

Technical Data Sheet

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Properties:

AKEPUR® 1100 HIGH VOLUME is a highly liquid, solvent-free 2-component resin based on PUR.

The product is characterized by the following properties:

- highly liquid consistency for casting applications
- strong volume expansion during hardening
- rigid, lead-elastic and space-filling lightweight structure with impact-resistant properties
- very short working time (approx. 2 min) before volume expansion starts
- short expansion time (approx. 5 min)
- fast surface drying (approx. 12 min)
- fast hardening (approx. 25 min)
- very strong volume expansion by a factor of 11 (depending on the volume to be filled)
- low water absorption
- good resistance to solvents
- good adhesion on metal, ABS, PVC, GRP, ceramics, natural and artificial stone
- tends to yellow due to light and heat
- non-toxic after complete hardening and correct observation of mixing ratio

Application Area:

AKEPUR® 1100 HIGH VOLUME is mainly used for the production of lightweight constructions. Due to its low water absorption, it is suitable for application on the back of shower trays, washbasins, sinks etc. In addition, large thin stone slabs (natural stone, quartz, ceramics) are reinforced and other cavities are filled. Due to its liquid consistency the product is suited for horizontal application and for applications in moulds.

Instructions for Use:

1. The surface must be clean, completely dry and roughened.
2. Homogenize the A-component by stirring or shaking before you start. Component B must not be stirred up. Both containers must be carefully closed after each withdrawal.
3. Mixing ratio A/B by weight 1:1.
4. Fill both components into a suitable mixing container and mix well for approx. 30 seconds. A change of colour indicates complete mixing. The mixture starts to expand in volume after approx. 2 minutes. Within this time, the resin must be applied to the surface or poured into the mould.
5. The component must not be moved during the volume expansion until it has hardened.
6. The volume expansion is finished after approx. 5 minutes (20°C). The surface is dry after approx. 12 minutes (20°C) and can be further processed after approx. 25 minutes (20°C).
7. Excess of AKEPUR® 1100 HIGH VOLUME should be removed with AKEMI® Nitro-Thinner or Cleaner A while still in liquid state.
8. Once fully hardened, AKEPUR® 1100 can be further processed using conventional tools for cutting (cutter knife), milling (milling machine, Dremel), sawing (rip saw, Japanese saw) and sanding (dry sander). Due to the dust produced, good extraction, a dust mask and safety goggles must be used.

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9. The volume expansion, surface drying and hardening process is accelerated by heat and delayed by cold. In the temperature range of 10 - 30°C, however, the volume expansion factor remains practically the same. In summer we recommend cooling both components before processing in order to extend the processing time.
10. Tools can be cleaned with AKEMI® Nitro-Thinner or Cleaner A.

Special Notes:

- For professional use only.
- Attention: component B contains diisocyanates. May cause an allergic reaction. As from August 24, 2023, adequate training is required before industrial or commercial use.
- The optimal mechanical and chemical properties can only be attained by adhering to the exact mixing proportions and complete mixing; a surplus of component A or B has the effect of a plasticizer and may slowly result in discolouring in the contact area and a disturbed volume expansion.
- Resin which is already thickened or just gelling should not be used anymore.
- After foaming, the foam shrinks slightly hardening curing due to the chemical reaction in the resin.
- If thin materials are to be reinforced with the foam, cupping can occur without additional stiffening elements; mitre bonding on the side also has a stiffening effect and protects against cupping.
- If a very large volume is to be filled with the foam, it is helpful to form the foam in several steps; each step should be expanded to a maximum height of 30 cm, which keeps the exothermic reaction and the gas pressure under control during foaming.
- Do not use the product at temperatures below 10°C because it will not sufficiently harden.
- The hardened resin tends to yellowing if it is exposed to light and temperature.
- The water absorption of the fully cured foam is very low (2 - 3%) if the foam skin remains intact; open foam pores, e.g. after sawing and sanding, must be sealed with a suitable resin (e.g. AKEPOX® 2010).
- After complete curing, the foam is temperature-resistant up to max. 70°C. At higher temperatures, the foam shrinks considerably.
- Components foamed with AKEPUR® 1100 are not resistant outdoors, especially if they are frequently exposed to moisture and possibly frost.
- The hardened resin can no longer be removed by solvents. Removal is only possible mechanically or by higher temperatures (> 200°C).
- For proper waste disposal the container must be completely emptied.
- Recycling in accordance with the guidelines of EU Decision 97/129 EC on the Packaging Directive 94/62/EC.

Technical Data:

Colour: anthracite
Density comp. A+B: approx. 1.11 g/cm³

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Time until start of volume expansion at different temperatures
(batch of 100 g):

10°C: 3 min 10 s 20°C: 1 min 40 s 30°C: 50 s

Time until end of volume expansion at different temperatures
(batch of 100 g):

10°C: 10 min 20°C: 5 min 30°C: 3 min 45 s

Time until surface drying at different temperatures (batch of 100 g):

10°C: 25 min 20°C: 12 min 30°C: 8 min

Time until further processing of the component at different temperatures
(batch of 100 g):

10°C: 30 - 35 min 20°C: 25 - 30 min 30°C: 20 - 25 min

Time until complete hardening at different temperatures
(batch of 100 g):

10°C: 45 - 50 min 20°C: 40 - 45 min 30°C: 35 - 40 min

Compressive strength (EN ISO 604): 0.45 - 0,55 N/mm²
(10% compression)

Storage: If stored in dry and cool condition (5-25°C/41-77°F) in its closed original container at least 12 months from production.

Health & Safety: Read Safety Data Sheet before handling or using this product.

Important Notice: The above information is based on the latest stage of development and application technology. Due to a multiplicity of different influencing factors, this information – as well as other oral or written technical advises – must be considered as non-binding hints. The user is obliged in each particular case to conduct performance tests, including but not limited to trials of the product, in an inconspicuous area or fabrication of a sample piece.