

How do resilient floors affect the impact-sound generated?

The sounds of floor traffic and dropped objects are important when considering types of flooring materials. The cushioning of impacts reduces the generation of airborne sound within the room and the level of sound that can be transmitted to adjacent areas. It also minimizes the transmission of impact-generated, structure-borne noises throughout the building. In multifamily dwellings the transmission of impact-generated noise is of primary concern. Resilient flooring, in general, “gives” under the impact of footsteps, dropped objects and rolling loads. The resilience helps to reduce traffic noise. In comparison with other hard-surfaced flooring (wood, marble, ceramic, concrete, metal), resilient floors are low noise producers.

Performance Criteria

What is resilience?

Resilience is a property involving the elastic energy in a material, which causes it to regain its original shape, after having been indented by a high pressure load.

What types of loads affect resilient flooring?

Impact loads are those momentary indentations like those produced from walking traffic. These impact pressures are high (often as much as several thousand kilos per square centimeter), and the smaller (or sharper) the impact area, the more damaging the indentation.

Static loads are any load remaining in a stationary position for long periods of time. Static load limit values have been established to aid in the selection and protection of resilient flooring for use under these conditions.

Newly installed floors should not be exposed to routine rolling loads (carts, trolley jacks, etc.) for at least 72 hrs. after installation to allow setting and drying of adhesives. The bearing surface area of wheels is deceptively small, resulting in higher compressive forces than may be anticipated. Therefore, when moving heavy fixtures or appliances over resilient flooring on casters or dollies, the flooring should be protected with ¼” or thicker plywood, hardboard or other underlayment panels.

How can you determine the durability of resilient floors?

To determine the durability of resilient flooring as related to traffic wear, it is necessary to take many factors into consideration. These factors should include: abrasion resistance, resistance to gouging, punctures, cuts, and impacts, as well as, rolling and sliding (dynamic) loads and standing (static) loads. Armstrong commercial resilient flooring is manufactured in a variety of durable, long wearing structures. Each structure offers it’s own unique design and performance characteristics.

Are Armstrong's vinyl floors affected by UV (ultraviolet) light?

Armstrong's vinyl floors are formulated for light resistance. However, exposing vinyl floors to high intensity UV light through large windows or doors can cause UV degradation. Armstrong resilient floors are not recommended for outdoor installations.

Installation Information

Why should I use Armstrong Installation Products to install Armstrong floors instead of some other brand?

Because Armstrong provides a system of installation products, seam sealing products and maintenance products that have been completely and thoroughly tested to work with the floor structure. Believe it or not, there is a well-advanced science in the study of resilient floor covering performance dynamics which drive the development of installation, seam treatment and maintenance products. Each product has its own unique performance characteristics. Therefore, you need an adhesive that has been specifically designed to overcome those performance attributes. To use an adhesive that has not been designed specifically for these types of floors creates the opportunity for catastrophic failures.

What is meant by pot life?

Pot life is the amount of time a product, which must be mixed, remains workable in the original mixing container. This is generally applicable to two-part epoxies and polyurethanes.

What is the minimum acceptable temperature for the storage of flooring and installation materials?

Store all materials in a dry area out of direct sunlight, rolled face out on a core and standing upright. If it becomes necessary, the rolls may be stored on end in an unheated warehouse at temperatures between 30°F (-1°C) and 85°F (29°C) as long as they are protected from the weather, the area is dry and out of direct sunlight, and free of internal combustion (exposure to exhaust from gas or oil combustion in the form oxides of nitrogen can lead to warehouse yellowing especially in residential flooring). Allow all flooring materials and adhesives to condition to the room temperature before starting the installation. Materials must be stored indoors in a heated space protected from the weather and maintained at a minimum temperature of 65°F (18°C) and a maximum temperature of 100°F (38°C) for at least 48 hours before installation.

How long after an installation should a floor be protected from rolling loads?

Newly installed commercial flooring should not be exposed to routine rolling load traffic (carts, trolley jacks, etc.) for at least 72 hours after installation to allow setting and drying of adhesives. If rolling loads cannot be avoided, protect the installation for 72 hours after installation by covering with wood panels.

Subfloor Preparation

What type of moisture conditions exist that can cause problems in resilient flooring installations?

Concrete Floor Moisture – Concrete floors directly in contact with the ground are never completely dry. Also, the moisture content of new concrete is high, regardless of grade levels. Resilient floors may be seriously affected when installed directly over concrete which is not sufficiently dry.

Wood Floor Moisture – Wherever a wood floor is constructed over an inadequately ventilated crawl space, resilient floors are not recommended. Crawl spaces must be at least 450mm high and cross ventilated. Wood floors constructed on sleepers directly over on-grade or below-grade slabs are susceptible to ground moisture penetration. Such moisture is trapped under the resilient flooring, resulting in deterioration of wood fiber. For this reason, resilient floors are not recommended for installation over this type of subfloor.

Surface Moisture – Resilient floors may be installed in areas where excessive moisture may be spilled on the floor. Providing that the correct adhesive has been used and the floor has minimal seams, there will be no damage to the floor. However, water should be mopped up immediately, and the floor should never be intentionally flooded.

What is meant by porous and nonporous in relation to subfloors?

A porous substrate is one that is capable of absorbing water or liquid, such as concrete or wood. Liquid beads up on the surface of nonporous floors. These are typically existing resilient flooring. If there is any doubt as to porosity of the substrate, it can be checked easily by placing a few drops of water on the surface. If the water is quickly absorbed, the substrate is porous. If the water beads up and remains on the surface, the substrate is nonporous.

What is meant by grade level?

Grade level, when speaking of resilient flooring, is where the flooring will be installed in relation to the ground around the building. A suspended or above-grade subfloor is one that has a minimum of 450mm of well-ventilated air space beneath it. This could be over the basement, but in some homes, this could be over a crawlspace. An on-grade subfloor is one that is in direct contact with the ground or over a fill that is in direct contact with the ground. A below-grade subfloor is one which is partially or completely below the ground surrounding the building and is in direct contact with the ground or over fill which is in direct contact with the ground.

What is the most common moisture test method?

The “electric probe” test is the most common and one of only two methods recognised by Australian Standards AS 1884-1985 Appendix A5 (Electrical Resistance Test). A resistance meter, connected to electrodes that have been inserted into conductive jelly filled holes drilled in the concrete subfloor, is used to measure the moisture content. Dryness shall be considered satisfactory when moisture content does not exceed 5.5% as determined by the apparatus.

How can you remove curing agents from a concrete slab?

Terrazzo or concrete grinder, drum sander or a polishing machine equipped with a heavy-duty wire brush.

What is a good paint remover for concrete subfloors?

A good paint remover for concrete subfloors is a solution of trisodium phosphate and hot water. Paints with a chlorinated rubber or resin base that cannot be removed by trisodium phosphate may be removed by grinding with a concrete or terrazzo grinder. Armstrong does not recommend the use of solvents to remove paints or old adhesive residues because the solvents can remain in the concrete and negatively affect the new installation.

Is staining from a construction adhesive covered under the Armstrong warranty?

No. Stains of this nature are not covered under any Armstrong Warranty.