

BIO-GARD™ 255

100% SOLIDS PROTECTION



Thin Film Technology, Inc.

PRODUCT DATA SHEET

BIO-GARD™ 255 is a premium quality 100% solids epoxy coating designed for exacting duty in tough corrosive/erosive conditions.

Pure liquid epoxy resins cured by aliphatic, advanced polyamine compounds and inert pigmentation are used for maximum chemical and physical properties. Exposure to water or high humidity during curing has no adverse effect on BIO-GARD™ 255

Although proper surface preparation is always recommended for optimum performance BIO-GARD™ 255 is so tolerant of substandard surfaces that it may easily be applied and cured underwater with good results.

BIO-GARD™ 255 is formulated without solvents. This allows extremely high film thickness to be applied without the danger of solvent entrapment common with most high performance coatings.

RECOMMENDED USES

MARINE AND OFFSHORE: Heavy-duty linings in heat exchange equipment and on steel exposed to chemical or physical attack.

POWER GENERATION: Tube sheet, water-box, draft-tube and penstock linings.

INDUSTRIAL MAINTENANCE: Heavy duty lining for steel and concrete where extreme resistance to aggressive chemicals such as 50% caustic soda or 98% sulfuric acid is required.

TECHNICAL INFORMATION

VEHICLE TYPE	: PURE EPOXY/ALIPHATIC POLYAMINE
PIGMENTATION	: COLOR/INERT
STANDARD COLORS	: ALL COLORS INCLUDING WHITE
FINISH	: HIGH GLOSS
THINNER/CLEANER	: Thinners not normally required, use MEK for clean-up.
MIXING RATIO	: 3/2 BY VOLUME
INDUCTION TIME	: NOT REQUIRED
POT LIFE	: 45 MINUTES/QUART MASS @ 77°F
FLASH POINT	: OVER 100°F
SOLIDS BY VOLUME	: 100%
REC. DRY FILM THICKNESS	: 8.0 – 10.00 MILS PER COAT, THREE (3) COAT APPLICATION
THEO. SPREADING RATE	: 200 SQ.FT./GAL @ 8.0 MILS; 64SQ.FT./GAL @ 25 MILS
APPLICATION METHOD	: BRUSH, PAD, ROLLER HEATED PLURAL AIRLESS SPRAY
DRY TIME – TOUCH	: 4 HRS/77°F
DRY TIME – HARD	: 18 HRS/77°F
OVERCOATING TIME – MIN	: N/A WET ON WET ACCEPTABLE
OVERCOATING TIME – MAX	: 7 DAYS PROVIDING SURFACE IS CLEAN AND INTACT
SHELF LIFE	: 12 MONTHS MINIMUM FROM DATE OF SHIPMENT
VOC	: ZERO

APPLICATION NOTES

BIO-GARD™ 255 is an advanced performance material designed to offer maximum service in difficult exposures while offering extreme "field friendliness" in mixing ratio and tolerance of typical practical application conditions. The complete absence of solvents in this formulation ensures freedom from odors during application and curing and eliminates the osmotic blistering often found in other high performance coatings as a result of retained water sensitive solvent left in the cured film after curing.

SURFACE PREPARATION: Proper surface preparation in high performance applications plays a key part in obtaining optimum performance of the coating system. The best preparation method for preparing metal prior to coating is by air/abrasive blasting using clean, dry compressed air and a suitable abrasive in order to achieve a cleaned surface equivalent to "White Metal" standard SSPC-SP-5 with an anchor profile of about 2.5 mils. In practice it is more likely to achieve "Near White" standard SSPC-SP-10 which is about 95% as clean as SSPC-SP-5. Both of these standards provide an excellent surface for the application of BIO-GARD™ 255. In some instances it is not possible to abrasive blast, spent abrasive, for example, may not be tolerated in the vicinity of other equipment. In situations such as this it is possible to provide an adequate surface by abrasive discing, needle gunning, or high-pressure water blasting at over 8,000psi. When surface preparation is compromised we recommend applying the first coat of BIO-GARD™ 255 by brush in order to obtain the best possible wetting and penetration of the surface. Ensure that application of the first coat of BIO-GARD™ 255 is applied immediately after approval of the surface before oxidation takes place.

BIO-GARD™ 255 will tolerate extremely compromised surfaces to the extent that it may be applied underwater to cleaned surfaces with excellent results. The formulation is designed to be hydrophobic in order to repel water during application and curing. High relative humidity or exposure to liquid water during curing will have negligible effect on performance. Temperature can have a significant effect on the rate of curing, in broad terms expect each 10°C (18°F) rise or fall in temperature to half or double dry times and pot lives.

MIXING: BIO-GARD™ 255 is formulated with aliphatic, (straight chain), curing agents in order to obtain flexible and light colored films and to avoid the handling problems of aromatic polyamines. The formulation is supplied prepackaged in a field-friendly 3/2 ratio by volume, if a small quantity is required for minor touch up this may be mixed on the job using, for example, plastic coffee cups or similar vessels as disposable containers. Ensure the components are completely mixed before use, "sweat-in" or induction time is not required for this material. Larger quantities such as the standard 2 gallon kit are best mixed by mechanical mixers especially on large jobs where hand mixing quickly becomes tedious and unreliable.

APPLICATION: Application of BIO-GARD™ 255 in smaller areas such as tube sheets and water boxes is straightforward using brush, roller, pad etc. Larger areas may also be coated using the tools above however it may be economical to employ heated, plural component airless spray equipment which gives excellent productivity and film appearance.

"Stripe coating" is recommended in applications where there are sharp edges present from structural features, cutouts etc. After surface preparation by abrasive blasting apply the first full coat and allow to cure until firm enough to allow access to the work area without damage then brush apply a "stripe" coat to all edges. This simple procedure ensures proper coverage of edges and greatly extends the service life of anticorrosive systems.

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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SAFETY: This is a hazardous material if misused. Read and understand the Material Safety Data Sheet (MSDS) before use.

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