



# SYNPOL PRODUCTS PRIVATE LTD.

Regd Office & Factory: 77, G.V.M.S. AUDYOGIC VASAHAT LTD.,  
ODHAV, AHMEDABAD – 382 415, INDIA

PRODUCT CODE: Hardener / 04.06

## Hardener 280

TYPE : Cycloaliphatic polyamine mannich base.

DESCRIPTION : Highly reactive hardener suitable for under water, very low temperature and high humidity applications.

### SPECIFICATIONS :

1) Appearance	Reddish brown clear viscous liquid.
2) Specific gravity @ 25 <sup>0</sup> C.	0.97 - 0.99
3) Viscosity @ 25 <sup>0</sup> C., poises	20 - 30
4) Amine value mg. KOH / gm. by HClO <sub>4</sub> method	450 - 500
5) Mixing ratio with 100 parts of Synpol 200	30 - 35
6) Pot life @ 25 <sup>0</sup> C with Synpol 200 of 100 g mass, mts.	15 - 30
7) Cure schedule	
1. @ 25 <sup>0</sup> C., hrs.	24
2. @ 5 <sup>0</sup> C., days.	7
3. @ 25 <sup>0</sup> C	Gel at room temperature + 2 hrs @ 60 <sup>0</sup> C

COMPATIBILITY : Hardener 280 is compatible with all types of modified and unmodified liquid epoxy resins based on Bisphenol A & Bisphenol F, flexible epoxy resins such as Synpol ED 700, Synpol EG-155, and all types of reactive diluents and plastisizers.

APPLICATIONS : Hardener 280 is having very low solubility in water. The reactivity with epoxy resin is so high that no accelerators are required. The cure takes place at high humidity and low temperature down to 5<sup>0</sup> C and even under water. It also provides absence of any susceptibility to attack by carbon dioxide.

Hardener 280 due to its structure gives coatings with low flexibility. Sufficient flexibility is obtained by combining Bisphenol A base epoxy resin Synpol 200 with aliphatic epoxy resins such as Synpol ED-700 and Synpol EG-155. Adhesion on metal can be improved by suitable choice of extenders and pigments.

Hardener 280 gives excellent resistance to distilled water, dilute mineral acids, alkalies, salt water, detergents, hydrocarbon and chlorinated hydrocarbon solvents, moderate resistance against organic acids and methylated spirit, and poor resistance against ketones and glycol ethers.

Hardener 280 is very useful for solventless and solvent based coatings, floorings, concrete repair compounds particularly under cold & damp conditions. It is also recommended for glass fiber laminates.

### SUGGESTIVE FORMULATION :

*Coal tar modified solvent free epoxy coating for concrete and steel surfaces.*

Part I		kgs	
	Synpol 200	25.0	
	Coal tar (epoxy compatible)	25.0	
	Talc	8.0	
	Silica flour	<u>33.0</u>	91.0
Part II			
	Hardener 280	<u>9.0</u>	<u>9.0</u>
	Total		100.0

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DISCLAIMER: Above Specifications are subject to change without prior notice and company reserves the right to modify the same at any time

## MATERIAL SAFETY DATA :

Product name	Hardener 280
Flash point ° C. (Abel closed cup)	110
Flammability	Combustible
Toxicity	Mild toxic. Avoid direct contact with skin.
Handling	Keep away from sources of ignition, provide all electric connections of flame-proof design. Wear safety glasses, rubber gloves and protective clothings.
Emergency treatment and measures	
1 Hygienic precautions	Adequate ventilations.
2 Hygienic treatments (First Aid)	Flush eyes thoroughly with water. Apply ophthalmic cortisone for conjunctivitis and keratities. Wash out contaminated skin with soap and water. Gastric lavage (stomach wash), if swallowed, followed by saline catharsis.
3 Fire precautions (in case of outbreaks)	Use dry chemical or carbon dioxide. Water spray may help to keep containers cool, to dilute leaked resins and to diffuse vapours.
Spills and leakage	Absorb liquid materials in sand and collect solid material and burn under hood in incinerator.
Disposal and waste treatment	Spray into furnace under controlled conditions.

### STORAGE :

Hardener 280 should be stored in cool place under shade. The properties are so adjusted to have storage stability of minimum 6 months.

### PACKING :

25 kgs. M.S. drums, 50 kgs. Plastic carboys and 200 kgs. M.S. barrels.

### DISCLAIMER:

Information in this literature is to the best of our knowledge true and accurate. However, since conditions under which our products may be used are beyond our control, recommendations are made without warranty or guarantee.

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