

**OBO-Paste 4503-1** seamless modelling paste, applied by machine

Applications		
• design-/styling models	• master models	• moulds
Specific properties		
• Quick model build up via high output automated equipment • Up to 40 mm thickness layer in one single application • Low exothermal reaction • Virtually odourless during application and cutting • Curing at room temperature, machinable after 1 day • Easily machined formulation, producing a fine, seamless surface • Superior dimensional stability		

Processing information			
		OBO-Paste 4503-1 Resin	OBO-Paste 4503-1 Hardener
Mix ratio	weight parts	100	100
Viscosity at 25 °C		thixotrop	thixotrop
Colour of the components		brown	white
Colour of the mixture		brown	
Processing temperature	°C	18 up to 25	
Pot life at 25 °C (volume 1 L)	minutes	approx. 15	
Curing time at 20 °C	hours	24 up to 36	
Layer thickness per working cycle	mm	12 up to 40	

Physical properties		
Density	approx. kg/m ³	750 +/- 50
Hardness (ISO 868)	Shore-D	55 – 60
Coefficient of thermal expansion after 3 days curing at room temperature (ISO 11359)	10 ⁻⁶ ·K ⁻¹	101 (104*)
Deflection temperature (ISO 75)	°C	42 (54*)
Compressive strength (ISO 604)	MPa	11,5 (15*)
Modulus of elasticity from compression test (ISO 604)	MPa	550 (630*)
Flexural strength (ISO 178)	MPa	11 (12*)
Linear shrinkage	mm/m	1

*tempered values

Packing units/article number			
SA4503032	OBO-Paste 4503-1 Resin 32 kg	SB4503032	OBO-Paste 4503-1 Hardener 32 kg
SA4503130	OBO-Paste 4503-1 Resin 130 kg	SB4503130	OBO-Paste 4503-1 Hardener 130 kg

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Geschäftsführer: Swen Graf

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Storage

OBO-Paste should be stored in the original container at a temperature between 5 to 25 °C. Opened containers must be processed as quickly as possible and must be stored sealed.

Important:

If the material is stored below 18 °C, it must be acclimatized to at least 18 °C before using.

This can take approx. 24 - 48 hours for the 32 kg drums and approx. 48 - 72 hours for the 130 kg drums.

Processing

- It is strongly recommended to apply the paste using a pumping/ dosing machine equipped with screw pumps and a dynamic mixer head. It has been found that static type mixers may not give a homogenous mix quality.
- Apply paste as a single layer up to 40 mm in thickness onto a clean, stable substrate (e. g. 30 kg/m³ expanded polystyrene).
- It is recommended not to use the product below 18 °C room temperature.
- Following the application, the material should be allowed to cure at room temperature (20 up to 28 °C) for a minimum of 24 hours (better for 48 hours). If the workshop temperature drops below 20 °C, this period should be extended to several days.
- OBO-Paste 4503-1 was designed to be used with a dynamic type mixer (rotary mixer element). In addition, the rheology (dynamic viscosity) of the product may be altered slightly by regulation of the mixer speed. In order to have a fully mixed paste free from application problems, it is recommended to regulate the mixer within certain limits. The exact speed required will depend on the mixer length, diameter and the flow rate of the paste through the mixer.
- The mixing ratio of resin to hardener should ideally be 100 : 100 (+/- 2,5 %).
- The fabric hose should have a length of approx. 3,5 to 5 m.
- For the ideal surface application of the OBO-Paste, we recommend the use of a discharge nozzle. A discharge of 2 to 3 litres/minute is optimal.
- For complex geometries you should apply the paste directly from the hose. The discharge should be 1,5 to 1,75 litres/minute.
- For optimum mixing of the components, the mixing speed should be coupled to the discharge. Most systems are equipped with automatic control. Older machines or machines with simplified control must be controlled manually.



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Post-curing / tempering

Through post-curing (tempering) of OBO-Paste 4503-1 the maximum physical properties are achieved.

We recommend the following curing cycle to achieve maximum physical properties:

Heat the model from room temperature to 40 °C and hold this temperature for 2 hours, then heat up to 65°C and keep this temperature for 8 hours. Then cooling should be done in a controlled manner back to room temperature – it should not just be removed from the oven but cooled slowly over around 8 - 16 hours to prevent stresses.

Working and safety recommendations

Our products can be processed safely provided that certain precautions which are normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The wearing of impervious rubber or plastic gloves will normally be necessary; likewise, the use of eye protection. The skin should be thoroughly cleansed at the end of each working period by washing with soap and warm water. The use of solvents is to be avoided. Disposable paper - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended.

Waste disposal

The material must be disposed correctly after consultation with the local waste company.

Legal notice

The technical data relating to the material and its processing has been compiled carefully and is correct to the best of our knowledge. The information cannot, however, be taken to be legally binding nor as any commitment that the material has certain properties or is suited for any particular purpose.

The user must test the product for its suitability for the intended application. In addition, our terms and conditions of sale apply, which you can view and download from our home page www.obo-werke.de at any time.

You will find our condition of sales on our homepage www.obo-werke.de