



# 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/cm3        |
| 1041HT  | Super slow   | 80mPas    | 450mPas           | 1.1g/cm3        |
| 1043    | Slow         | 15mPas    | 300mPas           | 1.1g/cm3        |
| 1046    | Medium       | 50mPas    | 400mPas           | 1.1g/cm3        |
| 1048    | fast         | 45mPas    | 400mPas           | 1.1g/cm3        |

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](http://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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