

BIO-GARD™ 251

100% SOLIDS EPOXY
HEAVY DUTY
PROTECTION



PRODUCT DATA SHEET

BIO-GARD 251 is based on pure liquid epoxy polymers and aliphatic amine curing agents. Pigmentation is selected for hardness and durability in order to obtain the best possible properties in the cured film.

BIO-GARD 251 is formulated with *no* volatile solvents and is so completely tolerant of water that it may be applied to damp or wet surfaces yet still function well as an anticorrosive barrier coating. Applications may be made using brush or roller with no special ventilation requirements. Odor during application is almost completely absent. Airless spraying using heated, 2/1 plural equipment is easily accomplished at a fluid temperature of 140°F. The standard "00000" version may be shipped "Non-Regulated" by air or surface. Note - This material is ideal for most applications but it will yellow on exposure to UV light.

BIO-GARD 251 has been successfully tested against ANSI N-101.2 and ASTM 3911, (340°F BWR curve), criteria for Radiation and DBA in nuclear applications. (Radiation dose rate was $2.2 \times 10(6)$ rads/hour for a total of $1.1 \times 10(9)$ rads @ 79°F).

RECOMMENDED USES

ANTICORROSIVE COATING: Abrasion resistance above or below water.

WASTEWATER: To reinforce, smooth, and protect worn concrete damaged by exposure to chemical or municipal waste streams. Especially useful as the final gloss coating over worn concrete which has been rebuilt using other PowerWrap repair products.

INDUSTRIAL: General purpose chemical resistant lining for waste neutralization pits, secondary containment, etc. When used with entrained or broadcast grit, it makes an excellent, chemical resistant floor and stair coating.

TECHNICAL INFORMATION

COMPOSITION: Vehicle Type.....Epoxy/Polyamines

Pigmentation.....Color/Inert

Solids by Volume.....100%

Flash PointOver 212°F

VOC.....Essentially Zero

APPEARANCE: GlossGlossy smooth surface

Color.....Standard white, Haze Gray – all others available

APPLICATION: MethodsBrush, roller or heated 2/1 plural airless

Rec. Dry Film Thickness 8 - 16 mils, (200-400 microns)

Rec. Wet Film Thickness..... 8 - 16 mils, (200-400 microns)

Coverage, (theor.) 160 sq.ft./gallon @ 10 mils thickness

Induction TimeNot Required - may be used immediately after mixing

Pot Life.....Approx. 40' @ 77°F, (25°C)

Dry Time – Dust Free5 hours @ 77°F, (25°C)

Dry Time - Service.....12 hours handling,24 light service@ 77°F, (25°C)

STORAGE: Shelf Life.....24 months under normal storage conditions

TRANSPORTATION:.....USDOT, IATA, & IMO "Non-Regulated"- (00000version)

UN2735, HAZ CLASS 8 PG III - (11111version)

APPLICATION NOTES

SURFACE PREPARATION: This may be accomplished in several different ways:

Bare Concrete: surfaces should be allowed to cure for a minimum of 20 days before coating. Weak surface laitance must be removed by either acid etching or, preferably, abrasive sweeping before coating. Aged, uncoated concrete surfaces are best prepared by abrasive sweeping. Unless carried out properly acid etching can give unpredictable results due to inadequate etching or inadequate rinsing, for this reason abrasive blasting is the preferred method of preparation. Contamination by oil or grease should be removed with an industrial degreaser before abrasive blasting or acid etching.

Coated Concrete: with worn but generally sound coatings may be coated after a thorough and vigorous cleaning with aggressive cleaner. Note: BIO-GARD 251 will not soften existing coatings since it contains no solvents however the ultimate strength of the coating system will be determined by the strength and adhesion of the residues of existing coatings. If the integrity of the existing coatings is doubtful they should be removed by abrasive blasting or other mechanical means to ensure good results from the fresh BIO-GARD 251 application.

Metallic Substrates: are best prepared by abrasive blasting. Small areas may be cleaned using grinders or needle guns however these methods are not practical for large jobs or tight clearances.

MIXING PROCEDURE: BIO-GARD 251 is supplied in 2 gallon kits of comprising 1.33 gallons of epoxy base in a 2 gallon plastic pail with 0.67 gallons of curing agent packed in a one gallon steel can. A 1/2" "Jiffy" type mixer with a high torque motor is recommended for proper blending. Pour the curing agent into the base and mix for about 2 minutes taking care to stir in all base material from the edges and base of the plastic pail, *unmixed material will never harden*. No induction or "sweat-in" time is required and the mixed material may be used immediately.

Pot life and reaction time is heavily dependent on temperature, as a general guide figure that each 18°F, (10°C), variation in temperature above or below 77°F, (25°C), will respectively halve or double the pot life and cure times.

APPLICATION: Application on a floor is assisted by using a squeegee to distribute the BIO-GARD 251 then backrolling to achieve an even coating. The material will thicken in cold weather and will be very heavy at temperatures of 50°F and below. It may be useful to employ a squeegee to quickly distribute the coating over vertical surfaces before finishing with a brush or roller. If permissible to use solvent it will be found that 5 -10% of lacquer thinner or MEK will greatly reduce viscosity in cold weather allowing easier application.

Application by heated plural component airless spray is ideal using the following setup:

Fluid Temperature:	140°F
Fluid Pressure:	2,500 psi
Tip Size:	typically 0.021 – 0.026"
Mix Ratio:	2/1 by volume

CURING BEFORE SERVICE: BIO-GARD 251 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.

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



PowerWrap LP • 3605 W Pioneer Pkwy • Ste C • Arlington TX 76013
(817) 303-7473 • Fax: (817) 277-7473 • Mobile (214) 850-3746
Email: bill@powerwraplp.com • Website: www.PowerWrapLP.com

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

WARRANTY DISCLAIMER: The technical data given herein has been compiled for your help and guidance and is based upon our experience and knowledge. However, as we have no control over the use to which this information is put, no warranty, express or implied, is intended or given. We assume no responsibility whatsoever for coverage, performance, or damages, including injuries resulting from use of this information or products recommended herein.