



Casting System 10mm

Highly UV-resistant epoxy casting-system

Casting System 10mm is a medium viscosity, very good UV resistant, transparent epoxy resin system for many casting applications.

Due to the perfectly coordinated reaction and self-venting behavior, layer thicknesses of up to 10 mm can be cast in one operation. Short curing times (23°C) allow rapid overpouring or further mechanical processing. This system can also be used for small- to medium-volume molded parts like fashion jewelry a.s.o. (max. 150 ml per casting at 23°C)

Casting System 10mm is characterized by excellent adhesion properties on various fabrics, foams, wood as well as metallic and mineral materials. It is therefore also ideally suited for impregnation work.

Mineral fillers as well as light fillers can be added without problems, if required. Depending on the type of filler, this can extend or shorten the pot life, processing time and curing time.

Appropriate suitability testing with respect to the intended casting operation is recommended.

Product specification

- transparente 2-component-epoxysystem
- medium potlife and medium viscosity
- solventfree, phenol-free, free from benzyl alcohol
- very good wetting properties
- 10 mm casting-thickness per layer possible (at max. 23°C material- & roomtemperature)
- very good de-aeration properties
- minimized curing-shrinkage
- cured optically similar to lead- or crystal-glass
- very well grind- and polishable
- good chemical resistance and mechanic properties

Fields of application

- Castings
- Impregnation
- Laminating

Properties of resin / hardener

| | Casting System 10mm (resin) | Casting System 10mm (hardener) | remarks |
|------------------------------|--------------------------------|-----------------------------------|---------|
| Density [g/cm ³] | 1,012 - 1,212 | 0,900 - 1,100 | 20°C |
| Viscosity [mPas] | 400 - 800 | 600 - 1.000 | 25°C |
| Colour | slightly purple | colourless to slightly yellowish | |
| Storage [°C] | +20 to +25°C | | |

Mixing ratio

| | Casting System 10mm (resin) | Casting System 10mm (hardener) | remarks |
|--|--------------------------------|-----------------------------------|-------------------|
| Mixing ratio | 100 | 45 | by weight |
| | 100 ml | 50 ml | by volume at 20°C |
| Viscosity of mixture [mPas] | 450 - 950 | | 25°C |
| The specified mixing ratio must be observed as accurately as possible. Deviations cause an unbalanced curing process with possibly unsatisfactory results. | | | |

Consumption

| | |
|----------------|---|
| Casting-system | approx. 1,10 - 1,15 kg per litre volume |
| | approx. 1,10 - 1,15 kg per m ² for a layer-thickness of 1 mm |

Application

| Casting System 10mm | | | remarks |
|---|------|------------|---------|
| Material-temperature | [°C] | +20 to +23 | |
| Ambient temperature | [°C] | +20 to +23 | |
| Substrate temperature | [°C] | +20 to +23 | |
| Rel. air humidity | [%] | < 85 | |
| Room, material and/or object temperatures higher than 23°C may cause heat tinting (yellowing) and/or bubble formation due to overheating during the curing process. A corresponding reduction in layer thickness per casting-process is required. | | | |

Processing

| Casting System 10mm | | | remarks |
|--|-------------------|---|--|
| Potlife (100 g mixture / 23°C) | [minutes] | 30 | material- & roomtemperature 23°C larger quantities or higher temperatures cause a shortened pot life andexhausting time must be reduced |
| De-aeration time in the mixing-vessel (1.000 g mixture / 23°C) | [minutes] | 4 - 5 | |
| Please make absolutely sure that the resin in the storage container / mixing vessel is totally transparent! Otherwise see storage / regeneration | | | |
| Max. exothermic temperature | | ~ 56°C after 70 minutes | material- & roomtemperature 23°C size of plate 340 x 250 mm, thickness 10 mm |
| firm to grip | [h] | 3 ½ - 4 ½ | |
| ability to pour over after | [h] | 7 - 8 | |
| Max. waiting period before next coating / casting without sanding** | [h] | max. 24 | |
| mechanically workable after | [days] | 2 - 3 | |
| thermally resistance | [°C] | ~ 45°C | after curing at 23°C / 1 month |
| Surface hardness Hardness tester Kern/Sauter HBD 100-0, cone 30°, Testparameters: 5 kg compression-load 15 seconds (similar to DIN ISO 7619-1) | [Shore D; ± 2] | size of plate 340 x 250 x 10 mm (23°C) | |
| | | 38 (rubbery) | after 17 h |
| | | 66 | after 24 h |
| | | 72 | after 48 h |
| | | 75 | after 3 days |
| | | 77 | after 4 days |
| | | 76 | after 7 days |
| | | 78 | after 1 month |
| Lower layer thicknesses and / or lower curing temperatures provoke longer curing times and slower increase of the surface hardness. The values given are average results and may vary depending on the processing method and curing conditions. It is essential to protect surfaces from moisture (dew, condensation water), dust etc. during the curing time. **Longer cured surfaces must be sanded to ensure optimum adhesion properties before over-coating. | | | |

Packing (2-component-pack)

| | | | | |
|-----------------------------------|-------|---------|----------|--------|
| Casting System 10mm (Resin) | 20 kg | 5,00 kg | 2,50 kg | 1000 g |
| Casting System 10mm (Hardener) | 9 kg | 2,25 kg | 1,125 kg | 450 g |
| | | | | |

Storage

Store at dry condition at +20°C to +25°C. Shelf life is one year when stored in original closed containers. Keep packages tightly closed after withdrawal.

The resin is sensitive to cold storage and/or transport temperatures below +20°C. Fogging and highly visible turbidity up to crystallization may occur. Please check the resin before processing if totally transparent.

Regeneration without loss of quality can be achieved by heat treatment. Regenerate the resin ideally at approx. +55°C in the delivered packing over a period of 24 hours. Open the cap slightly to allow pressure equalization. After the cooling down to room-temperature work with the resin as usual.

The hardener tends to carbamate under the influence of oxygen and/or high humidity. Crystallized hardener is not regenerable. The hardener must be disposed in a safe way. Always close can well after use.

Safety advises

epoxy-resins and -hardeners are rated & labelled according to REACH-, CLP/GHS-regulations. Please note the danger-signs and safety-advises on the product-label and the statements in the relevant material-safety-data-sheet (MSDS).

Disposal of product residues and containers

Liquid materials and containers have to be disposed in a safe way (hazardous waste) - observe local regulations. Avoid subsoil penetration. Prevent product from entering drains.

All information complies with our current state of knowledge and experience. Technical data are average values, determined under lab-usual conditions, which represent no warranty of fitness for a special purpose and constitute no legal relationship. The technical data do not correlate compulsively with results determined at the finished part. The user is responsible to ensure the required results regarding the intended application purpose. Our information does not relieve the user from the obligation to implement application-, performance and load-tests (mechanical & chemical) in view to the practical suitability of the manufactured part.

Manufacturing methods and raw materials are adjusted to the current state of the technology continuously, respectively to statutory toxicological regulations.

Compliance with national and local regulatory requirements in connection with the use and processing of these products is solely in the user's responsibility.

Furthermore, our general sales- & delivery conditions are valid in any case.