

DuroFil

Grout & Rebuilding

GENERAL DESCRIPTION

DUROMAR DUROFIL is a specially formulated 100% solids epoxy grout and rebuilding product for filling holes and rebuilding severely chemically attacked concrete floors and secondary containment areas. **DUROFIL** provides an excellent base for other **DUROFLOR®** products, such as **CHEMCRETE, DF-4301**, etc., where more acid resistance or a smoother finish is required.

FEATURES

- Good chemical and thermal resistance
- Good resistance to impact and abrasion
- Cures at high humidity
- Good adhesion to new (10 day old) or damp concrete

PACKAGING

4 gallon unit:

- 3 gallons base (B)
- 1 gallon hardener (A)

20 gallon unit:

- 15 gallons base (B) in 3 x 5 gallon pails
- 5 gallons hardener (A) in a 5 gallon pail

40 gallon unit:

- 30 gallons base (B) in a 30 gallon drum
- 10 gallons hardener (A) in 2 x 5 gallon drums

COVERAGE

One (1) gallon of **DUROFIL**, when mixed with the maximum amount of aggregate (60 lbs.), has the consistency of concrete and yields about 0.5 ft³ of product. **DUROFIL** can be applied at almost any depth required at this consistency. **DUROFIL** applied at a depth of 1" will cover about 6 ft². If used with only the sand portion of the fill mix, thicknesses of up to 2" can safely be poured on horizontal surfaces.

MIXING RATIO

- 3.6 parts base (B) to 1 part (A) hardener by weight
- 3 parts base (B) to 1 part (A) hardener by volume

To obtain a one (1) gallon unit, mix 3 quarts of base and 1 quart of hardener with 60 lbs. of fill mix. The fill mix, supplied by the applicator, consists of 30 lbs. of washed fine sand (sandblast sand about 2.5 gallons) and 30 lbs. of 1/4" pea gravel (about 2 gallons) per gallon of resin mix.

POT LIFE

Pot life for a one gallon mix (1 gallon of resin and 60 lbs. fill mix) is about 30 minutes at 70°F. Higher temperatures or larger volumes will shorten this time. Lower temperatures or spreading out the mix will extend the pot life.

COLORS

DUROFIL is designed as an underlay material and therefore is not pigmented.

TECHNICAL DATA AND INFORMATION

Basic Chemical Resistance at Room Temperature:

Inorganic Acids	Fair
Organic Acids	Fair
Solvents	Good
Alkalis	Excellent
Salts	Good
Alcohols	Good
Hydrocarbons	Good

Typical Physical Properties of Cured System*:

Density	2.21
% Solids	100
Flexural Strength @ 70°F	5-8,000 psi
Tensile Strength @ 70°F	2-3,000 psi
Bond Strength to Concrete	Exceeds tensile strength of concrete
Max. Dry Operating Temp	250°F
Compressive Strength	13-17,000 psi
Operating pH Range	2.5-14
Linear Shrinkage	0.01%

*Dependent on size and amount of fill.



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to ISO 9001

SURFACE PREPARATION

- For maximum adhesion, material should be applied to a firm, clean, dry and abraded surface.
- Clean greasy, oily or waxed surfaces with suitable solvent before applying material.
- Best results will be obtained by abrasive blasting the surface.
- If blasting is impractical, water blasting, acid etching, or grinding can also be used.
- Surface may be damp (no standing water) during application.

MIXING & APPLICATION

A one (1) gallon unit of resin may be mixed in a 5 gallon pail using an electric mixer or in a 5 gallon electric bucket, mixer. For larger units, a side loading cement mixer may be used. Mix the base (B) and hardener (A) together first for about 30 seconds. Immediately add the fill mix and continue mixing for about one (1) minute to wet out the sand and gravel. Immediately pour the mix onto the area to be covered and level with a steel trowel or spreader bar. If the mix appears too dry, use less fill mix--if too wet add more sand. Material temperature should be between 70° and 85°F and surface temperature at least 40°F.

- Min. Thickness/Coat (mils) 30
- Max. Thickness/Coat (mils) 2000
- Number of Coats 1-2
- Min. Application Temperature (°F) 40

CLEANUP

Most solvents and commonly used thinners such as MEK, acetone, xylene, 1,1,1 trichloroethane, and safety solvents such as Ensolv, etc., can be used for cleaning tools and equipment. However, as many of these materials are flammable or present other safety hazards, the user should read the MSDS for these materials before using. In no event should these materials be used to clean material from the skin, eyes or clothing.

OVERCOATING

DUROFIL may be overcoated with any **DUROMAR** product as soon as it is "tack free" or firm enough to accept the overcoat. If the **DUROFIL** is allowed to cure for more than five days before overcoating, the surface must be water washed and lightly sandblasted to prepare the surface for overcoating.

DUROFIL Overcoating Window

55°F	70°F	85°F
	2-48 hrs.	

CURING @ 70°F

- Dry to Touch (hours) 8
- Functional Cure (hours) 36
- Full Cure (hours) 120

Q/C

The material should be visually inspected just after application and touched up where necessary. Because of the concrete surface, Q/C techniques are limited. Therefore, extreme care must be used when inspecting the surface for imperfections.

FORCE CURING

Force cures are recommended for severe service conditions as both the physical and chemical properties are enhanced. Force curing should not start until material has firmly set.

Recommended Force Cure Schedule:

- Full Cure 4 hours @ 180°F
- Functional Cure 8 hours @ 120°F

STORAGE/SHELF LIFE

Store in dry area in closed containers between 50°F and 110°F. Shelf life at these conditions is greater than one year.

HEALTH AND SAFETY

READ AND UNDERSTAND ALL MATERIAL GIVEN IN THE MSDS SHEETS BEFORE USING THE PRODUCT.

DUROFIL DOES NOT CONTAIN ANY FLAMMABLE MATERIAL OF ANY KIND. HOWEVER, THE MATERIAL IS COMBUSTIBLE, IN THE EVENT OF A FIRE DRY POWDER, FOAM OR CARBON DIOXIDE EXTINGUISHERS SHOULD BE USED. FIRE FIGHTERS SHOULD WEAR RESPIRATORS.

USE PROTECTIVE GLOVES AND EYEGLASSES WHEN USING.

USE IN AREAS OF GOOD VENTILATION

LIMITED WARRANTY

All recommendations covering the use of this product are based on past experience and laboratory findings. Methods or conditions of application and use of the product are beyond our control. We assume responsibility only for the uniformity of our product within normal manufacturing balances.

All Duromar products are formulated based on over 25 years of experience, laboratory tests, material data, field installations, and technical publications, which we believe to be, to the best of our knowledge, accurate and reliable. This information is intended to be used for guidance only. Because the only true reliable test is one that is in actual operation, Duromar will make available at no charge samples of materials for that testing purpose. Duromar, Inc. has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. Duromar, Inc. does, therefore, not accept any liability arising from loss, injury, or damage resulting from such use or the contents of this data sheet (unless there are written agreements stating otherwise). The data contained herein is liable to modification as a result of practical experience and continuous product development. This data sheet replaces and annuls all previous issues, and it is, therefore, the user's responsibility to ensure that this sheet is current prior to using the product.

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