

SANHO CHEMICAL CO., LTD NO. 1. ZHONGSHAN S. RD., LUZHU DIST., KAOHSIUNG CITY, TAIWAN

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TOHMIDE 558

TOHMIDE 558 is a solid-type fatty polyamide resin especially designed for HOT-MELT STRUCTUAL ADHESIVE uses. It has superior processing properties for its ready-to-apply nature due to the lower molten viscosity. Optimum application temperature of TOHMIDE 558 is in the range of $180^{\circ}C \sim 200^{\circ}C$. TOHMIDE 558 shows excellent adhesion onto various types of plastics, and steel, as well as onto many other surfaces, giving very tough bonding and sealing strength.

TOHMIDE 558 may be applied either by hand or manually operated "hand-guns ".An automatic dispensing equipment with a nozzle or a wheel applicator may also be benefited.

1. SALES SPECIFICATIONS OF TOHMIDE 558

| Appearance | : Brown Pellets |
|----------------------------------|------------------------|
| Softening Point (°C) | $: 160 \pm 5^{\circ}C$ |
| Viscosity (mPa \cdot s/200°C) | : 300 ~ 850 |
| Colour (Gardner) | : 12 Max. |

*

2. SOLUBILITY

| Solvent | Mixing Ratio(*) | TOHMIDE 558 | Result (**) |
|-----------------------|-----------------|-------------|-------------|
| Methanol / Toluene | 1 / 1 | 25% | S |
| Isopropanol / Toluene | 1 / 1 | 15% | S |
| Methanol / Chloroform | 1/3 | 25% | S |

Mixing Ratio in Weight

** S means Stable more than one week

3. COMPATIBILITY (1)

| Plasticizer | Concentration of plasticizer (% in weight) | | |
|-----------------------------|--------------------------------------------|-----|-----|
| Flasticizei | 10% | 15% | 25% |
| Phosphoric ester | С | С | С |
| Epoxidized fatty-acid ester | С | С | Н |
| Rosin ester | С | С | С |

COMPATIBILITY (2)

| Plasticizer | Concentration of plasticizer (% in weight) | | |
|-----------------------------|--------------------------------------------|------------|----------------|
| r lasticizei | 20% | 50% | 80% |
| Rosin | С | С | С |
| Estergum | С | С | С |
| Rosin modified maleic resin | С | С | С |
| Phenol | С | С | С |
| Ethylene Vinyl Acetate | Ι | Ι | Н |
| C : Compatible SH : Slig | ght Turbid H:' | Turbid I : | not Compatible |



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4. OPEN TIME

OPEN TIME of TOHMIDE 558 was measured by the following manner; Bonded two sheets of corrugated board at an ambient temperature by employing molten resin at 200°C of TOHMIDE 558, maintaining its glue speed at 167gr. per every mm to make 3mm width of bead on the board.

X OPEN TIME measured ∶ 22 ~ 23 second

5. MECHANICAL PROPERTIES

| Hardness (Shore-A) | : 96, at 23℃ |
|-------------------------------------|----------------------------------|
| Elongation, at 20° C | : 150% |
| Tensile Strength, at 20° C | $: 49 \text{ kgf} / \text{cm}^2$ |
| Yield Point, at 20°C | $: 49 \text{ kgf} / \text{cm}^2$ |

6. IMPACT RESISTANCE TEST AT LOW TEMPERATURE.

(by Du Pont Impact Test)

Impact resistance test was conducted as per follow : Dropping the plumb onto a specimen from a height of 20cm to measure the toughness of moulded TOHMIDE 558 in disk shape.

Specimen employed : Cool-off TOHMIDE 558 at pre-arranged minus 20°C for more than two hours after moulding the resin into the disk. Then, take out it without loss of time to implement the Du Pont Impact Test.

Plumb ; 300gram in weight with its diameter 1.27mm on its tip.

 \therefore Du Pont Impact Test Result at the low temperature : 4 / 5 (n = 5 pieces)

7. LAP SHEAR STRENGTH

Lap Shear Strength was measured varying respective temperature. Apply the molten resin of TOHMIDE 558 onto the surface of sand-blasted steel plate which is pre-heated at 70° C.

Tensile Speed : 2mm per minute

| | Test Temperature | Lap Shear Strength (kg \cdot f / cm ²) |
|-----------------------|------------------|------------------------------------------------------|
| Fe-Fe | + 23°C | 44 |
| (Sand-blasted Fe) | 0°C | 110 |
| | - 30°C | 50 |
| Painted Fe-Painted Fe | + 23°C | 44 |
| | - 30°C | 19 |
| Polypropylene sheet | +30°C | 7.5 |
| -Polypropylene sheet | - 30°C | 5.5 |



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8. CREEP TEST

Apply the molten resin of TOHMIDE 558 onto the surface of sand-blasted steel plate which is pre-heated at 70° C.

The temperature to the stress-rapture has been measured by increasing the temperature of the test samples at a rate of 2° C in every 10 minutes, loading the sheets to 500grs.

※Fe-Fe CREEP TEMPERATURE ∶ 135℃

9. SURFACE COLOUR CHANGING OF THE MOLTEN RESIN OF TOHMIDE 558

40 minutes later : Spotted thin yellow colour

100 minutes later : Thin yellow colour over about 75% surface

200 minutes later : Dark yellow colour over whole surface

10. ELECTRIC PROPERTIES OF TOHMIDE 558

TOHMIDE 558 provide excellent electric properties along with chemical and physical properties when the resin is applied to HOT-MELT use as the insulation or adhesives for various parts of electric or electronics instruments.

 1.3×10^{13} Surface resistively (ohm) $: 0.9 \times 10^{10}$ Volume resistively (ohm) : 60HZ---15, 10³HZ---8.0, 10⁶HZ----3.2. Dielectric constant Withstand voltage (kV/mm) : 18

11. HANDLING and SAFETY PRECAUTIONS

TOHMIDE 558 is virtually inert material and no special precautions are required in its handling.

TOHMIDE 558 has hydrogroscopic property, so the resin should be stored in a cool and dry place.

Seal tightly a bag contained with rest of the TOHMIDE 558 resin even after using them, and store it in a dry place.

12. PACKING

20 kg net in weight, in standard export bag.