

PRODUCT CODE : MISC. / 10.21

**Synpol 200, Hardener 340 & Hardener 350**
**SEALING OF HAIRLINE CRACKS IN CONCRETE BY COATING**

A common problem in the construction industries is the repair of concrete that has cracked because of excess loading or the inadequate provision of expansion joints. Now effective repairs can be carried out easily by using a low viscosity Epoxy-Hardener system. For all cracks wider than 0.012mm epoxy system is filled into cracks by high pressure injection system, and where crack is of hairline nature, injection system is not possible, and coating system is recommended.

Epoxy solvent free coating system with film thickness of 300-400 microns may be sufficient to stop water leakage in hairline cracks found in water tanks.

**Suggestive Formulation:**

	<i>Primer Coat</i>	<i>Top Coat</i>
<b>BASE</b>	<u>Parts by weight</u>	<u>Parts by weight</u>
Synpol 200 / Synpol 220	54.5	37.5
Titanium Dioxide	7.5	5.0
Quartz Flour	--	31.0
Aerosil 200	<u>1.5</u>	<u>1.5</u>
	<b>63.5</b>	<b>75.0</b>
 <b>HARDENER</b>		
Hardener 340	22.0	15.0
Hardener 350	11.0	7.5
Dibutyl Phthalate	<u>3.5</u>	<u>2.5</u>
	<b>36.5</b>	<b>25.0</b>
Mixing ratio: Base : Hardener (Parts by weight)	63.5 : 36.5	75.0 : 25.0
Pot Life at 25°C., Hours	1 – 2	1 – 2
Coverage, Sq.meter/kg.	3 – 5	2 – 3

Generally Synpol 200 is recommended for above application, but if lower application viscosity is desired, Synpol 220 (modified with Reactive Diluent) may be used with advantage and little compromise in performance properties.

**Method of application:**

After thorough cleaning of the surface, Primer Coat is applied by paint brush with nylon bristles. After a few hours, when Primer Coat is set and slight tack persists, Top Coat should be applied to get better inter-coat adhesion. If, by any reason Primer Coat has set leaving tack-free surface, then it should be sanded / abraded with sand paper before application of Top Coat.

**Safety precautions:**

The epoxy resin and hardener may cause irritation of the skin in sensitive persons. Good ventilation in process/application area is an utmost requirement along with cleanliness in work and work clothing, use of gloves and washing of hands and other contaminated body parts with soap and plenty of water is recommended.

**Continued..**

## **Chemical Resistance:**

### **Formulation**

	<b>Parts by weight</b>
Synpol 200	100
Hardener 340	45
Hardener 350	15
Substrate	Sandblasted steel
Film thickness	10-15 mils
Cure	10 days @ 20°C, 22 °C

Steel panels were immersed continuously for one year at room temperature.  
The following were unaffected after 12 months.

Water de-ionized	Tall-oil fatty acid
Seawater, artificial	30% Caustic soda solution
20% Salt solution	Ammonia, conc.
Paraffin oil	12% Sodium hypochlorite
Petroleum	20% Ethanol
Kerosine	Octanol
30% Sulphuric acid	Isopropanol
10% Hydrochloric acid	Glycerine
10% Nitric acid	40% Formaldehyde
43% Phosphoric acid	Dibutyl phthalate
50% Acetic acid	Diocetyl phthalate
10% Lactic acid	Tricesylphosphate
Linoleic acid	Pine oil
Ricinoleic acid	Acetadelyde

The others were attacked and/or destroyed

	<b>Attacked</b>	<b>Destroyed</b>
70% Sulphuric acid	5 days	1 ½ mos
Hydrochloric acid, conc.	-	2 mos
30% Nitric acid	1 day	1 ½ mos
Acetic acid, conc.	3-4 days	after a few days
Acetone	-	after a few days
Methyl ethyl ketone	-	after 9 mos
50% Ethanol	bet. 7-9 days	after 1 ½ mos
95% Ethanol	from the outset	after 8 mos
Butanol	from 1-8 mos	-
Diacetone alcohol	after a few days	2 mos
Ethylacetate	-	after a few days
Ethylene glycol	-	after a few days
Benzene	-	after a few days
Xylene	after a few days	-
Trichloroethylene	-	after a few days
Epichlorohydrin	-	after a few days
7% Phenol solution, aqueous	-	after a few days
Toluene	after a few wks	after 1 mo
30% Hydrogen peroxide	after 2 mos	-
Brake fluid, Dorax B (Shell)	after a few wks	after 2 mos

## MATERIAL SAFETY DATA :

Product name	Synpol 200, Hardener 340 & Hardener 350
Flash point <sup>0</sup> C. (Abel closed cup)	115 - 120
Flammability	Moderate fire risk.
Toxicity	Mild toxic.
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 :

It 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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