

Chapter 4

Subfloors, radiant heat and existing flooring

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material. If these contaminants are present on the substrate, they must be mechanically removed prior to installation of the flooring.

- Caution, certain floor sweeping compounds may contain waxes, oils, and/or other substances that can adversely effect the adhesive bond, check with the sweeping compound manufacturer for assurances of suitability and non-contamination.
- The surfaces of the concrete shall be flat to within the equivalent of 3/16" in 10 ft, per ASTM F710.
- Concrete must have a minimum compressive strength of 3500 psi.
- Lightweight concrete (less than 115 lbs per cubic foot) may be unsuitable for covering with resilient flooring.
- Gypsum based substrates and underlayments may be unsuitable.

Control joints and expansion joints

There are two types of joints in concrete. The first type is called a control joint and is saw cut into fresh concrete to "control joint" the slab during the curing process. These, along with and other non moving joints, should be vacuumed cleaned then filled with an elastomeric compound or an acceptable portland based leveling compound.

An alternative would be to install a joint cover strip when there is a potential of control joints showing through the finished flooring.

The second, and most difficult type of joint, is an actual "expansion joint." Most flooring manufacturers do not recommend bridging these joints with their material.

Altro does not recommend that flooring products be installed over joints designed for continued movement we recommend the use of appropriate expansion joint cover.

4.4 Metal subfloors

Suitable metal substrates may include:

- Clean, rigid steel
- Primed steel
- Steel diamond plate
- Galvanized steel
- Lead
- Metal subfloors must be clean, rigid, and free from all rust, oil, grease, coatings and all other contaminants.
- Diamond Plate will require a smoothing and leveling compound be used; please consult with your local underlayment/patch company for appropriate product recommendations and statement of product suitability.
- In certain circumstances lead as a subfloor may be

too soft for the intended use.

- Cleaning/preparation may consist of sanding, grinding, cleaning with TSP (trisodium phosphate), and priming with red oxide primer such as Rust-OLEUM®.
- Joints can be filled and made smooth using AltroFix 30/31 two-part polyurethane adhesive when the finished flooring is to be installed with the same two-part polyurethane adhesive.
- In some instances (such as certain coolers and freezers), when metal panels are prone to movement, Altro Everlay "A" sheet underlayment will be used to allow the installation of finished flooring.
- Final determination of the suitability rests with the flooring contractor.

4.5 Radiant heat subfloors

Altro flooring and underfloor heating

In the past, Altro used to recommend a maximum figure for underfloor heating of 85°F (30°C) without any reported problems. However, due to the concerns of flooring manufacturers that some underfloor heating systems could operate at up to 95°F (35°C), Altro recommends that the following guidelines be followed.

- Before any floor covering is installed, the heating system should be commissioned to ensure it is functioning correctly, and to ensure the substrate and screed is dry and in a stable state to receive the flooring. When the subfloor/screed containing the heating system has been laid, cured and dried, prior to installing the flooring, it should be heated very slowly to its operating temperature and maintained for several days before cooling down to room temperature, but not below 60°F (15°C).
- Ensure that the underfloor heating is switched off 48 hours prior to the floor covering installation commencing and remains off for at least 48 hours after the installation is complete.
- The temperature of the heating system should be increased gradually over a number of days, by only a few degrees per day, until the desired room temperature is reached. The temperature at the underside of the floor covering, i.e. the adhesive line, should never exceed the maximum of 80°F (27°C).
- During the period of decommissioning and shutting down of the underfloor heating system, an alternative heating source should be provided, if required, to ensure that the area of installation is kept at a constant temperature between 65°F (18°C) - 80°F (27°C).

Failure to follow these guidelines can result in the floor covering de-bonding, joints opening, and on some occasions discoloring. All of which can occur within a long or short period of time.

Altro adhesive-free flooring and underfloor heating

Altro adhesive-free flooring can be installed over underfloor heating which has been installed in accordance to Altro's recommended guidelines and switched off for a period of 48 hours prior to commencement of installation. Upon completion of the flooring installation, the underfloor heating is switched on and gradually increased in temperature over a number of days by 5 degrees per day until the desired temperature is reached. The temperature should not exceed maximum of 80°F (27°C) at the underside of the floor covering.

If the heating has not been commissioned, upon completion of the flooring installation the underfloor heating should be switched on and gradually increased in temperature over a number of days by 5 degrees per day until the desired temperature is reached. The temperature again should not exceed the of 80°F (27°C) at the underside of the floor covering.

Notes

4.6 Existing flooring and adhesive residue

- Altro recommends removal of all existing flooring whenever possible; however in certain circumstances it may be possible to install over an existing floor. Please consult the following information as well as with your local Altro distributor.
- Altro floor covering may be installed over existing flooring surfaces such as terrazzo, epoxy, ceramic tile, quarry tile, metal floors, and in certain cases resilient floors and VCT, provided they are dry, well bonded, sound, smooth, and free of waxes, polishes and/or any other foreign materials.
- When going over existing flooring, moisture testing must be performed per applicable ASTM standards. Partial removal of the existing flooring may be required to facilitate moisture testing.
- Do not install over cushion-backed, heavily embossed, or multiple layers of flooring. Installations over existing resilient flooring will be more susceptible to indentation, and there is the possibility that the existing flooring will telegraph through.
- The responsibility of determining if the existing floor is a suitable subfloor rests solely with the installer and flooring contractor. If there is any doubt, the existing floor should be removed.
- Caution must always be exercised when removing old flooring or adhesive residues as they may contain asbestos or harbor mold and mildew. Consult with your local authorities regarding to laws pertaining to removal. Also consult RFCI's Recommended Work Practices for the Removal of Resilient Floor Coverings at the Resilient Floor Covering Institute website at: www.rfci.com.
- Do not install resilient flooring directly over residual adhesive or paint. All adhesive and paint must be mechanically removed to a thin well-bonded residue.
- In situations where existing flooring adhesive was removed chemically, one of the following conditions now exists. Since there are known concerns with the chemical abatement process, including the following; (1) once the chemical is present in the substrate it cannot recognize the difference between the old adhesive and the new adhesive, (2) it is considered a penetrant and there is no way to know how deep into the substrate it could have penetrated due to porosity, (3) there is no way to tell (in a short term test) if the substrate has been neutralized or rinsed (abatement chemical removed) well enough to accept new adhesive.
- Only use mechanical means to remove old residual adhesive, i.e. bead blasting or scarifying. Solvent/citrus based adhesive removers are unsuitable. Follow The Resilient Floor Covering Institute's (RFCI) "Recommended Work Practice for Removal of Existing Floor Covering and Adhesive", and all applicable local, state, federal and industry regulations and guidelines. When removing asbestos and asbestos containing materials, follow all applicable OSHA standards.