BIO-SEAL™ 199

CHEMICAL RESISTANT PENETRATING EPOXY SEALER

Thin Film Technology, Inc.

PRODUCT DATA SHEET

BIO-SEAL™ 199 is based on pure, chemical resistant **liquid** epoxy polymers and proprietary polyamine curing agents. It is formulated with *no* volatile solvents and is so tolerant of water that it may be applied to damp yet still function well as a reinforcing seal coating. Applications may be made using brush or roller with no especial ventilation requirements -odor during application is almost completely absent. Airless spraying using standard single component equipment is easily accomplished at a fluid temperature of 70°F.

The standard "00000" version may be shipped "Non-Regulated" by air or surface. This material is ideal for most applications, but it will yellow on exposure to UV light. A UV-resistant version is available that uses the same epoxy base with curing agent BS 199-11111B, and this material ships UN1760, "Corrosive Liquid N.O.S." PG III.

RECOMMENDED USES

PENETRATING SEALER -used to seal and protect concrete, brick and similar surfaces against chemical attack, and penetration by water leading to chloride and freeze-thaw damage.

REINFORCING PENETRANT -when applied to bare sheetrock surfaces will penetrate the entire fiber surface into the gypsum and will cure to a hard, tough and damage resistant layer. Especially suitable for applications where frequent contact with gurneys, trolleys and similar equipment is anticipated.

TECHNICAL INFORMATION

COMPOSITION:	Vehicle Type…….……..	Epoxy/Polyamines
	Pigmentation…….……	Inert
	Solids by Volume…….	100%
	Flash Point …….	Over 212°F
	VOC …….	Essentially Zero
APPEARANCE:	Gloss ……...	Matte when fully absorbed, unabsorbed is full gloss
	Color……	Standard Haze Gray or Tan
APPLICATION:	Methods ……...	Brush, roller or spray
	Rec. Dry Film Thickness . ……	5 mils, (127 microns)
	Rec. Wet Film Thickness…….	5 mils, (127 microns)
	Coverage, (theor.) . ……...	320 sq.ft./gallon @ 5 mils thickness
	Induction Time ……	Not Required - may be used immediately after mixing
	Pot Life…….	Approx. 45’ @ 77°F, (25°C)
	Dry Time – Dust Free ……...	8 hours @ 77°F, (25°C)
	Dry Time - Service……...	24 hours handling, 36 hours light service @77°F, (25°C)
STORAGE:	Shelf Life……...	12 months under normal storage conditions
TRANSPORTATION:	…….. ……	USDOT, IATA,& IMO “Non-Regulated”– (00000 version)
	….……...	UN1760, HAZ CLASS 8, PG III – (11111 version)

APPLICATION NOTES

SURFACE PREPARATION:

Bare Concrete: surfaces should be allowed to cure for a minimum of 20 days before coating. Excessive 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 either abrasive blasting or acid etching.

High pressure water-jetting using minimum 3,500 psi held close-in is ideal for architectural concrete surfaces. Allow to dry before application of BIO-SEAL 199 in order to permit absorption into the concrete surface.

MIXING PROCEDURE: BIO-SEAL™ 199 is supplied in 2 gallon kits of comprising epoxy base in a part filled 2 gallon plastic pail with curing agent packed in a part filled one gallon steel can. A "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: Brush or roller application is straightforward and requires no special technique. Application on a floor is assisted by using a squeegee to distribute the BIO-SEAL™ 199 then backrolling to achieve an even coating. The material will thicken in cold weather and will be noticeably heavier at temperatures of 50'F and below. 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.

When used as a sealer, take care not to over apply the product, which will result in areas of unabsorbed, glossy surface that will be slippery when wet. Note: should this occur it is possible to apply a thin coat of BIO-SEAL™ 199 followed by a light broadcast of 24 -36 mesh abrasive such as aluminum oxide or sand backrolled into the wet coating, this will yield an attractive, slip resistant surface. BIO-SEAL™ 199 applied over bare sheetrock for sealing and reinforcement may be over coated with latex paint as soon as absorption is complete as indicated by a complete loss of gloss over the sealed area.

When a glossy surface is desired over an absorbent substrate such as concrete or brick it will be necessary to apply at least two coats of BIO-SEAL™ 199. The first coat will penetrate and seal. After this seal coat has cured for about six hours minimum a "glaze coat" of BIO-SEAL™ 199 may be applied at about 5 mils thickness, (320 sq.ft. per gallon), to yield a tough, high gloss finish. A light broadcast of abrasive such as Aluminum Oxide or silica sand backrolled into this coat will provide enhanced slip resistance.

CURING BEFORE SERVICE: BIO-SEAL™ 199 will cure to a hard film within 36 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 THIN FILM TECHNOLOGY, INC. AS NECESSARY FOR ADVICE OR INFORMATION BEFORE ANY ACTUAL OR CONTEMPLATED APPLICATION.

Thin Film Technology, Inc. • PO Box 580669 • Houston TX 77258-0669
(713) 910-6200 • Fax: (713) 910-6210 • Mobile (281) 802-0723
Email: jeff@thinfilmtech.net • Website: **www.thinfilmtech.net**