

## Brandenburger light-curing Polyester Resin as per EN 13121-1 and 2 Group 4 DIN 18820/1, Group 3

### Structure

The Brandenburger UP resin liner is made with light-curing, unsaturated polyester resin on the basis of orthophthalic acid and neopentyl glycol, dissolved in styrol. The resin is highly reactive, with a medium viscosity. The resin can be cured conventionally with the customary reactants and with UV light in particular.

### Certification

As moulding material, the unsaturated polyester corresponds to Type 1140 as per DIN 16946/2 and belongs to Group 3 as classified by DIN 18820/1. The resin is classified as Group 4 as per EN 13121, Part 1 and 2.

Properties of the liquid resin as delivered (specifications)

#### Properties of the liquid resin as received (specifications)

Property	Range	Unit
Appearance	Turbid	-
Viscosity, 23 ° C	1250-1550	mPas
Non-volatile components	55,5 – 59,5	%
Water content	0,14 – 0,16	%
Curing time, 25 ° C-max	4 – 7	min
T - Peak	180 – 210	° C
Density, 23 ° C	1070	kg/m <sup>3</sup>
Refractive index, 23 ° C	1,535	
Flashpoint	33	° C
Storage stability	6	Month

#### Properties of non-reinforced moulding material, without filler materials

Property	Value	Unit
Tensile strength	65	MPa
Tensile modulus of elasticity	4	GPa
Elongation at break	2	%
Flexural strength	130	MPa
Modulus of elasticity in bending	4	GPa
Heat deflection temperature (HDT)	112	° C
Impact strength, unnotched	15	kJ/m <sup>3</sup>
Glass transition temperature [Tg]	140	° C

### Processing properties

Unsaturated polyester resin is usually not non-adhesive after curing. To achieve non-adhesive surfaces at ambient air, appropriate additives, e.g. paraffin solution, have to be added to the resin compound. The polyester resin used can be cured by means of UV light or conventionally. Under normal room lighting, with daylight excluded, the processing time can be extended to several hours. Peroxide can be added to support the curing.

### Processing instructions

Prior to use, the resin should be brought to a suitable temperature for processing, ideally 15–25 °C.

### Storage information

The resin should be stored in unopened and undamaged original containers, at temperatures between 5 °C and 30 °C, in a dark and dry area. High temperatures reduce the storage stability. The storage stability of styrol with dissolved unsaturated resins is severely affected by light. Therefore this product has to be stored in opaque containers in dark rooms.



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