

# OPERATING TEMPERATURES

## An overview of operating temperatures and Polyflor Vinyl Flooring.

### 13.1 OVERVIEW

The full range of Polyflor and Polysafe sheet vinyl floor coverings can be used under a wide range of service temperatures.

**Maximum upper temperature 60°C (140°F)**

**Minimum lower temperature -20°C (-4°F)**

Use in such extreme conditions is dependent upon the correct selection of adhesive. Guidance should be sought from the adhesive manufacturer for approval of the adhesive at the expected temperatures. Typically, an approved two-part epoxy or polyurethane adhesive should be used in the main field, and a contact adhesive for vertical applications.

It is important that the materials be conditioned and installed at normal room temperatures: 18°C (65°F). The material should be fully adhered to the substrate, taking care to ensure that there are no unsupported voids beneath the vinyl. In these types of installation, and where site coving is specified, then a pencil cove should be used, and not one with a cove former. All joints should be hot welded 24 hours after installation and before the installation is taken to the service temperature.

Polyflor and Polysafe ranges can both withstand occasional sudden changes in temperature caused by short-term contact with hot water and steam. Long-term or regular contact should be avoided. Where there is a possibility of regular contact with liquid gases, which are extremely cold, the constant expansion and contraction of the vinyl may cause premature failure. In these instances, laying a second piece of vinyl loose laid on top of the floor as protection can be beneficial. This can be easily and economically replaced should it be damaged.

### 13.2 UNDERFLOOR HEATING

All Polyflor and Polysafe vinyl product ranges can be installed over underfloor heating, with the following recommendations:

- ▶ The system should be fully tested and commissioned prior to the flooring installation commencing to ensure the heating system is operating correctly.
- ▶ Underfloor Heating systems should be switched off and be fully cooled for a minimum of 48 hours prior to the installation commencing. The system should remain off and fully cooled during the installation and for a minimum of 48 hours afterwards. It should then be slowly brought back up to the working temperature incrementally over several days.
- ▶ A maximum subfloor temperature; (at the adhesive line) of 27°C should never be exceeded.
- ▶ Specialist high temperature adhesives should be used in areas with underfloor heating, direct sunlight, and areas of high solar gain. Please refer to the Polyflor Approved Adhesive List or contact your adhesive manufacturer for more information.

### 13.3 AREAS SUBJECTED TO PROLONGED SUNLIGHT

#### KEY POINT

Polyflor floor coverings are designed for **internal** usage only. We cannot guarantee the performance of any of our floor coverings in external environments.

Large, sun-facing windows (especially where under-floor heating is in use) and conservatories can experience problems due to high daytime temperatures and low night-time temperatures.

- ▶ Ensure that an even day and night temperature is maintained during the laying period and until the adhesive reaches its full bond strength, which is normally three days.
- ▶ To achieve the best results, shade all windows, turn off any underfloor heating, provide background heating at 18°C and select an epoxy or polyurethane grade adhesive.
- ▶ Condition the tiles correctly prior to installation. Polyflor will not accept responsibility for any expansion or shrinkage problems, which may result from changes in temperature during the period when the adhesive is reaching full bond strength.

### 13.4 PROTECTION FROM RADIATED HEAT SOURCES

The Polysafe range of floor coverings is often specified in situations where excessive heat causes problems with the floor covering and the adhesive. It is impractical to give specific details, as equipment such as ovens and kilns vary in design and height above the flooring material.

Where the conditions may cause a problem, we would recommend the use of metal trays to deflect the heat away from the floor, and an adhesive suitable for these conditions, such as an epoxy or polyurethane. If you are unsure, we recommend that you discuss the application with the **Polyflor Customer Technical Services Department (CTSD) on +44 (0) 161 767 1912.**