



resoltech
ADVANCED COMPOSITE TECHNOLOGY

1040

EPOXY LAMINATING SYSTEM

Advanced epoxy laminating system formulated to manufacture high performance structures with or without post-curing. The system is suitable for the manufacture of large structures and composite parts by contact, infusion and injection moulding. It features an adjustable working time from 15mn to 8 hours, a max. Tg of 144°C, optimised viscosity and low toxicity to the user. It is possible to release the parts from the mould without post-curing (except with the HT & SL hardeners). The resulting structures will have an excellent resistance to high temperature. The system is also suitable for casting and filament winding applications.

MIXING RATIO

The mixing ratio varies according to the hardener used. Ratio given **by weight**.

1041SL	100 + 35
1041HT	100 + 30
1043	100 + 35
1046	100 + 24
1048	100 + 22

WARNING: The mixing ratio must be accurately followed. It is not possible to change the ratio, it would result in lower mechanical properties. The mixture should be thoroughly stirred to ensure full homogeneity.

It is important to note that epoxy systems tend to heat up much faster in a pot than as a thin film. It is therefore necessary to only mix the necessary amount usable within the given pot life. Keeping the mixture in flat open containers reduces the risks of exothermic reaction.

APPLICATION

The standard procedure of working with epoxy systems applies to the RESOLTECH 1040.

The system can be applied by brush, roller, infused or injected.

In case of laminating over a cured surface without peel ply, it is required to deglaze, clean and degrease the support prior to laminating.

The 1041SL and 1041HT hardeners require a cure at 60 °C minimum.

For more information, please refer to the applications technical bulletins (TechNotes), available on request.

CURING

Workshop conditions: 18 to 25°C, 70% humidity maximum.

Hardener	Pot life	Release time	Optimal cure
1041SL	10 hours	8 hours with cure @ 60 °C.	2H @80°C + 3H @120°C
1041HT	1H30mn	8 hours with cure @ 60 °C.	2H @80°C + 3H @120°C
1043	8 hours	20 hours with cure @ 22 °C.	14days @20°C or 15H @60 °C
1046	1H30mn	16 hours with cure @ 22 °C.	14days @20°C or 15H @60 °C
1048	40mn	6 hours with cure @ 22 °C.	14days @20°C or 8H @60 °C

The pot life is given for 150g @ 25°C.

MECHANICAL PROPERTIES

System	1041SL	1041HT	1043	1046	1048
Tensile strength	55	55	68	65	65
Tensile modulus	3,700	3,600	3,500	3,600	3,600
Flexural strength	110	100	108	100	100
Flexural modulus	3,000	3,300	3,400	3,300	3,300
TG	140°C	144°C	90°C	90°C	90°C

Above mechanical properties are given in Mpa.

PHYSICAL PROPERTIES

Product	Designation	Viscosity	Mixture viscosity	Mixture density
RST1040	Resin system	1500mPas	N/A	N/A
1041SL	Extra slow	80mPas	450mPas	1.1g/cm ³
1041HT	Super slow	80mPas	450mPas	1.1g/cm ³
1043	Slow	15mPas	300mPas	1.1g/cm ³
1046	Medium	50mPas	400mPas	1.1g/cm ³
1048	fast	45mPas	400mPas	1.1g/cm ³

Above values given at 22°C.

PACKING & STORAGE

Resoltech 1040 is available as follow:

1041SL	1.30kg, 6.50kg, 39kg, 260kg.
1041HT	1.30kg, 6.50kg, 39kg, 260kg.
1043	1.5kg, 6.75kg, 40.5kg, 270kg.
1046	1.24kg, 6.20kg, 37.2kg, 248kg.
1048	1.22kg, 6.1kg, 36.6kg, 244kg.

Shelf life is one year in sealed containers as provided. Keep containers sealed and away from heat and cold.

HEALTH AND SAFETY

It is advised to follow basic rules such as avoiding skin contact, wear masks when producing dust. Please read our standard health and safety sheet for more information.

In case of eye contamination, wash with water and seek medical advice.

More information is available on www.resoltech.com.

The data provided in this document is the result of tests and is believed to be accurate. We do not accept any responsibility over the mishandling of these products and our liability is limited strictly to the value of the products we manufacture and supply.

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