BIO-DUR® 560

FOR APPLICATION ABOVE OR BELOW WATER

Thin Film Technology, Inc.

PRODUCT DATA SHEET

BIO-DUR® 560 is based on a unique blend of liquid epoxy polymer and aliphatic polyamine curing agents, which is able to displace water from wet surfaces in order to make a permanent bond. The formulation is solvent-free to ensure safety and maximum technical performance. Kevlar™* fibers are incorporated for reinforcement and viscosity management to achieve high application rates-even underwater!

BIO-DUR® 560 provides permanent protection under the most adverse conditions. The formula is uniquely field-friendly and uses advanced low toxicity ingredients in a high build brushable-rollable product. The sister product BIO-DUR® 561 is available if a higher viscosity; "light paste" consistency is required. All colors including White are available and can be shipped "Non-regulated" by USDOT, IATA, and IMO.

Kevlar is a trademark of E.I. DuPont de Nemours Co.

RECOMMENDED USES

ANTICORROSIVE COATING: Splash zone, abrasion resistance above or below water.
REPAIR COMPOUND: Patching, leak sealing, etc. above and below water.
FAIRING COMPOUND: Smoothing rough steel and concrete.
ENCAPSULATING COATING: Smooth, dense, easily decontaminated coating for steel and concrete.
WASTEWATER: Reinforces, smoothes, and protects concrete exposed to chemical or municipal waste

TECHNICAL INFORMATION

VEHICLE TYPE	Epoxy/Aliphatic amines
PIGMENTATION	Color/Inert/fibrous reinforcement
COLORS	Standard White, Black, Gray – other available
FINISH	Slight texture
THINNER	Not normally required
CLEANER	MEK or lacquer thinner
MIXING RATIO	1.0/1.0 v/v
INDUCTION TIME	Not required
POT LIFE	Approx. 40'/77˚F
FLASH POINT	Over 200˚ F
SOLIDS BY VOLUME	100%
SPREADING RATE/GAL	1604 MIL/sq.ft/gal, 53.5 sq.ft/gal @ 30 mils
DRY TIME, (Dust free)	4 hours at 77˚ F
DRY TIME, (Service)	14 hours light, 72 hours heavy
APPLICATION METHOD	Brush, roller, heated plural airless spray
STORAGE CONDITIONS	Normal, Freezing OK
VOC	Essentially zero

APPLICATION NOTES

SURFACE PREPARATION: Remove marine biological settlement and corrosion by high-pressure water jetting with or without abrasive. Conventional air/abrasive blasting works well at shallow depths; however, efficiency falls off sharply below about 10 feet. Hand held power tools such as needle guns or grinders can give good results if applied conscientiously in small areas but will be inadequate in large areas. Plan to apply the BIO-DUR® 560 within 45 minutes maximum after surface preparation to minimize rerusting or initial settlement of fouling slime, which interferes with initial adhesion.

Application above water requires similar high pressure water blasting or dry abrasive blasting to yield a firm, granular surface free of loose contamination.

MIXING PROCEDURE: BIO-DUR® 560 is supplied either in 2 gallon or 4 gallon kits of 2x1, 2x2 or 2x5 gallon containers respectively each of epoxy base and curing agent. These components are formulated in contrasting colors to facilitate complete mixing. "Black" BIO-DUR® 560 for example is supplied with a jet black epoxy base and an off-white curing agent which mix together to yield a black mixture, visible streaks of either black or white seen during the course of mixing indicate "hotspots" unmixed components. It is imperative to properly mix the components since unmixed "hotspots" of either base or curing agent ***will never cure***.

Remove equal quantities of base and curing agent from their cans and place them in a clean plastic or steel container. Mixing is easily accomplished by stirring with a "Jiffy" type mixer in a geared down, (high torque), ½" electric drill. Once mixing begins there will be about 40 minutes of working time available at 80˚F. This time may be extended by keeping the components and mixture cool-- rather than leaving it in a hot area.

APPLICATION:

1) Using a stiff brush or roller apply from a tray of mixed material aiming for a coverage rate of about 50sq.ft./gallon.
2) Application by heated plural spray is easy using the following equipment setup:
   Graco "King" or similar with heated hoses.
   Mix ratio: 1/1 by volume
   Fluid pressure: 2,500 psi
   Fluid temp: 140˚F
   Filters: Remove all filters
   Tip size: .031" - .039" orifice

Note: For productivity estimate an application rate of one gallon per minute through a 0.035" tip at 2,500psi.

CURING BEFORE SERVICE: BIO-DUR® 560 may be immersed in fresh or salt water immediately after application. It will cure to a hard film within about 14 hours and is suitable for traffic after this time. Allow at least three (3) days at 77˚F before subjecting to aggressive chemical service from industrial solvents and similar materials.

TYPICAL PHYSICAL PROPERITIES OF THE CURED FILM:

Compressive strength:	7,380 psi (50.9 N/mm2)
Tensile Strength:	6,000 psi (est)
Flexural Strength:	4,550 psi (31.4 M/mm2)
Abrasion Resistance:	34.0 mg/1,000 cycles (CS17 wheels with 1,000 gram weights)

WE URGE YOU TO READ THE MATERIAL SAFETY DATA SHEET (MSDS) BEFORE USING AND TO CALL THIN FILM TECHNOLOGY, INC., AS NECESSARY FOR ADVICE OR INFORMATION BEFORE ANY ACTUAL OR CONTEMPLATED APPLICATION.

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