MÜHLMEIER COMPOSITES

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Technical data sheet

R918A »Easymould« mould making resin

Description

Resin type: Mould making resin - Easymould

Description: Unsaturated polyester resin, base DCPD, dissolved in styrene, filled, pre-accelerated and thixotropic.

Specifics: **R918A – Mould making resin** neither contains hardening indicator nor wax or paraffin and therefore doesn't cause any delamination problems.
The resin was developed for the production of FRP moulds.

Advantages: **R918A – Mould making resin** allows the fast building of moulds, wet in wet. With this resin a laminate thickness up to 15 mm can be laminated in one work operation without the risk of shrinking. No addition of mineral filler or other additives is necessary.

Compared with traditional systems also the production of very complex moulds is possible in very short time.

Process: Hand laminate, spraying process

Certified LLOYD'S ISO 9001

Chemical and physical characteristics of the liquid resin: R918A

Characteristics	Unit	Method	R918A
Appearance			liquid beige-pink
Viscosity RFA at 25°C s 2 rpm20	mPa-s	I.O. 801	900 - 1100
Thixotropic index		I.O. 802	3.3 – 4.0
Gel time 25°C (100g resin /1,5g MEKP)	minutes	I.O. 1000	32 - 42
Styrene content	%	I.O. 809	29 - 31
Water content	%	I.O. 360	Max. 0.15
Stability at 65°C	days	I.O. 375	Min. 3
Shelf life	months	I.O. 998	Min. 3

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Mechanical characteristics – R918A
(100g resin + 2.0g MEKP 50 – 24h at RT + 2 h at 100°C)

Characteristics	Unit	Method	R918A
Barcol Hardness	--	ASTM D 2583	45

Hardening parameter: 24h at 23°C + 2h at 100°C

We recommend a working temperature between 15°C and 30°C. The portion of peroxide depends on the room temperature. It's recommended to add >1.0-2,5% peroxide, based on the resin weight. To achieve a longer reaction time it's necessary to use HTPC 10 as inhibitor.

Please consider: Before hardener addition the resin must have a temperature of at least 15°C to guarantee a corresponding polymerization whilst using MEKP. Please shake resp. stir the resin before use.

Storage recommendation: The resin must be stored in undamaged original containers at a room temperature between 5°C and 25°C. The shelf life reduces at higher temperature and therefore the characteristics of the resin could change. The storage period of unsaturated styrene soluble resin can shorten very fast when the resin isn't stored in nontransparent containers and when it is exposed to light. At correct storage the stability of the resin is guaranteed for 3 months.

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Instruction
Mould making system - Easymould

General:

The **mould making system - Easymould** consists of coordinated components whose use was optimized for the daily practice of modern laminating works.

Easymould always supplies a first class result if the following points are met and considered.

Basic environment conditions:

- Room- and model temperature in no case below +15°C
- Care for normal air moisture
- all raw materials and additives must have the environment temperature of the laminating room before working.
- broached units must be closed at once

Mould making gelcoat H09:

- If room- and model temperature are below 20°C it must be considered additionally to add **DEAA accelerator** (portion 0.1 – 0.3 weight.%).
- **Catalyst 2 weight % MEKP** (type Promox P200 TX)
- Layer thickness 0.7 – 0.9 mm (0.8 – 1.4 kg/m²)
- Please care for complete polymerization.

Easymould – Mould making resin:

- **Catalyst 1 weight% MEKP** (type Promox P200 TX)
- The layer thickness of the laminate must be at least about 6 – 7 times as thick as gelcoat and first layer - with spin divided mat 225 g/m² - (ca. 1.2 to 1.5 kg/m² per mm) max. 15 – 20 mm. Glass resin relation 1:3
- All reinforcements on the mould must be made of **Easymould – mould making resin** and should be laminated before mould release.
- Mould release of the master form recommended 48 hours after finishing.

Tempering:

For moulds, made with **Easymould** no tempering follows is necessary. **Easymould – mould making resin** is distinguished by a high mechanical strength. The maximum hardening is already reached after 24 hours at 25°C.

A tempering follows is recommended when the mould is exposed to a higher thermal resistance at max. 120°C e.g. by high exothermic temperature of the moulding or the mould heating unit a.s.o.).

The mould should harden for 24 hours at about +20°C. Only then the mould will be tempered for 24 to 48 hours at 120°Ct.