

TECHNICAL OPINION

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Date of issue: October
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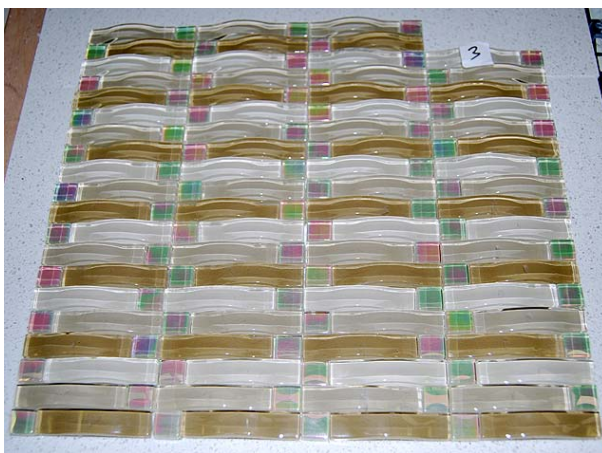
EXAMINATION OF DÉCOR 8 MOSAIC TILES

A sheet of mosaic tiles was received from Décor 8 for assessment of suitable adhesives when the tiles are to be used on interior bathroom walls.

Sample description

The tiles were described as 'Rubicon 3D' and were a combination of alternating 14x14x7mm and 61x14x7mm pieces on 308x298mm mesh sheets. The tiles themselves were pieces of transparent glass with a coloured backing which appeared to fritted glass (white on back). The larger pieces were bow shaped in the Z axis so that the centre section of the tile sat 7mm above the edges over 30mm of length.

The tiles were bonded with a clear adhesive onto a fabric mesh with 4x5mm hexagonal apertures. The estimated mesh coverage was 30-40% and adhesive coverage around 70% on the flat areas, but 0% on the bowed areas. The mesh over the bowed areas was detached and stretched across the void created by the bow.



Basis of opinion

The tiles were visually examined, and a section of three tiles was placed into water to determine properties of the mesh adhesive. The mesh adhesive did not dissolve or fail. It is not known whether the glass is an alkali resistant type.

Recommendation

The adhesive recommendation for these tiles are those normally given for glass mosaics used on internal walls.

However, the unusual shape of the tiles creates a problem with the adhesive bed thickness. The Australian Standard AS3958.-2007 states that for tiles used in wet areas, the achieved contact coverage must meet or exceed 90%.

If the adhesive is applied at such a thickness that full coverage of the entire tile back is achieved, it would need to be 7mm deep at the centres of the bowed pieces after the tiles are pressed into place (i.e. at least a 10mm notch trowel used). This would then result in the adhesive under the flat sections being pushed out and up into the gaps between tiles normally filled with the grout. This means more care is required to remove excess adhesive prior to grouting.

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Two further considerations with this type of tile would be related to:

voids behind the tile may be subject to mould growth were moisture penetrates through porous grout.

Build up of liquid behind the tile in the void may create diffraction and shadow effects due to the refractive index of the glass.

These limitations mean that the tile installer must make a comprise in the installation procedure to back butter the sheet to get adhesive into the void for full coverage, or use a high strength epoxy adhesive to account for the ~30-40% coverage achieved by notching the substrate only. An epoxy could also be used as a grout.

Recommendation cont.

A final consideration is that adhesive would need to be forced through the unsupported mesh to achieve contact coverage in the bowed section.

Standard adhesives that require full adhesive beds:

Applied over non-water proofed (porous) areas and not subject immersion;

Ardex D1

Ardex D2

Applied over waterproofed areas (Ardex approved waterproofing)

Ardex MPP

Ardex Optima

Epoxy adhesive which also is a grout

Ardex WA Epoxy—white

Certificate Conditions

Issue identified with achieving adequate adhesive contact coverage are outside of Ardex's control and no warranty or liability for problems related to this apply.

This certificate and recommendations apply only to the tiles described herein

This certificate has a period of validity of 24 months from date of issue

Where a specific site or installation is nominated, this recommendation only applies for that particular site

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