



# SANHO CHEMICAL CO., LTD.

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## TOHMIDE 275

TOHMIDE 275 is a low viscosity.Fast setting reactive polyamide hardner.This resin is designed for use with liquid epoxy resins to give room temperature cured.TOHMIDE 275 is easily dispersed in liquid epoxy resins and speciallt for use in coatings adhesives.

### 1. SALES SPECIFICATION

Appearance	: Brown viscous liquid
Viscosity (mPa · s 25°C)	: 1,200 ~ 3,200
Colour (Gardner)	: 12 Max.
Amine Value (JIS)	: 585 ± 20
Specific Gravity (25 / 25°C)	: 1.02
Flash point (°C)	: 232

### 2. RECOMMENDED MIXING RATIO

30~50 parts to 100 parts of Bisphenol-A type epoxy resin whose epoxy equivalent weight is about 190.

### 3. CURING CHARACTERISTICS

#### 3-1 Exothermic Reaction.

Epoxy resin : bisphenol-A type liquid epoxy resin diuented with B.G.E.whose epoxy equivalent weight is about 190.

Total mass : 100g

Room temperature : 20°C

Epoxy resin / TOHMIDE 275	75 / 25	70 / 30	65 / 35
Peak exothermic time. (min.)	31	26	23.5
Peak exothermic temp. (°C)	198	205	192
Gell Time (min.)	20	17.5	15

#### 3-2 Drying Characteristics

Epoxy resin : bisphenol-A type liquid epoxy resin diluted with B.G.E.whose epoxy equivalent weight is about 190.

By RCI Drying Recorder : At 23°C for 7days.

◎Film thickness about 200µm

Epoxy resin / TOHMIDE 275		75 / 25	70 / 30	65 / 35
20°C	Set to touch (hours)	4.7	3.3	2.7
	Tack free (hours)	6.0	4.6	4.0
	Dry through (hours)	8.0	6.5	5.3
5°C	Set to touch (hours)	7.0	6.1	5.6
	Tack free (hours)	16.0	13.4	11.2
	Dry through (hours)	19.0	17.3	17.3



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## 4. MECHANICAL/PHYSICAL PROPERTIES

Employed Bisphenol-A type epoxy resin diluted with B.G.E. whose epoxy equivalent weight is about 190. Curing time=7 days at 23°C

Epoxy resin / TOHMIDE 275		75 / 25	70 / 30	65 / 35
Tensile Strength	(kgf/mm <sup>2</sup> )	7.18	7.07	7.46
Flexural Strength	(kgf/mm <sup>2</sup> )	11.03	11.13	10.74
Flexural Modulus	(kgf/mm <sup>2</sup> )	3.07×10 <sup>2</sup>	3.33×10 <sup>2</sup>	3.16×10 <sup>2</sup>
Compressive Strength	(kgf/mm <sup>2</sup> )	10.59	10.21	9.68
Izod Impact Strength	(kgf-cm/cm)	2.3	2.8	3.4
Rockwell Hardness	(M Scale)	55	53	53
Heat Distortion Temperature	(°C)	45	51.5	49

## 5. CHEMICAL RESISTANCE OF THE CURED PRODUCTS

Percentage increase in weight of the cured products of TOHMIDE 275 and the same epoxy resin as employed above were measured as follow after curing them at an ambient temperature , and immersing into following chemical substances.

Immersion time (days)	100 / 25			100 / 43			100 / 67		
	1	7	30	1	7	30	1	7	30
Epoxy / TOHMIDE 275									
Tap Water	0.08	0.33	0.74	0.08	0.38	1.03	0.11	0.46	1.15
5% solution of Salt	0.06	0.27	0.63	0.08	0.35	0.89	0.10	0.42	1.03
10% solution of Caustic soda	0.04	0.24	0.64	0.05	0.27	0.70	0.07	0.37	0.98
10% solution of Ammonia	0.08	0.34	0.80	0.07	0.36	0.91	0.09	0.50	1.31
5% solution of Sulfuric Acid	0.22	0.56	1.21	0.49	1.20	2.48	1.68	5.08	11.00
5% solution of Hydrochloric Acid	0.12	0.36	0.87	0.22	0.67	1.54	0.65	2.09	4.71
Kerosene	0.00	0.03	0.10	0.01	0.01	0.03	0.02	0.05	0.13
Isopropylalcohol	0.02	0.22	0.49	0.04	0.33	0.94	0.10	0.84	2.35
Methyl isobutyl ketone	0.54	3.59	6.46	0.14	1.20	3.50	0.04	0.72	3.92