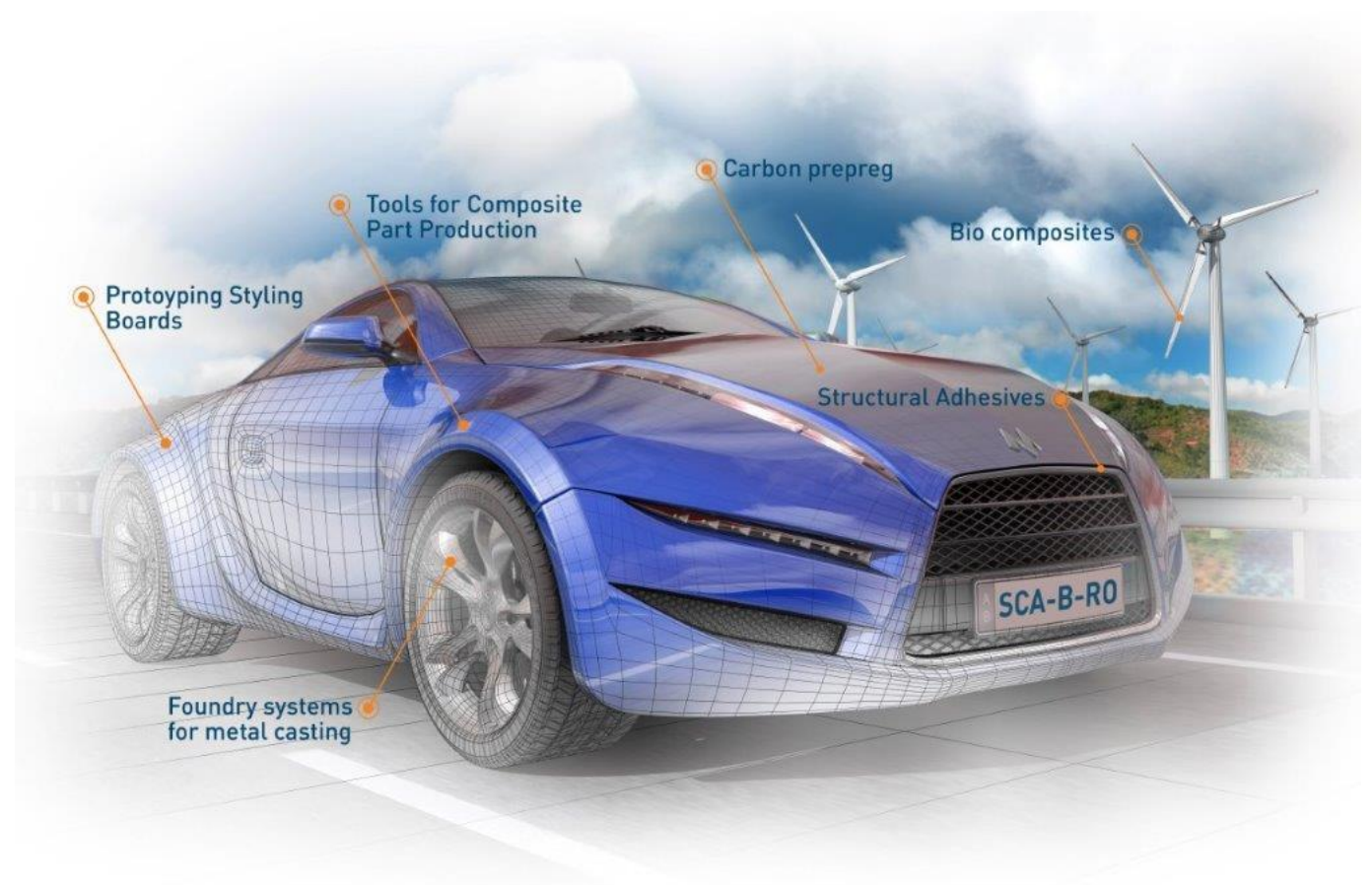


# TECHNICAL DATASHEET

RESOLTECH 3350

3357T - 3358T



MALLENBOUW | COMPOSITEN | LIJMEN

# RESOLTECH 3350

## Hardeners 3357T (standard) & 3358T (fast)

### High performance structural epoxy adhesive

- Rubber toughened high strength epoxy
- High shear and peeling resistances
- Excellent applicability (universal grease-like consistency)
- All weather applicability even in high humidity conditions
- Available in cans or cartridge - 2:1 ratio for machine dispensing



**RESOLTECH 3350 / 3357T or 3358T** high performance unfilled adhesive offers high tenacity and toughness. Its good elongation ratio enables to bond most materials, even if they have a large CTE difference. The system rheology is close to a universal grease, making the mixing and application very easy with a spatula or even with a brush.

The 3350 with 3357T (standard) or 3358T (fast) has a vertical sagging limit of 10mm on vertical applications & 15mm on horizontal applications. It will enable to bond bulkheads with 20 mm diameter fillet joints. Other versions available are:

- **3350L** with 3357T (standard) or 3358 (fast): **low viscosity for brush application** for secondary lamination as adhesion promotion layer
- **3350 XT** with 3356 XT (slow) or 3357 XT (standard): **extra thixotropic** for very large application
- **3350 HP** with 3356 HP (slow) or 3358 HP (fast): **0,7 density** light version
- **3350 NOIR** pigmented for cosmetic appearance of carbon composite bond lines

Particularly resistant to the propagation of micro-cracking, this system is well adapted to bondings subject to important cycles of fatigue. The areas of application of the 3350 are very varied: structural composite and metallic bonding, adhesion promotion layer on secondary lamination specially on cured prepregs...

3350 / 3358T adhesive could be applied at low temperatures (<10°C) and is not affected by high humidity environment during application or hardening.

# Resin 3350

## Hardener 3357T & 3358T

### MIXING RATIO

| Systems                | 3350 / 3357T | 3350 / 3358T |
|------------------------|--------------|--------------|
| Mixing ratio by weight | 100 / 45     | 100 / 42     |
| Mixing ratio by volume | 2 / 1        |              |

**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 surface should be clean, dust-free and degreased. Prepare all surfaces by abrading with medium grit paper or other suitable abrasive, remove dust then wipe with acetone, MEK or similar solvents.

**Metals such as aluminum & stainless steel** usually require a chemical pre-treatment & mechanical abrasion to create the best bond.

Ensure that **polyester or vinylester laminates** are fully cured before bonding, then prepare as above.

When bonding **epoxy laminates**, the use of a suitable peel ply as the last stage in their manufacture is recommended, otherwise prepare as above. Trials may be required to test peel ply suitability.

The adhesive can be applied with a notched trowel, spatula, putty knife or self mixing/dispensing machine in various thicknesses up to 10mm without sagging on vertical surfaces. It is recommended to use **notched spreaders** in order to apply even thicknesses of adhesive on the surface to be bonded.

- Assemble and maintain parts in contact during hardening with clamps, vacuum or masking tape.
- Cleaning of the materials should be done before polymerization with acetone, methylethylcetone (MEK) or equivalent.
- Brush application is possible thanks to the low viscosity but high thixotropy of the system.

### PHYSICAL CHARACTERISTICS

#### Visual aspect

|         |                        |
|---------|------------------------|
| 3350 :  | Opalescent gel         |
| 3357T : | Slightly yellow gel    |
| 3358T : | Slightly yellow gel    |
| Mix :   | Pale yellow opaque gel |

# Resin 3350

## Hardener 3357T & 3358T

Density according to ISO 1675 ( $\pm 0.05$ )

| References            | 3350 | 3357T | 3358T |
|-----------------------|------|-------|-------|
| Density at 23°C       | 1.00 | 1.03  | 1.01  |
| Mixed density at 23°C | -    | 1.01  | 1.00  |

### REACTIVITY

| Systems                                     | 3350 / 3357T | 3350 / 3358T |
|---|--------------|--------------|
| Gel time on 70mL at 23°C (~4cm thickness)   | 1h34min      | 25min        |
| Exothermic peak temperature on 70mL at 23°C | 57°C         | 166°C        |
| Gel time in 2mm film at 23°C                | 3h20min      | 1h           |
| Clamp time at 23°C                          | 12h          | 8h           |

Measurements realized on Rheotech®

### MECHANICAL PROPERTIES

| Systems                          | 3350 / 3357T | 3350 / 3358T |
|----------------------------------|--------------|--------------|
| Shore Hardness after 16h at 60°C | 82           | 85           |
| T <sub>G</sub> after 16h at 60°C | 42.5°C       | 45.9°C       |

Shore Hardness according to ISO 868

T<sub>G</sub> measurements realized on Kinetech®

| System                              | 3350 / 3358T |
|-------------------------------------|--------------|
| Flexural modulus                    | 2.02 GPa     |
| Flexural max. strength              | 63.5 MPa     |
| Flexural elongation at max strength | 4.9%         |
| Flexural elongation at break        | >15%         |

Flexion according to ISO 178 realized on post-cured samples : 16h at 60°C

# Resin 3350

## Hardener 3357T & 3358T

|   |                                 |
|---|---------------------------------|
| <b>System</b>   | 3350 / 3358                     |
| <b>Resistance to crack propagation</b>                  | 10,51 kN                        |
| <b>Resistance to failure in interlaminar mode - MBT</b> | 0,453 ± 0.071 kJ/m <sup>2</sup> |
| <b>Resistance to failure in interlaminar mode - CC</b>  | 0,482 ± 0.142 kJ/m <sup>2</sup> |
| <b>Resistance to failure in interlaminar mode - MCC</b> | 0,494 ± 0.149 kJ/m <sup>2</sup> |
| <b>Shear resistance on steel</b>                        | 30,49 MPa                       |
| <b>Shear resistance conservation in wet environment</b> | 98,70 %                         |

### PACKAGING

Kits 3350 / 3357T :

- 0.725kg (0.5+0.225)kg
- 1.45kg (1+0.45)kg
- 7.25kg (5+2.25)kg
- 29kg (20+9)kg
- 72.5kg (2x25+22.5)kg

Kits 3350 / 3358T :

- 0.71kg (0.5+0.21)kg
- 1.42kg (1+0.42)kg
- 7.21kg (5+2.1)kg
- 35.5kg (25+10.5)kg
- 71kg (2x25+21)kg
- 250mL cartridge for universal dispensing gun + static mixer



- 400mL cartridge + static mixer



### TRANSPORT & STORAGE

Keep containers sealed and away from heat and cold preferably between 10°C and 30°C in a well ventilated area. Our products are guaranteed in their original packaging (check expiry date stated on the label).

### HEALTH & SAFETY

It is advised to follow basic rules such as avoiding skin contact, wear masks & gloves. Please read our Material Safety DataSheet (MSDS) for more information. In case of eye contamination, wash with water and seek medical advice.

Nota : 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.