



Technical Data Sheet DesignEpoxy

DESCRIPTION

A 2-Part coloured epoxy grout for high chemical resistance and mechanically demanding durability. Easy to apply and clean up. Non-efflorescing and may be used as an adhesive and grout. Supplied in a convenient one pail kit with the colour pre-combined in part A and part B separate in the lid compartment.

CLASSIFICATION/STANDARDS

DIN 13888

RG Reaction resin grouts

DIN 12004

R2T Improved reaction resin grout with slip resistance

FEATURES

- ✓ High chemical resistance*
- ✓ Mechanically durable
- ✓ Resistant to high pressure cleaning
- ✓ Easy to Use
- ✓ Suitable for all tile types*
- ✓ Suitable for wall and floor application
- ✓ Fully submersible
- ✓ Very low dirt pick up, easy to clean giving improved hygiene
- ✓ Will not cause efflorescence

BEST FOR COMMERCIAL

- ✓ Walls and floors in interior and exterior applications
- ✓ Commercial kitchens
- ✓ Industrial areas
- ✓ Manufacturing environments
- ✓ Hospitals
- ✓ Water treatment plants
- ✓ High traffic areas
- ✓ Fully immersed or always wet (pools, showers, kitchens)
- ✓ Mosaic adhesive and grout for perfect colour
- ✓ Where hygiene and chemical resistance is critical
- ✓ Areas subjected to harsh cleaning or other chemicals

SUITABLE SUBSTRATES

- ✓ Concrete and render including green screed (1 day) and concrete (7 days)
- ✓ Fibre Cement
- ✓ Plasterboard
- ✓ Dampfix Gold, Dampfix 3 and Dampfix 2
- ✓ Timber

SUITABLE TILES

Compatible with all tiles (including moisture sensitive)*





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All workmanship must be carried out in accordance to AS3958 and good workmanship practices.

SURFACE PREPARATION

1. All surfaces must be clean, dry, free from dust, grease, wax, oil, laitance, curing compounds and all other contaminants likely to prevent the adhesive bonding.
2. Do not leave water standing in joints.
3. Do not clean tiles with acid cleaners.
4. Surfaces to be grouted or bonded must be between 10 to 35°C. The temperature should not drop below 10°C for 24 hours after application.
5. Suitable for joints of 1.5 to 12mm with a minimum joint depth of 2mm.
6. Test unglazed ceramic and porous tiles for cleaning first to ensure all product can be removed from the surface of the tile.

MIXING

This is a two part system - the correct ratio of part A to Part B is critical to achieve optimum product performance. Do not mix more product than can be applied in 40 to 50 minutes. For best results use a full kit. If the product is too thick to mix well due to low temperatures gently heat the product in a water bath to achieve a temperature of 20 to 25°C. When the ambient temperature is high, cooling the Design Epoxy in a water bath is recommended to prolong pot life.

Full kit mixing

1. Open both sections of the pail – Part B (hardener) in separate compartment and Part A (coloured resin) in pail.
2. Add Part B to Part A and mix for 3 minutes using a drill with suitable paddle.

Part mixing

For temperatures 20 to 25°C the mixing ratio is 3 parts A to 1 part B by volume.

1. Open both sections of the pail – Part B (hardener) in separate compartment and Part A (coloured resin) in pail.
2. Decant a known volume Part A into a clean container.
3. Measure 1 Part B by volume into a clean container. To calculate: Part A volume/3.
4. Add measured amount Part B to Part A and mix for 3 minutes using a drill with suitable paddle.

For temperatures below 20°C and above 25°C the mixing ratio is 3 parts A to 1 part B by weight.

1. Open both sections of the pail – Part B (hardener) in separate compartment and Part A (coloured resin) in pail.
2. Weigh a known mass Part A into a clean container
3. Weigh 1 Part B by weight into a clean container. To calculate: Part A mass/3.
4. Add measured amount Part B to Part A and mix for 3 minutes using a drill with suitable paddle.

GROUTING

- After mixing apply the grout using a squeegee or grout trowel. Work well into the joints. Remove as much excess from the face of the tile by trowelling diagonally across the joint. This will make the clean up easier.
- Do not use product that has started to harden in the pail. Mix a new batch.
- Wait until the grout has just started to stiffen before starting clean up. The grout may be cleaned as early as 1 hour at 20 to 25°C, low temperatures will take longer. The recommended clean-up time is between 1 to 5 hours.
- Using a damp (not wet) clean soft sponge, remove all remaining grout from the tile face. If a milkish colour starts to appear, this indicates the grout is still wet and not yet ready for clean-up.
- Rinse the sponge frequently with clean water. Allow the tile and joints to dry.
- After a further 30 – 60 minutes, repeat the clean-up process. Use a new, clean damp soft sponge
- Allow the tile and joints to dry. Inspect the surfaces for cleanliness immediately after the wash water dries. Any visible haze can be removed using damp soft sponge (warm water).

It is absolutely essential that the tiles are cleaned again and again with a clean soft sponge to eliminate haze. It is important that the haze be completely removed before the grout cures. This is particularly important on porous, unglazed, matte finish or textured tiles. It may be impossible to remove epoxy grout left uncleaned (or excess) on unglazed and textured tiles if left overnight.



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HAZE REMOVAL

If the recommended washing method is followed, it is unlikely that haze will appear. For cases that haze starts to appear, follow the following haze removal method (note: this only applies to glazed surfaces):

- Haze can be removed using warm water and white scouring pad.
- Wet the scouring pad with warm water.
- Lightly scrub the tile face until haze starts to disappear.
- The process may be repeated until the haze has been removed.
- It is important to do a spot test prior to full cleaning to ensure that it will not damage or scratch the tile.
- More than 2 day old haze may not be possible to remove haze. Chemical cleaning solution may be necessary to use. Contact Bostik Technical Services for advice.

TILE ADHESIVE

When using as an adhesive make sure the ambient conditions as well as the temperature of the substrate and tile are all above 15 °C and does not fall below 12 °C for at least 48 hours after bonding.

- After mixing, apply the adhesive to the prepared substrate using the appropriate notched trowel to ensure full bedding of the tile.
- Place tile onto wet adhesive and press tile firmly into adhesive before it skins. If skinning occurs, remove and apply fresh material.
- Periodically remove a tile to inspect bedding and adhesive transfer onto the back of the tile.
- Do not use product that has started to harden in the pail. Mix a new batch.

The product is best to use as adhesive and grout particularly for mosaics.

REPAIR OF DAMAGED OR WASHED OUT CEMENT JOINTS

An effective repair can only be achieved if the following conditions are met:

- a) The material is applied in the joint at least 2–3 mm thick
- b) ASA Design Epoxy grout bonds directly to the tile sides.
- c) The correct preparation is carried out (see below)

Preparation:

- Scratch, chisel or mill out the joints to a depth of at least 2–3 mm.
- Remove mortar residue from the tile sides.
- Thoroughly clean the joints using lime and grease dissolving cleansers. (Grease residues are particularly problematic as they act as a de-bonding agent.)
- Dry the joints (with compressed or hot air if needed)

Note: Ensure that the tiles are well bonded and sound. If needed re-bond any individual loose tiles. Individual tiles can be re-bonded with ASA Design Epoxy. For larger areas it should be determined why the tiles have de-bonded and suitable remediation must be carried out. If there is any uncertainty contact Bostik for advice before work commences.

LIMITATIONS*

- Read the Material Safety Datasheet before using.
- Refer to the DesignEpoxy chemical resistance chart to confirm chemical resistance.
- Ensure the parts are well mixed as insufficient mixing will affect performance.
- Ensure the surface is between 10 – 35 °C. Surfaces that have been heated significantly, by sunlight for example, should not be worked on.
- This product will be influenced by temperature. The reaction will slow down in cool conditions and will speed up when warm. Always account for this on the jobsite.
- Further service work such as installation of silicone, sealants, plumbing fixtures and others, must be made 24 – 48 hours (depending on ambient conditions) after applying the epoxy grout.
- The product contains aggregates that may possibly scratch delicate glazed or glass tile surface. Apply a small test area to determine the product's suitability.
- Design Epoxy grout is not a replacement for waterproofing membrane.



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- May slightly fade, darken or discolour from direct UV exposure in exterior conditions.
- Design Epoxy does not contain cement, thus it will not cause efflorescence. Any presence of efflorescence can be attributed to the tile adhesive, screed, or any other cement based material under the tile. It is important that the epoxy grout is well bonded and packed into the joints to prevent leeching out of water soluble salts from the cement based materials.
- It is recommended that tests be carried out to ensure the chosen clean-up method is suitable and all residues can be removed. This is especially important for unglazed or textured tiles.
- It may be impossible to remove epoxy grout left uncleaned (or excess) on unglazed and textured tiles if left overnight.
- It is recommended that Bostik's approved cleaning systems are used. Use of other manufacturer's epoxy cleaner may cause discolouration of the grout.
- If there is any uncertainty contact Bostik for advice before work commences.

COVERAGE

On-site coverage will vary widely as it is dependent on a large number of variables. These include but are not limited to: application technique, substrate texture, wastage, trowel angle, trowel wear, contact coverage and flatness.

The following coverage is intended as a guide only.

When used as a grout:

The material consumption can be calculated according to the following formula:

$$\frac{(A + B) \times C \times D \times 1.6}{A \times B} = \text{kg/m}^2$$

A = Tile length (mm)

B = Tile width (mm)

C = Joint width (mm)

D = Joint depth (mm)

When used as an adhesive:

Mixed Part A & B yields approximately 3 litres.

When used with a 10mm trowel, approximate coverage is 1.0 – 1.5 m²

CLEAN-UP

ASA Design Epoxy can be removed from tools and mixing equipment before initial set using a water. After initial set, the use of suitable epoxy chemical remover and/or mechanical removal is necessary. If allowed to harden (final set) it will be very difficult to remove without damaging the surface.

WORKING AND CURING TIMES:

Working life and curing of the product are very dependent on site conditions. The reaction will be faster when warm and slower when cool.

Approximate Working Times

Initial Cure (clean up)	1 – 5 hrs
Pot life	50 mins (20°C) 40 mins (30°C)
Setting time at 20°C	>6 hours (grout) >12 hours (adhesive)
Ready for foot traffic	16 hours (20°C) 48 hours (10°C)
Final cure time for full load	7 days (20°C) 14 days (10°C)
Commissioning of showers or any contact with water (as adhesive and grout)	7 days (20°C) 14 days (10°C)
Ready for continuous water immersion (as adhesive and grout)	7 days (20°C) 14 days (10°C)



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Chemical resistance

For complete list see
EpoxyGrout Chemical Resistance
Chart

Organic acids

Formic acid	5%
Lactic acid	20%
Citric acid	50%
Acetic acid	10%
Tartaric acid	25%
Oxalic acid	10%

Alkali

Potassium hydroxide	Conc.
Ammonia solution	
Caustic soda	Conc.
Sodium hypochlorite	

Solvents

Turpentine
Perchloroethylene
Glycerine

Fuels, oils

Gasoline
Hydraulic oil
Diesel oil
Engine oil
Heating oil, light and heavy

Inorganic acids

Chromic acid	10%
Hydrochloric acid	Conc.
Sulphuric acid	70%
Nitric acid	20%
Phosphoric acid	50%

Miscellaneous

Water aggressive to concrete according to DIN 4030
Cleaning agents
Disinfectants
Beverages

Technical data

Compressive strength

Approx. 60 N/mm²

Shear strength

Approx. 14 N/mm² (steel/steel)

Bond strength

Approx. 25 N/mm² (stoneware
/ stoneware)

E-modulus

4200N/mm² (Determined in
the bending test)

Specific Gravity

Approx. 1.6

Mixing ratio by weight

3 Part A : 1 Part B

Part A

Coloured resin in paste form

Part B

Hardener in paste form

SHELF LIFE AND STORAGE

Product will remain useable for 12 months from date of manufacture when kept in a dry store in the original, unopened containers. All material shall be stored under cover in a manner that will prevent damage preferable on pallets and protected from excessive heat and moisture and between 10 - 35°C. Do not freeze.

ORDERING INFORMATION

DesignEpoxy 1420 Queensland	5Kg	30606706
DesignEpoxy 1210 Antique white	5Kg	30606705

SEE THE SAFETY DATA SHEET FOR ADDITIONAL INFORMATION.

TECHNICAL SERVICES TOLL FREE NUMBER: 0508 222 272 (Land lines only)

SDS can be downloaded from www.bostik.co.nz

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Quality
ISO 9001



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