SANHO CHEMICAL CO., LTD.
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TOHMIDE 245-S

TOHMIDE 245-S is an epoxy curing agent of polyaminoamide derived from polymerized fatty acid.TOHMIDE 245-S is a low viscosity type epoxy curing agent ,and provide moderate curing speed ,and the mixing ratio of TOHMIDE 245-S with an epoxy resin is relatively small. The major application fields of TOHMIDE 245-S are bonding, sealing and resin motars.

1.TYPICAL SPECIFICATION：

Appearance	：Brown Liquid
Viscosity(25℃)	：1,000-2,500 mPa·s
Colour	：10 max.
Amine Value(JIS)	：535 ± 15
Specific Gravity (25℃)	：0.96
Flash point (℃)	：220℃

2.THE STANDARD MIXING RATIO：

The Standard Mixing Ratio of Tohmide245-S with an epoxy resin, whose epoxy quivalent weight is about 190(for example,“EPIKOTE-828” o f the Shell ChemicalCompany, etc.,), is30-50 parts by weight to 100 parts of the epoxy.

＊ Active Hydrogen Equivalent Weight：80

(Note：This value is theoretically calculated only for your reference)

3. CURING CHARACTERISTICS

3-1 Exothermic Reaction.

Epoxy resin	：bisphenol-A type liquid epoxy resin whose epoxy equivalent weight is about 190.
Total mass	：100g
Room temperature	：23℃

Epoxy resin / TOHMIDE 245-S	75 / 25	70 / 30	65 / 35
Peak exothermic time. (min.)	80	37	57
Peak exothermic temp. (℃)	131	166	172

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3-2 Drying Characteristics

Epoxy resin ：bisphenol-A type liquid epoxy resin whose epoxy equivalent weight is about 190.

By RCI Drying Recorder ：At 23℃ for 7days.

◎Film thickness about 200um

Epoxy resin / TOHMIDE 245-S		75 / 25	70 / 30	65 / 35
23℃	Set to touch (hours)	3.9	3.7	3.1
	Tack free (hours)	5.7	4.7	4.4
	Dry through (hours)	24.0	10.5	7.2

4.MECHANICAL PROPERTIES

Epoxy resin：bisphenol-A type liquid epoxy resin whose epoxy equivalent weight is about 190.Precured at 23℃ for 7days

Epoxy resin / TOHMIDE 245-S		75 / 25	70 / 30	65 / 35
Tensile Strength	(kgf/mm^2)	5.4	5.9	6.4
Bending Strength	(kgf/mm^2)	8.2	9.4	9.2
Flexural Modulus	(kgf/mm^2)	3.1×10^2	3.2×10^2	3.4×10^2
Compressive strength	(kgf/mm^2)	8.3	8.5	8.3
Izod Impact Strength	(kgf/cm-cm)	2.0	1.9	1.9
Rockwell Hardness	(M-scale)	64	66	66
Heat Distortion Temp	(℃)	43	49	52

5. LAP SHEAR STRENGTH

A resin mix of Tohmide245-S and the same epoxy resin as employed above were cured at 22-23℃ , and applied to bond mild steel plates whose surfaces were pre-treated by sand-blast. Thereafter, LAP SHEAR STRENGTH of the cured products were measured 7 days after bonding them at 22-23℃ by the mixtured resins.

Epoxy resin / TOHMIDE 245-S	75 / 25	70 / 30	65 / 35
Lap shear strength ＊(kgf/cm^2)	110	110	110

＊Mild steel plate with sand blast treatment.were employed.

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6.CHEMICAL RESISTANCE

Percentage increase in weight of the cured products of Tohmide245-S and the same epoxy resin as employed above were measured as follow after being cured at 22-23℃ for 7 days , and immersing them into respective chemical substances.

Immersion time (days)	1 day			7 days			30 days		
Epoxy / TOHMIDE 245-S (Mixing Ratio by weight)	7 / 3	6 /4	5 / 5	7 / 3	6 /4	5 / 5	7 / 3	6 /4	5 / 5
Tap Water	0.2	0.3	0.2	0.6	0.6	0.6	1.5	1.5	1.7
5% solution of Salt	0.2	0.1	0.1	0.6	0.5	0.5	1.4	1.5	1.5
10% solution of Caustin soda	0.1	0.1	0.1	0.4	0.4	0.5	1.1	1.2	1.3
10% solution of Ammonia	0.2	0.1	0.1	0.6	0.5	0.6	1.5	1.4	1.7
5% solution of Surfruic Acid	0.4	0.8	2.3	0.9	2.1	6.3	2.1	4.9	14.5
5% solution of Hydrochioric Acid	0.2	0.4	1.1	0.6	1.2	3.2	1.7	2.9	7.3
Kerocene	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Isopropylalcohol	0.6	0.7	0.8	1.0	1.4	1.7	1.3	2.2	3.5
Metyliso butylietone	6.2	3.9	2.4	14.4	7.9	5.7	17.3	11.5	10.8