



SANHO CHEMICAL CO., LTD.

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TOHMIDE 245-HS

TOHMIDE 245-HS is a fatty polyamide resin (polyaminoamide,) of very low viscosity with many other benefits as an epoxy curing agent of the polyamide nature.

It's major applications include high-build epoxy protective coatings, and structural adhesives.

1. SALES SPECIFICATIONS, AND PROPERTIES

Appearance	= Brown-coloured viscous liquid
Viscosity(@25°C)	= 800 \hat{u} 300 Centipoises
Colour(Gardner)	= 13 maximum
Acid Value	= 4.0 maximum
Amine Value (KOH-mg./ gr.)	= 400 \hat{u} 30
Non Volatile %	= 96.0 minimum
Active Hydrogen Equivalent	= 90,

Therefore the standard ratio of formulation of TOHMIDE 245-HS with the epoxy resins of the "epoxy equivalent weight" are in the range of 190, us 40 to 50 parts by weight.

2. WHITE EPOXY ENAMEL BASED ON TOHMIDE 245-HS

(1) White Enamel Base	parts by wt.
"Epidote-828" (by shell chemical company,)	= 80
Titanium Dioxide	= 30
Talc	= 20

The " epoxy equivalent weight" of this base=310.

(2) Enamel Paint Formulation	parts by wt.
the above Base	= 40.0
Tohmide245-hs	= 11.6
Xylene	= 3.0

This enamel was painted on a flat, cleaned (= sand- blasted , and de-greased,) steel plate at the dry-film thickness of 70 to 80 microns, and was left to dry for seven days at 20 °C.

(3) The paint film has become set (or, dry,) after 10.5 hours showing certain extent of "blushing" on its surface.

(4) Physical Properties of the Dried Paint Film :

Pencil Hardness	=H
"Ericsen" Forming test (5 mm)	=Cracked
Bending test (at 10 mm radius)	=Cracked
Cross-Cut test (at 2 mm interval)	=25 / 25
"Izod" Impact test (1 / 2' x 500gr.)	=40 cm0.k.



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(5) Chemical Resistance of the Paint Film :

Warm Water Immersion test (@60°C × one month)	=Pass
5% NaCl-Water solution (One month)	=7 m
10% NaOH-Water solution (One month)	=Pass
5% H ₂ SO ₄ -Water solution (One month)	=6 m
Salt Spray test (200 hours)	=Blister , 4m
Weathering test (One month, outdoor)	=Chalking , with Loss of Gloss

3. PHYSICAL, AND CHEMICAL PROPERTIES OF THE CURED PRODUCT BY 245-HS

Test piece formulation =“Epikote-828” (Shell Chemical Company) : 245-HS
 =100 : 50 parts by wt.,

Cure Schedule =24 hours at room temperature, then heating at 80°C for one hour.

(1) Physical Properties :

Tensile Strength	=	550 Kilograms / cm ²
Elongation	=	6%
Flexural Strength	=	890 Kilograms / cm ²
Compressive Strength	=	760 Kilograms / cm ²
“Izod” Impact test	=	2.88 Kilograms-Cm / cm ²
Heat Distortion Temperature	=	47°C
Rockwell Hardness (R - Scale,)	=	23
Lap-Shear Strength :		
○ Epikote-828 : 245-hs=60 : 40	=	160Kgr. / cm ²
○ Epikote-828 : 245-hs=70 : 30.....	=	200Kgr. / cm ²

(B) Chemical Immersion Tests :

Change in the weight of cured product was measured in each case after 7 days of immersion into the test solutions :

Water	=	0.65%
5% NaCl aqueous solution	=	0.62%
5% NaOH aqueous solution	=	0.60%
5% Liquid Ammonia	=	1.03%
5% H ₂ SO ₄ aqueous solution	=	1.45%
5% Acetic Acid solution	=	3.25%
Isopropanol	=	3.14%
Methyl-Isobutyl Ketone	=	8.10%