

PRODUCT DATA SHEET

SikaCeram[®]-401 RTA

TWO-PACK, EPOXY BASED, THIXOTROPIC TILE ADHESIVE

DESCRIPTION

SikaCeram[®]-401 RTA is a two-pack tile adhesive, based on epoxy resin. It is ideal for applications in areas demanding perfect cleanliness, high chemical and mechanical resistance. Suitable for use in hot and tropical climatic conditions.

USES

SikaCeram[®]-401 RTA is suitable for bonding of the following types of tiles:

- Ceramic and porcelain tiles
- Ceramic-, glass-, marble-, wood- made mosaic
- Hard natural stone
- Concrete tiles
- Fibre cement tiles

On the following surfaces, as tile adhesive indoor and outdoor, on floors and walls:

- Gypsum or cement based substrates
- Old tiles
- Concrete elements
- Hard natural stone
- Mortar, bricks, masonry
- Steel, iron, aluminium
- Wood
- Polyester, epoxy
- Glass
- Fiberglass reinforced plastic

PRODUCT INFORMATION

| | | | |
|----------------------------|--|--------------------|------------------|
| Product declaration | R2T class | | (EN 12004-1) |
| Composition | Epoxy resin, selected fillers and specific admixture | | |
| Packaging | Component A | Component B | A + B set |
| | 10 kg | 5 kg | 15 kg |

For the following areas of use:

- Swimming pools (including seawater pools), thermal pools, private and public bathrooms, GRP pools, fountains, etc.
- Kitchens, dairies, tanneries, paper-mills, laboratories of all kinds, slaughterhouses, professional kitchens, etc.

CHARACTERISTICS / ADVANTAGES

SikaCeram[®]-401 RTA has the following advantages:

- Easy to mix and apply
- Very good adhesion to most construction materials
- High strength adhesive
- Thixotropic: non-sag in vertical and overhead applications
- Hardens without shrinkage
- No primer needed
- High initial and ultimate mechanical strength
- Impermeable to liquids and water vapour
- Good chemical resistance
- Mould-inhibiting
- Solvent free as per German Association for construction chemicals

APPROVALS / CERTIFICATES

SikaCeram[®]-401 RTA follows the main requirements of EN 12004 / ISO 13007 class R2T and ANSI 118.3 and ANSI 118.8 for shear strength.

| | |
|--|---|
| Shelf life | 24 months from date of production |
| Storage conditions | Store in a cool, dry area in original sealed packaging and at temperatures between +5 °C and +30 °C. Protect from direct sunlight, heat and moisture. |
| Appearance and colour | Concrete grey Note: Other colours available on request, subject to min. order quantity |
| Solid content by volume | ~100 % Note: Total solid epoxy composition acc. to the test method Deutsche Bauchemie e.V. (German Association for construction chemicals) |
| Volatile organic compound (VOC) content | ≤ 65 g/l |

TECHNICAL INFORMATION

| | | | |
|--------------------------------|-----------------------|--|-----------------------|
| Shear adhesion strength | Value | Requirements EN 12004-1, class R2 | (EN 12004-2) |
| | Initial | ≥ 2 N/mm ² | ≥ 2 N/mm ² |
| | After water immersion | ≥ 2 N/mm ² | ≥ 2 N/mm ² |
| | After thermal shock | ≥ 2 N/mm ² | ≥ 2 N/mm ² |
| Slip resistance | Value | Requirements EN 12004-1, class T | (EN 12004-2) |
| | ≤ 0.5 mm | ≤ 0.5 mm | |

APPLICATION INFORMATION

| Mixing ratio | Component A : Component B = 2 : 1 (by weight) | | | | | | | | | | |
|--------------------------------|--|---------------------|----------------------------|------|------------------------|------|------------------------|------|------------------------|-----------------------|----------------------|
| Consumption | <p>Consumption and coverage depends on the surface profile and roughness of the substrate, size and reverse profile of the tiles and the placing technique (simple placing "floating" or back to back "buttering-floating"). As a guide for simple placing technique:</p> <table border="1"> <thead> <tr> <th>Required notch size</th> <th>Quantity of mixed material</th> </tr> </thead> <tbody> <tr> <td>4 mm</td> <td>~2.5 kg/m²</td> </tr> <tr> <td>6 mm</td> <td>~3.2 kg/m²</td> </tr> <tr> <td>8 mm</td> <td>~5.0 kg/m²</td> </tr> <tr> <td>Solid bed application</td> <td>~1.5 kg/mm thickness</td> </tr> </tbody> </table> <p>For small sized tiles (side ≤30 cm), use small squared notch size trowel (4-6 mm) and progressively increases for medium tiles (side ≤45 cm, trowel 6-8 mm) or large tiles (side ≤60 cm, trowel 8-10 mm) These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile, variations in level, wastage or any other variations. Apply product to a test area to calculate the exact consumption for the specific substrate conditions and proposed application equipment.</p> | Required notch size | Quantity of mixed material | 4 mm | ~2.5 kg/m ² | 6 mm | ~3.2 kg/m ² | 8 mm | ~5.0 kg/m ² | Solid bed application | ~1.5 kg/mm thickness |
| Required notch size | Quantity of mixed material | | | | | | | | | | |
| 4 mm | ~2.5 kg/m ² | | | | | | | | | | |
| 6 mm | ~3.2 kg/m ² | | | | | | | | | | |
| 8 mm | ~5.0 kg/m ² | | | | | | | | | | |
| Solid bed application | ~1.5 kg/mm thickness | | | | | | | | | | |
| Layer thickness | 3-10 mm on horizontal/vertical surface. When using multiple units, one after the other, do not mix the following unit until the previous one has been used in order to avoid a reduction in handling time. | | | | | | | | | | |
| Material temperature | SikaCeram®-401 RTA can be applied at temperatures between +25 °C and +45 °C. | | | | | | | | | | |
| Ambient air temperature | +25 °C min. / +45 °C max. | | | | | | | | | | |

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| Dew point | Beware of condensation. Substrate temperature during application must be at least 3 °C above dew point. | | |
| Substrate moisture content | Substrate must be dry or mat damp (no standing water) Brush the adhesive well into the substrate. | | |
| Pot Life | Temperature | Potlife* | Open time (EN ISO 9514) |
| | +25 °C | ~120 min | / |
| | +35 °C | ~ 70 min | / |
| | +45 °C | ~ 45 min | ~ 60 min |
| | *200 g The potlife begins when the resin and hardener are mixed. It is shorter at high temperatures and longer at low temperatures. The greater the quantity mixed, the shorter the potlife. To obtain longer workability at high temperatures, the mixed adhesive may be divided into portions. Another method is to chill components A and B before mixing them (not below +5 °C). | | |

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

IMPORTANT CONSIDERATIONS

- Protect from adverse weather conditions, such as extremely high or low temperatures, rain, direct exposure to sun, wind, etc. for at least 24 hours from application.
- Avoid application in direct sunlight.
- Always perform a test on cleanability and staining before bonding natural stone or any type of tile with absorbent or porous surface.
- Use a soft felt to emulsify the product while cleaning in case tiles with structured surface.
- Always perform a preliminary test on cleanability if applying on tiles in colour contrast.
- Do not partially mix. Mix only full sets.
- Do not add fillers or solvents.
- Contact Sika's Technical Department prior applying on metal or plastic substrates.
- For application above waterproofing layers, please contact Sika's Technical Department.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Mortar and concrete must be older than 28 days (depends on minimal requirement of strengths). Verify the substrate strength (concrete, masonry, natural stone).

The substrate surface (all types) must be clean, dry or mat damp (no standing water) and free from contaminants such as dirt, oil, grease, existing surface treatments and coatings etc.

Steel substrates must be de-rusted similar to Sa 2.5

The substrate must be sound and all loose particles must be removed.

SUBSTRATE PREPARATION

Concrete, mortar, stone, bricks: Substrates must be sound, dry or mat damp (no standing water), clean and free from laitance, ice, standing water, grease, oils, old surface treatments or coatings and all loose or friable particles must be removed to achieve a laitance and contaminant free, open textured surface.

Steel: Must be cleaned and prepared thoroughly to an acceptable quality that is by blastcleaning and vacuum. Avoid dew point conditions.

MIXING

Mix components A and B together for at least 3 minutes with a mixing spindle attached to a slow speed electric drill (maximum 300 rpm) until the material becomes smooth in consistency and a uniform grey colour. Avoid aeration while mixing. Then, pour the whole mix into a clean container and stir again for approximately 1 minute at low speed to keep air entrapment at a minimum. Mix only that quantity which can be used within its pot life.

APPLICATION

SikaCeram®-401 RTA is applied using notched trowel. The amount of product should be enough to ensure complete "wetting" of the tiles rear. Tiling has to be carried out on fresh glue, exerting an adequate pressure to ensure contact with the adhesive, and thus the perfect bonding.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with Sika® Thinner C immediately after use. Hardened and/or cured material can only be removed mechanically.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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ISO 9001: Sika UAE LLC,
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Sika Saudi Arabia Limited,
Sika International Chemicals LLC,
ISO 45001: Sika UAE LLC,
Sika Gulf B.S.C. (C),
Sika International Chemicals LLC.

All products are supplied under
a management system certified
to conform to the requirements
of the quality, environmental
and occupational health &
safety standards: ISO 9001,
ISO 14001 and ISO 45001.

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