



ASSYST sprl / A.S.O.W. sprl  
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## MODELLING EPOXY MS253 WITH HARDENER W12

### DESCRIPTION:

Pre-filled epoxy paste with glass fibres. Easy to mould and roll up. Low specific weight. Good dimensional stability. The contrasting colour between resin and hardener allows easy control of the correct mixing.

### APPLICATION:

Foundry patterns, copy models, moulds, negatives, filling.

### PROCESSING:

Manual mixing. Mechanical mixing with kneader.

### SYSTEM SPECIFICATIONS:

#### Epoxy MS253

- |                                      |               |
|--------------------------------------|---------------|
| ✓ FTIR spectrum (correlation factor) | 0,990 - 1,000 |
| ✓ Colour                             | grey          |
| ✓ Density at 25°C                    | 1.15-1.25g/ml |

#### Harder W12

- |                     |                |
|---------------------|----------------|
| ✓ Viscosity at 25°C | 150-250 mPas   |
| ✓ Colour            | blue           |
| ✓ Density at 25°C   | 0.99-1.01 g/ml |

### CHARACTERISTICS OF THE TYPICAL SYSTEM:

#### Processing data:

- |  |             |
|--|-------------|
| ✓ Mixing ratio by weight                   | 100:5       |
| ✓ Mixing ratio in volume                   | 100:6       |
| ✓ Potlife at 25°C (40mm; 100ml)            | 20-30 min   |
| ✓ Exothermic peak at 25°C (40mm; 100ml)    | 63-70°C     |
| ✓ Initial viscosity of the mixture at 25°C | paste       |
| ✓ Gelling time at 25°C (15ml; 6mm)         | 3-4 u       |
| ✓ De-deformation time at 25°C (15ml; 6mm)  | 8-12 h      |
| ✓ Post-treatment at 60°C                   | (10-15 hrs) |
| ✓ Maximum recommended thickness            | 15 mm       |

### TYPICALLY CURED SYSTEM PROPERTIES:

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

- |  |                             |
|--|-----------------------------|
| ✓ Colour                                     | blue                        |
| ✓ Density at 25°C                            | 1.15-1.25 g/ml              |
| ✓ Hardness at 25°C                           | 80-84 shore D/15            |
| ✓ Glass transition (Tg)                      | 55-58°C                     |
| ✓ Linear shrinkage                           | 0.4-0.6 ‰                   |
| ✓ Maximum recommended processing temperature | 50°C                        |
| ✓ Bending strength                           | 44-46 MN/m <sup>2</sup>     |
| ✓ Tension to rupture                         | 0.9-1.1%                    |
| ✓ Bending elastic mode                       | 7600-7800 MN/m <sup>2</sup> |
| ✓ Tensile strength                           | 18-25 MN/m <sup>2</sup>     |
| ✓ Elongation to fracture                     | 0.5-1.0%                    |
| ✓ Compressive strength                       | 48-58 MN/m <sup>2</sup>     |



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## **INSTRUCTIONS:**

Add the appropriate amount of hardener to the resin, mix thoroughly with hands, protected with gloves, or with a mechanical mixer, and then apply. For surface preparation (mould or model) refer to the release agent data sheet.

## **CURING / POST-TREATMENT:**

Post-treatment is always advisable for curing systems at room temperature in order to stabilise the components and achieve the best properties. It is necessary when the component is working at high temperature. Allow the tool to cure as indicated 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 mould.

## **STORAGE:**

Epoxy pastes and their hardeners can be stored for one and two years respectively in the original sealed containers in a cool, dry place. The hardeners are moisture sensitive, therefore 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.