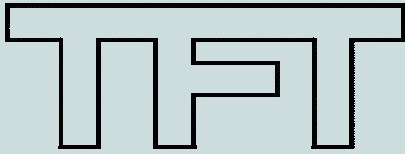


# BIO-FILL™ 456

## SAFETY FILLER



Thin Film Technology, Inc.

## PRODUCT DATA SHEET

### HIGH STRENGTH VOID FILLER

**BIO-FILL™ 456** is a specially designed void filler and repair compound used for filling and leveling concrete surfaces damaged by physical or chemical exposure. **BIO-FILL™ 456** is based on liquid epoxy resins, aliphatic polyamine curing agent and proprietary pigmentation and additives to yield a strong yet lightweight filler with excellent chemical and physical properties and outstanding adhesion even to wet concrete.

**BIO-FILL™ 456** may be applied up to 2" thick on vertical concrete surfaces with no effective thickness limit on horizontal applications. A thin, "block filler" application is easily made using straight edged spreaders. **BIO-FILL™ 456** will not soak into porous surfaces such as cinder block and has excellent "bug hole" filling properties. It may be left uncoated or may be over coated with finish coats such as epoxies, polyurethanes or latex. The formula is "Not Regulated" by IATA, IMO and USDOT and ships without complication as "NonHazardous".

## RECOMMENDED USES

**CIVIL ENGINEERING:** Replacing concrete lost by impact or abrasion in, for example, the Power Generation and Transportation Industries.

**CHEMICAL EXPOSURE:** Restoration and protection of concrete exposed to chemical attack in sumps, secondary containment and similar areas

## TECHNICAL INFORMATION

VEHICLE TYPE .....	Epoxy/ Polyamines/Proprietary
PIGMENTATION .....	Inert
COLORS .....	Gray – Others as specified
FINISH .....	Matte
THINNER .....	Not Required
CLEANER .....	MEK or standard epoxy thinner
MIXING RATIO .....	1.0/1.0 (Volume)
INDUCTION TIME .....	Not Required
POT LIFE .....	40 Minutes/77°F/One Quart Mass
FLASH POINT .....	Over 200°F
SOLIDS BY VOLUME .....	100%
SPREADING RATE/GAL.....	25.7 sq. ft./gal @ 1/16"
DRY TIME, (Touch) .....	4 Hr/77°F
DRY TIME, (Hard).....	14 Hr/77°F
APPLICATION METHOD.....	Trowel or straight edged spreader
SHELF LIFE.....	24 Months minimum
WEIGHT PER GALLON.....	Approx 7lb/gal

## APPLICATION NOTES

**SURFACE PREPARATION:** **BIO-FILL™ 456** is formulated without solvents. This makes it possible to apply any thickness without shrinkage. It will adhere to almost all clean surfaces including previously coated surfaces and such solvent sensitive substrates as asphalt. In order to obtain good adhesion, it is necessary to provide a firm clean substrate. This may be achieved by abrasive blasting, chipping, high pressure water blasting and so on. Residues of oil or dust and debris will impair adhesion and must be removed before application.

**MIXING:** **BIO-FILL™ 456** is supplied in pre-measured containers to yield a 1/1 mixing ratio by volume. The Black epoxy base and White curing agent blend to produce a Haze Gray finished material. Streaks of black or white indicate inadequate mixing. Small amounts may be mixed by using plastic cups or similar containers to measure two volumes of base to one volume of curing agent. Whenever possible use heavy duty geared mechanical mixers to blend the curing agent into the epoxy base, mixing large volumes of heavy material by hand quickly becomes tedious. The product may be poured or applied immediately after mixing without waiting for a "sweat-in" or induction time.

**APPLICATION:** (A) Horizontal areas: Pour the mixed components into the prepared void area taking care to ensure that the **BIO-FILL™ 456** will be able to displace trapped air or water. It will be helpful to paddle the mixture around the void space if there is a possibility that trapped air or water is present. **BIO-FILL™ 456** is less dense than water so although it will bond strongly to damp concrete, it will float above standing water preventing a bond.

(B) Vertical areas: **BIO-FILL™ 456** may be applied up to about 2" thickness over vertical concrete surfaces. Apply the mixed material against the concrete using a straight edged spreader or similar tool and press into the void to be coated in order to "wet" the interior surface. Excess product is easily removed and returned back to the pot or spread out in a thin layer using the straight edged spreader.

**CURING:** **BIO-FILL™ 456** is formulated using entirely liquid resins in order to avoid the use of solvents. Substantial polymerization has to take place before hardening becomes apparent. The rate of the polymerization reaction is very dependant on ambient temperature and will be quite slow at temperatures below about 55°F, (13°C). If low temperature use is anticipated and curing rate is critical an accelerator may be used which will speed up curing at the expense of pot life. At 80°F, (27°C), the mixture will show a significant exotherm about 50 minutes after mixing and will be set firm but elastic overnight. The curing will proceed for several days ultimately yielding a resilient, very tough plug or surfacing.

**OVERCOATING:** The cured product may be over coated with a variety of topcoats if desired. Materials such as **BIO-GARD™ 251** will give an extremely durable surfacing ideal for flooring or secondary containment applications. Where strictly cosmetic effect is desired it is possible to overcoat with latex, vinyl-acrylic or similar paints.

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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