



# SANHO CHEMICAL CO., LTD.

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## TOHMIDE 225-R

TOHMIDE 225-R is a medium viscosity, reactive polyaminoamide resin based on dimerized fatty acid and polyamines.

It's major applications include general adhesives, sealants, putties, concrete repair compounds and surface coatings.

### 1. SALES SPECIFICATION

Appearance	: Brown-colored viscous liquid.
Viscosity (mPa·s /40°C)	: 3,500 ~ 10,000 mPa·s
Amine Value (JIS)	: 335 ±15
Colour (Gardner)	: 10 Max.
Specific Gravity (25 / 25°C)	: 0.97
A.H.E.W.	: 115

### 2. RECOMMENDED MIXING RATIO

(1).20 ~ 50 parts to 100 parts of Bisphenol-A type epoxy resin whose epoxy equivalent weight is about 490.

(2)50~100 parts to 100 parts of Bisphenol-A type epoxy resin whose epoxy equivalent weight is about 190.

### 3. CURING CHARACTERISTICS

Epoxy resin : Employed Bisphenol-A type epoxy resin whose epoxy equivalent weight is about 190.

Total mass : 100 gram

Room temp. : 23°C

Epoxy / TOHMIDE 225-R	70 / 30	60 / 40	50 / 50
Peak Exothermic Time (min.)	155	180	205
Peak Exothermic Temperature (°C)	32	35	42
Gell Time (min.)	260	225	185



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## 4. MECHANICAL/PHYSICAL PROPERTIES

Employed Bisphenol-A type epoxy resin whose epoxy equivalent weight is about 190.

Curing time=7 days at 23°C

Epoxy resin / TOHMIDE 225-R		70 / 30	60 / 40	50 / 50
Tensile Strength	(kgf/mm <sup>2</sup> )	2.4	3.3	5.6
Flexural Strength	(kgf/mm <sup>2</sup> )	2.8	5.6	6.9
Flexural Modulus	(kgf/mm <sup>2</sup> )	7.3×10 <sup>2</sup>	6.7×10 <sup>2</sup>	9.9×10 <sup>2</sup>
Compressive Strength	(kgf/mm <sup>2</sup> )	4.0	4.4	6.0
Izod Impact Strength	(kgf-cm/cm)	1.1	1.5	2.3
Rockwell Hardness	(M Scale)	5	3.9	4.8
Heat Distortion Temperature	(°C)	31.5	35	45

## 5. LAP SHEAR STRENGTH

The resin mix of TOHMIDE 225-R and the same epoxy resin as employed above was applied to hold mild steel plates at 22~23°C, whose surface were treated by sand-blast. LAP SHEAR STRENGTH was measured as follow after leaving the bonded steel plates at 22~23°C for 7 days.

Epoxy / TOHMIDE 225-R	70 / 30	60 / 40	50 / 50
Lap Shear Strength ( kgf/cm <sup>2</sup> )	206	176	176

## 6. CHEMICAL RESISTANCE OF THE CURED PRODUCTS

Percentage increase in weight of the cured products of TOHMIDE 225-R 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.

Epoxy / TOHMIDE 225-R	70 / 30			60 / 40			50 / 50		
	1	7	30	1	7	30	1	7	30
Tap Water	0.2	0.7	1.5	0.2	0.9	1.9	0.2	0.8	1.7
5% solution of Salt	0.2	0.7	1.4	0.2	0.8	1.7	0.2	0.8	1.6
10% solution of Caustic soda	0.2	0.7	1.3	0.2	0.8	1.5	0.2	0.6	1.3
10% solution of Ammonia	0.2	0.7	1.4	0.3	0.8	1.9	0.2	0.7	1.6
5% solution of Sulfuric Acid	0.4	1.1	1.9	1.0	2.5	4.6	0.4	9.9	19.4
5% solution of Hydrochloric Acid	0.2	0.7	1.4	0.6	1.7	3.2	1.8	5.2	10.9
Kerosene	0.0	0.2	0.3	0.1	0.3	0.4	0.0	0.2	0.5
Isopropylalcohol	0.8	1.6	2.1	1.4	3.0	4.6	2.0	5.0	9.9
Methylisobutylketone	11.6	7.8	--	2.4	18.3	25.5	7.8	7.6	15.1