

THE USE OF MOVEMENT ACCOMMODATION JOINTS IN CERAMIC FLOOR TILE INSTALLATIONS

The British Standard relating to floor tile installation is B.S. 5385 Part 3 : 1989. The following notes are intended to act as a guideline and are derived from the relevant sections of the standard.

When deciding upon the siting and type of movement joints numerous factors have to be taken into consideration. These include:

- Building materials used in construction
- Degree of temperature variation likely
- Risk of exposure to water or chemical agents
- Stability of the base structure
- Traffic density and weight loading to be encountered
- Floor type, e.g. suspended, floating, insulated, etc.

This list is **not** exhaustive and individual installations may involve factors specific to that installation. Because of this it is not possible to present a set of definitive rules regarding the use of movement accommodation joints.

There are, however, certain points that are common to most installations:

- Structural movement joints existing in the concrete base must be continued throughout any screed, mortar bed, adhesive bed and tile surface.
- In installations where opposing restraining surfaces occur more than 2 metres apart perimeter movement accommodation joints should be installed where the tiled floor surface abuts such surfaces. Restraining surfaces of this type include perimeter walls, columns or pillars, kerbs, steps and plant or machinery fixed directly to the concrete base.

Where opposing surfaces occur at distances of less than 2 metres it is not usually necessary to install perimeter joints unless the floor is exposed to extraordinary stresses, e.g. excessive temperature variation or long term immersion in water.

- In larger installations, where the distance between restraining surfaces exceeds 10 metres intermediate movement accommodation joints should be installed. These should be sited not more than 10 metres apart. Ideally, the distance between all joints installed (intermediate or perimeter) should be equal unless other features of the installation dictate otherwise.
- In order to equalise as much as possible the stresses encountered throughout a tiled floor protected by movement accommodation joints the ratio between the two sides of any protected area (field) should not exceed 2: 1.

In cases where this is not possible, e.g. corridors, the ratio between the sides of any field should be kept as low as practically possible with particular regard to the 10 metre rule outlined above.

- When pillars or columns are encountered it is good practise to install movement accommodation joints between them and extend these joints to meet the perimeter wall.
- If the design of an area to be protected includes external corners between adjoining walls it is good practise to install movement accommodation joints in the tiled floor continuing the line of at least one of the walls involved outwards to the perimeter wall.

B.S. 5385 Part 3 is specific that movement accommodation joints should be continuous throughout the screed, mortar bed, adhesive bed, tiled surface and where relevant the concrete base. **Schlüter®-DILEX-EP, Schlüter®-DILEX-MP+MPV, Schlüter®-DILEX-EZ** are designed for use in screeds whilst **Schlüter®-DILEX-BWB, Schlüter®-DILEX-BWS and Schlüter®-DILEX-KS** are used as surface movement accommodation joints.

There are circumstances, however, where tiles are to be fixed onto a screed into which no movement accommodation joints have been installed. In such cases it is recommended that at points where joints are required, in accordance with the above notes, the screed is machine cut and a suitable retrospective fit type joint installed. **Schlüter®-DILEX-EZ** and **Schlüter®-DILEX-MP+MPV** are designed for this application. **Schlüter®-DILEX-BWB, Schlüter®-DILEX-BWS or Schlüter®-DILEX-KS** surface movement accommodation joints can then be fitted into the tile surface directly over the joint in the screed in accordance with B.S. 5385.

If it is not possible or it is impractical to cut the screed in this way then it is recommended that surface movement accommodation joints (**Schlüter®-DILEX-BWB, Schlüter®-DILEX-BWS or Schlüter®-DILEX-KS**) be installed in the tiled floor to provide some protection. Under these circumstances it is advisable to reduce the distances between the joints to a maximum of 5 - 6 metres dependant upon the installation.

The Schlüter®-Systems range of movement accommodation profiles is the most extensive on the market and solutions are available to practically every problem likely to be encountered.

For further details of the range or to seek expert technical advice regarding any tiling installation please contact our Office.