

SeaShield Marine Systems

SeaShield 530 Injectable Epoxy

Low Exotherm Epoxy Injection Resin

SeaShield 530 is a modified 2-component epoxy for larger cracks/voids and is formulated to produce low exotherm and structural stability in such applications.

Uses

SeaShield 530 Injectable Epoxy is designed for application using a pressure pot or other single component pumps. It has a relatively long pot life. Because of its lower heat of exotherm, it can be used to fill larger voids and where necessary also provides excellent water displacement, even on underwater injection projects.

Physical Properties

(unmixed) @ 77°F

Component "A" (resin):

| | |
|------------------|----------|
| Specific Gravity | 1.69 |
| Viscosity | 2000 cps |
| Color | White |

Component "B" (hardener):

| | |
|------------------|---------|
| Specific Gravity | 0.96 |
| Viscosity | 100 cps |
| Color | Black |

Physical Properties

(mixed) @ 77°F

| | |
|------------------|----------|
| Specific Gravity | 1.62 |
| Viscosity | 1200 cps |
| Color | Gray |
| Solids by weight | 100% |

Mixing Ratios

| | | Wt. | Vol. |
|----------|-----|-----|------|
| Base | "A" | 91 | 84 |
| Hardener | "B" | 9 | 16 |

Cure Schedule

| | |
|----------------------------|-------------|
| Pot Life 200 g. @ 77°F | 150 Minutes |
| Tack-free time @ 50°F/77°F | 22/11 Hours |
| Through cure @ 50°F/77°F | 66/33 Hours |

Cure time is considerably longer at colder temperatures.

Peak Exotherm vs. Typical Epoxy Injection Resin

Cylinder (2.5" x 3" HT)

| | |
|---------------|--------------|
| SeaShield 530 | 91°F (-33°C) |
| Typical Epoxy | 91°F (-33°C) |

Box (6" x 12" x 3")

| | |
|---------------|--------------------|
| SeaShield 530 | 163°F in 140 mins. |
|---------------|--------------------|

Box (6" x 6" x 3")

| | |
|---------------|-------------------|
| SeaShield 530 | 378°F in 60 mins. |
|---------------|-------------------|

Pot Life (Pressure Pot) @ 77°F

| | |
|---------------------------------|----------|
| SeaShield 530, 1 Gallon Sample: | |
| Practical working time: | 45 mins. |

Minimum Application Temperature

SeaShield 530 Injection Epoxy cures at temperatures down to 32°F.

Moisture Sensitivity

SeaShield 530 Injection Epoxy has excellent damp adhesion and water displacement capabilities.

Physical Testing (.20 cubes)

| | | |
|-----------------------------|---------------|----------------|
| Compressive Strength | 7 Days | 28 Days |
| Dry | 77.9 | 97.5 MPa |
| Tremmied Under Water | 77.5 | 97.5 MPa |

Slant/Shear Adhesion

ASTM C881/C882 exceeds requirements of this specification on wet surfaces at 41°F (5°C).

Surface Preparation

The area adjacent to the crack must be cleaned to obtain good adhesion. SeaShield 525 Epoxy is used to seal the crack and the injection devices. These devices may be plastic tees or ports depending on the technique used. To use ports (spaced every 6" to 12"), it is necessary to use a vacuum drill to make the holes for the injection ports. The placing of the injection devices is critical. Foreign material in a crack may be a major factor in the success of injection. It is sometimes possible to flush cracks to remove contaminants. A thorough study in this regard is always necessary.

Mixing and Application

SeaShield 530 Injectable Epoxy is designed for use with a pressure pot or other single component pump.

1. After the crack has been prepared for the pressure injection process, resin is pumped from one port (or tee) to the next in sequence. On a vertical crack, one starts at the bottom. If there is water in the crack it must be expelled by the resin being injected and this phase must continue until clear, water-free resin is emerging from the next port (or tee).
2. The injection process must be continuous until the entire crack is filled with resin.
3. Test samples of the resin being injected must be taken before, during and after the injection is complete. It is imperative that the injection process be continually monitored to ensure that the resin injected is properly mixed and will cure satisfactorily.

Note: When using a pressure pot, pour contents of "B" into "A" and mix well with a low speed power mixer (200 - 300 rpm) until one even color develops. Pour this into pressure pot.

Clean Up

Use MEK Solvent. CAUTION - This solvent is flammable so there must be no open lights, flames, sparking motors or pilot lights in the vicinity. All equipment must be cleaned immediately after use.

Safety and Toxicity

Epoxy systems are capable of producing severe injury to, or destruction of, skin and eye tissues. They are classified as corrosive for shipping purposes. Precautions must be taken to prevent prolonged or repeated skin contact and it is essential to protect the eyes from splashes. Protective clothing, rubber gloves and chemical goggles should be worn when working with these products.

Some people become sensitized when working with epoxy resin systems. The sensitization may appear in the form of skin or respiratory reactions. Avoid breathing vapors, particularly if these products are used in a confined area. Face mask with respirator #1224 is usually adequate. Air supplied mask is suitable for use in confined areas.

Storage

Store in heated area and on pallets. Do not allow products to freeze. Shelf life in unopened containers is two years.

Packaging

1 Gallon Units (A & B)

Each container is clearly marked with product name, component designation ("A" or "B"), manufacturer's name, batch number and ratio of component mixtures. Containers of "A" and "B" are color coded the same.

Warranty

Manufacturer WARRANTS that the product conforms to its chemical description and is reasonably fit for the purpose stated on its Technical Bulletin when used in accordance with its directions. Manufacturer makes NO OTHER WARRANTY either expressed or implied. Buyer assumes all risk in handling.



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