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TRANSPARENT CASTING EPOXY EC 141 WITH HARDENERS W241 AND W242

DESCRIPTION:

Two-pack epoxy system, colourless, transparent. The system is based on a low viscous unfilled resin and an amine hardener. Long shelf life. Due to the low exothermic peak quite large objects can be poured. The suitability of the system for the preparation of casted transparent objects in which different materials are bonded to each other should be determined based on the applications. Good resistance to UV. However, prolonged exposure to UV causes yellowing of the material. The system complies with RoHS (European Directive 2002/95/EC).

W 241: Potlife (time of use) high. Low exothermic. Recommended for casting in the thickness of 3-5 cm of covers for furniture or casting up to 10 cm of mass in 1 liter.

W 242: is the accelerated version of the product W 241. Recommended for casting in up to 1 cm thickness and for glazing of badges and for lenticular labels. Good resistance to yellowing. A time extended to UV exposure causes a slight yellowing of the product.

APPLICATION:

Transparent encapsulation.

PROCESSING:

Impregnation. Manual casting. Vacuum casting. Manual and/or automatic casting. Curing at room temperature.

Maximum recommended thickness for W 241: 100 mm

Maximum recommended thickness for W 242: 10 mm

SYSTEM SPECIFICATIONS:

Resin EC 141

- | | |
|---------------------|----------------|
| ✓ Viscosity at 25°C | 650-950 mPas |
| ✓ Color | colorless |
| ✓ Density at 25°C | 1.10-1.14 g/ml |

Harder W 241

- | | |
|---------------------|----------------|
| ✓ Viscosity at 25°C | 180-300 mPas |
| ✓ Color | Colorless |
| ✓ Density at 25°C | 0.99-1.01 g/ml |

Harder W 242

- | | |
|---------------------|----------------|
| ✓ Viscosity at 25°C | 250-350 mPas |
| ✓ Color | Colorless |
| ✓ Density at 25°C | 0.98-1.02 g/ml |

CHARACTERISTICS OF THE TYPICAL SYSTEM:

Processing Data:

- | | EC 141 + W 241 | EC 141 + W 242 |
|---|----------------|----------------|
| ✓ Mixing ratio by weight | 100:45 | 100:45 |
| ✓ Mixing ratio in volume | 100:50 | 100:50 |
| ✓ Potlife (doubled initial viscosity) at 25°C | 75-95 min | 35-45 min |
| ✓ Initial viscosity of the mixture at 25°C | 400-700 mPas | 400-600 mPas |
| ✓ Gelling time at 25°C (15ml; 6mm) | 10-12 h | 4-5 h |
| ✓ Gelling time at 25°C (100ml) | 140-180 min | 50-70 min |
| ✓ Deformation time at 25°C (15ml; 6mm) | 36-48 h | 18-24 h |
| ✓ Aftertreatment at 60°C | (15 h) | (15 h) |
| ✓ Maximum recommended thickness | 100 mm | 10 mm |



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TYPICALLY CURED SYSTEM PROPERTIES:

Properties determined on cured samples: 24 h KT (room temperature) + 15 h 60°C

	EC 141 + W241	EC 141 + W 242
✓ Color	colorless	colorless
✓ Density at 25°C	1.08-1.12 g/ml	1.08-1.12 g/ml
✓ Hardness at 25°C	80-85 shore D/15	1.08-1.12 g/ml
✓ Glass Transition(Tg)	61-67°C	52-58°C
✓ Maximum recommended processing temperature	55°C	130°C
✓ Bending strength	90-102 MN/m ²	69-78 MN/m ²
✓ Maximum voltage	4.0-5.5 %	3.5-5.5 %
✓ Stress to fracture	> 15 %	> 15 %
✓ Bending elastic mode	2,900-3,200 MN/m ²	2,200-2,700 MN/m ²
✓ Tensile strength	51-58 MN/m ²	38-47 MN/m ²
✓ Elongation to fracture	6-9 %	9-13 %

INSTRUCTIONS:

Add the correct amount of hardener to the resin, mix carefully. Avoid air entrapment. For some applications, it may be helpful to preheat the components and/or perform a venting step under vacuum of the mixture before pouring.

CURING / POST TREATMENT:

Post-treatment is always advisable for room temperature curing systems to stabilize the components and achieve the best properties. It is necessary when the part is working at high temperature. Allow the tool to cure as shown in the table, and gradually increase the temperature by 10°C / hour. Let it cool down slowly. The heating rate and the indicated time after curing are based on the standard sample size. Users should evaluate the best conditions for curing or post-curing depending on the component size and shape. For large components, reduce the thermal gradient and extend the curing time. In the case of thin film applications and composites, post-cure on the mold.

BEWARE:

Epoxy resins and their hardeners can be stored for one year in the original sealed containers in a cool, dry place. The hardeners are moisture sensitive, so it is good practice to close the container immediately after each use.

TREATMENT PRECAUTIONS:

Consult the data sheet and observe the regulations on industrial health and waste disposal.