BIO-DUR® 290

FOR APPLICATION ABOVE OR BELOW WATER

Thin Film Technology, Inc.

PRODUCT DATA SHEET

BIO-DUR® 290 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.

Although solvent-free the formula is designed for high build application using standard spray equipment such as single-component airless spray or pressure pot.

BIO-DUR® 290 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 or plural sprayable product. Ships "Non-Regulated" by USDOT, IATA and IMO.

RECOMMENDED USES

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

TECHNICAL INFORMATION

VEHICLE TYPE	Epoxy/Aliphatic amines/modifiers
PIGMENTATION	Color/Inert/inorganic plates
COLORS	Standard Black – others available
FINISH	High gloss, slight texture, smooth when sprayed
THINNER	Not normally required
CLEANER	MEK or lacquer thinner
MIXING RATIO	2.0/1.0 v/v
INDUCTION TIME.	Not required
POT LIFE	Approx. 35 - 45’ / 77°F
FLASH POINT	Over 200°F
SOLIDS BY VOLUME	100%
SPREADING RATE/GAL	53.5 sq.ft./gal @ 30 mils
OPTIMUM FILM THICKNESS	25 – 40 mils
DRY TIME, (Dust free)	8 hours at 77°F
DRY TIME, (Service)	14 hrs. light, 72 hrs. heavy
APPLICATION METHOD	Brush, roller, pad or airless spray
STORAGE CONDITIONS	Normal, avoid freezing
VOC.	Essentially zero at normal ambient temperatures

APPLICATION NOTES

SURFACE PREPARATION BELOW WATER: 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'. 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 especially on pitted or rough surfaces. Plan to apply the BIO-DUR 290 within 45 minutes maximum after surface preparation to minimize re-rusting or resettlement of fouling slime, which interferes with adhesion.

SURFACE PREPARATION ABOVE WATER: Application above water requires similar high pressure water blasting or dry abrasive blasting to yield a firm, granular surface free of loose contamination. Since there is no problem from resettlement of marine fouling when working above water it is possible to delay application of the BIO-DUR 290 provided fresh contamination of the surface does not occur. Do not spray onto wet surfaces – application by brush, pad or roller is necessary to displace the water film on wet surfaces.

MIXING PROCEDURE: BIO-DUR 290 is supplied either in 2, 3 or 15-gallon kits of epoxy base and curing agent. It is imperative to thoroughly mix the components since unmixed "hotspots" of either base or curing agent ***will never cure.***

Mix full kits of base and curing agent which are premeasured at the factory by adding the smaller curing agent unit into the epoxy base unit. 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 50 sq.ft./ gallon.
2) Application by heated plural spray is easy using the following equipment setup:

Graco "King" or similar with heated hoses.	
Mix ratio:	2/1 by volume
Fluid pressure:	2,500 psi
Fluid temp:	120°F -140°F
Tip size:	.021" orifice

3) Application by standard high pressure airless spray requires a heavy duty unit capable of pressures to 4,500 psi.
4) Pressure pot application setup recommendation:

Pressure Pot:	5 gallons with agitator and bottom outlet
Air Cap:	18 – 20 CFM
Orifice:	86 – 110thou”
Spray gun:	Binks Model 2100 or similar

CURING BEFORE SERVICE: BIO-DUR® 290 may be immersed in fresh or salt water immediately after application. Do not expose to mechanical damage until the coating is firmly cured after about 24 hours at normal ambient temperatures.

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

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