

# **PERMANENT INSTALLATION INSTRUCTIONS FOR HARLEQUIN CASCADE FLOORING**

## ***CASCADE***

Harlequin Cascade is a contract quality sheet flooring: it is a composite of plasticized PVC (polyvinyl chloride) sheets and incorporates a woven glass fibre interply for strength and dimensional stability. Supplied in rolls, it is suitable for loose-lay or permanent installation. The product comprised PVC resins, plasticizers, pigments and a glass fibre interply.

## **PREPARATION FOR PERMANENT INSTALLATION**

Prior to laying, unroll the rolls and allow to "relax" for at least 48 hours at a temperature not less than 15.5C (60F). In the case of porous or over-absorbent subfloors it is advisable to apply an undercoat, bonding agent or a suitable leveling compound not containing gypsum having sufficient resistance to point loading such as Ardex K15, Feather Finish or Mapei Fine Finish. Anhydrite and plaster coatings should be treated with primer. The leveling compound should be applied at least 1/16 inch thick.

## **SUBFLOOR HEATING**

In the case of inbuilt subfloor heating or off peak storage heaters, these should be switched on at least 10 days before installation and heated to maximum temperature.

Special attention should be paid to built-in heating pipes and boiler rooms situated below the rooms in which the floor coverings will be installed. In such cases, the same permissible moisture content of the subfloor applies as for the subfloor heating.

## **DETERMINATION OF THE MOISTURE CONTENT OF THE SUBFLOOR**

The moisture content of the subfloor should be determined with a CM-meter or calcium chloride test for massive subfloors and with a timber moisture measuring device for timber subfloors (see table on the next page for the maximum permissible moisture content). In the case of massive subfloor, the moisture testing should be carried out at various depths and should not exceed the maximum permissible moisture content.

## **MAXIMUM PERMISSIBLE MOISTURE CONTENT**

Cement screed	2.5%
In case of ceiling or radiant heating	1.8%
Cement coatings containing pumice	3.5%
Cement bonded cold bitumen emulsions	2.8%
Anhydrite top coatings less than	0.8%
Anhydrite absorbent coatings	0.5%
Plaster coatings less than	1.0%
Magnesite top coatings	6.0% - 8.0%
Poured asphalt	none
Timber subfloor	8.0% - 12.0%

The above values are based on experience, and must be understood as general indications only. No liability can be accepted therefor. The conditions are different for all circumstances and should be precisely investigated in advance (a small test run should be made, when in doubt).

### **ROOM TEMPERATURE**

The room temperature for installing Harlequin floors should not be less than 60 to 75 degrees 48 hours prior to, during, and 48 hours after installation.

### **PRE-INSTALLATION**

Before installing, the individual sheets should be checked in good light for uniformity of color, and if necessary they should be switched around. In the very unlikely event of pronounced color differences or other irregularities, American Harlequin Corporation should be contacted before cutting rolls.

When cutting the sheets of Harlequin floorcovering to the required lengths, add an amount of 1% longer than required. An exact fitting of the sheets should only be effected approximately 24 hours later.

### **SUBFLOORS**

#### *Concrete Surfaces*

It is essential to incorporate a moisture barrier beneath newly-constructed concrete slabs on or below grade. Concrete or the finished screed must be smooth, level, dry, clean, and fully cured (at least 28 days) before installation. It must be free of excessive alkaline salts, and unevenness should be remedied with a latex-based underlayment according to manufacturer's instructions. Test all slabs with an industry-approved moisture meter before proceeding with the installation of the flooring.

## ***Wood Subfloors***

In the case of wood subfloors, an appropriately conditioned layer of flooring grade plywood or hardboard should first be installed. The edges of the hardboard or plywood should not coincide directly with the tongued and grooved joints. In the case of wood subfloors a sufficiently large wall clearance should be maintained. Masonite™ is not a suitable substrate for Harlequin floors.

All plywood must be firmly fixed to the joists, and nail heads set below the surface; bad cracks and depressions should be filled with a latex-based leveling compound which must be laid in accordance with the manufacturer's instructions. A 1/4" APA flooring grade underlayment will then ensure a first class surface and will also counteract any possible movement of the floor. Sheets of plywood should be mechanically attached at 100mm (4") centers, and primed.

## **INSTALLATION INSTRUCTIONS**

- A) Unroll the sheet material and allow it to relax at least 48 hours before cutting and fitting.
- B) When cutting rolls of Harlequin flooring, be sure to measure the entire length of the roll. When cutting sheets of the floor, add an amount of 1% longer than required. Harlequin will not be responsible for discrepancies once a roll has been cut.
- C) Cut and fit material by using underscribing.
- D) Keep knives sharp and all installation tools in good working condition.
- E) After the sheets have been cut to fit and are placed in their final position, turn half the length of the first sheet to be installed towards the center of the room. Spread the recommended adhesive over the exposed substrate and allow to set until it becomes slightly tacky. Next, place that half of the sheeting into the adhesive while using both hands to gently roll the sheeting into the adhesive. Do not drop the sheeting into the adhesive as air could become entrapped.
- F) Next, turn the uncemented half of the first sheet over and then spread the recommended adhesive over the entire area.
- G) Check carefully for adhesive transfer. In addition, remove excess adhesive where necessary.
- H) Proceed with the installation as outlined above with each sheet until all sheets have been laid.
- I) After all Harlequin sheeting has been installed, the seams should be either welded by liquid seam sealer or heat welded.

## HOT WELDING

It is sometimes possible with Harlequin floors to butt together adjacent sheets to form seams which are good enough to weld: if not (and always the case with cross joins), "double cutting" is necessary. Overlap the sheets by about 13mm (1/2") and cut through both sheets using a straight edge and sharp blade. This forms the hairline joint which is suitable for heat welding or cold solvent welding. When Harlequin flooring is permanently laid we always recommend that the seams are welded.

Before welding allow at least 24 hours for the adhesive to set. Then using a grooving tool form a U-shaped groove to about two thirds the depth of the wear coat: avoid grooving into the foam backing or an inadequate weld will be formed. A manual or automatic PVC flooring hot air gun is used to feed the matching or contrasting color Harlequin 4mm diameter welding rod into the groove at a speed of 1-2 meters (3'-6') per minute.

Heat from the hot air nozzle can cause a slight glossy disfigurement to the special surface of Harlequin floors.

Wait until the weld has cooled to room temperature, then remove the excess weld bead using a trimming spatula. If the bead is trimmed when it is hot, the weld will cool and shrink below the floor surface.

### AN IMPORTANT NOTE ABOUT ADHESIVES

A good quality adhesive, either an acrylic dispersion type, or having regard to local or national regulations a solvent-based synthetic rubber/resin contact adhesive must be used and we recommend the use of Mapei ECO 810, Mapei ECO 350, or W.F. Taylor #2091. **Whereas we unreservedly recommend the use of these adhesives, we are willing to look at those of other manufacturers. We cannot accept any liability for the use of adhesives which do not have our prior approval.** Use all adhesives strictly in accordance with the manufacturer's instructions. Failure of adhesive is the responsibility of the adhesive manufacturer.

## **COLD WELDING**

This is a procedure of injecting a PVC solvent into the hairline joins of the flooring. The solvent dissolves and fuses the adjacent sheets to form an impervious joint. Grooving is not carried out. A point to note is that excessive application will result in solvent fluid running onto the surface of the Harlequin flooring: damage from this can be prevented by first applying 25 mm (1") paper masking tape along the seams, then carefully slitting along the seam with a sharp blade. Remove the masking tape when the weld has set, i.e., about one hour.

If you have any questions regarding Harlequin floors, their installation and maintenance, please ask for Technical Service.

**American Harlequin Corporation**  
**1531 Glen Avenue**  
**Moorestown, New Jersey 08057**  
**Telephone: (856) 234-5505**  
**Fax: (856) 231-4403**  
**Toll Free: 800-642-6440**  
**[www.harlequinfloors.com](http://www.harlequinfloors.com)**  
**[dance@harlequinfloors.com](mailto:dance@harlequinfloors.com)**