

## Product Data Sheet

### Product Description

ICO Grout CR is a 100% solids, three part, pourable epoxy grout that can be applied in a single step in any thickness without shrinkage or cracking. It is a highly chemical resistant epoxy novolac material that provides long term resistance to most inorganic acids and caustics. As a resin-rich, impervious solid material, it does not need to be top coated. It has excellent damp as well as dry adhesion to properly prepared concrete and other masonry and metal structures.

Unlike conventional chemically-resistant grouts, ICO Grout CR is flexibilized to better withstand vibration, thermal shock and impact. It is available in premeasured 0.5 cubic foot kits and 5 cubic foot bulk packs. Its relatively free-flowing characteristics minimize installation time and it can be returned to full service within 12 to 16 hours. Recommended application temperatures are: 50°-90°F; however service temperatures can range between -40°F and 250°F.

### Product Applications

ICO Grout CR is well suited for use as a base for pumps, tanks, anchor bolts and vibratory equipment, as well as machinery and column supports in highly corrosive areas like chemical plants, pulp and paper mills and mining operations. With its excellent adhesion and single-step, fast cure applications, it is particularly suited for repair of eroded bases, thereby saving considerable downtime, as well as the cost of totally removing the equipment and pouring an entirely new base. It can be used in areas seeing constant exposure to 98% sulfuric acid and other highly concentrated inorganic acids. For less corrosive environments, our higher compression strength ICO E-Grout epoxy grout is recommended.

### Chemical Resistance

ICO Grout CR resists long term contact (at least 30 days) in such harsh reagents as 98% sulfuric, 85% phosphoric, 37% hydrochloric, 30% chromic and 30% nitric acid, as well as all caustics, oils, fuels and some solvents, so long as the reagents are below 140°F.

A complete listing of ICO Grout CR's chemical resistant properties can be found in Milamar Coatings' Chemical Resistance Chart under "ICO Hi Guard"

### Physical Properties

<b>Tensile Strength (ASTM C307):</b>	2209 psi	<b>Bond Strength to Concrete:</b>	>400 psi (concrete fails)
<b>Tensile Elongation (D-638, unfilled):</b>	5%	<b>Flammability:</b>	Self-Extinguishing
<b>Flexural Strength (C-58D):</b>	3830 psi	<b>Gardener Impact (D-2794):</b>	>160inch-lbs.
<b>Flexural Strength (C-58D):</b>	3.8x10 <sup>6</sup>	<b>Water Absorption:</b>	0.2% in 24 hours
<b>Compressive Strength (C579):</b>	10,500 psi	<b>Hardness, Shore D (D-2240):</b>	75
<b>Coefficient of Thermal Expansion (D-696):</b>	5.9x10 <sup>-5</sup> per °F		

### Physical Characteristics

Density, Lbs./gal	
<b>Part A:</b>	9.7
<b>Part B:</b>	8.8
<b>Part A&amp;B Mixed:</b>	9.5
Viscosity @77°F, cps	
<b>Part A:</b>	450
<b>Part B:</b>	600
<b>Part A&amp;B Mixed:</b>	500

Mixing Ratios	By Volume	By Weight
<b>Part A: Part B:</b>	1.9:1	2.1:1
<b>Aggregate: Liquid:</b>	2:1	4.5:1

Curing Times @:	50°F	70°F	90°F
<b>Pot Life:</b>	30 min	25 min	10-15min
<b>Work Time:</b>	30 min	25 min	10min
<b>Cure Hard:</b>	24 hrs.	12 hrs.	5 hrs

\*Maximum hardness and chemical resistance are achieved after 7 days at 77°F.

## Color Availability

Gray, Dark Gray, Red, and Black

## Shelf Life

1 year at 77°F in unopened containers

## Packaging and Coverage Rates:

0.50 cu. Ft Basic: 7SF at 1" thickness

5 cu ft. Bulk: 70SF at 1" thickness

## Installation

Please refer to our Application Specs for detailed instructions. Particular care must be taken to follow those instructions precisely to assure proper installation.

1. New concrete should be allowed to cure for at least 7 days at 70°F, 50% RH.
2. Contaminants such as oils and greases should first be removed by chemical means, followed by mechanical preparation, including scarification, diamond grinding or shot blasting to obtain a clean abraded surface. Old coatings must be removed.
3. ICO Grout CR is designed as a pourable mix, usually into a pre-made wooden form. The form should be pre-waxed to ensure easy removal after setup.
4. No primer necessary.
5. Mix Part B with Part A for 30 to 60 seconds in a paddle-style mixer, until uniform, followed by addition of the ICO Fill Grout CR mix and dry tint for another 30 seconds until uniform in color and consistency.
6. Immediately pour out contents of mix into form and level out lightly with steel trowel. Material can be poured in any thickness in a single pass down to ½" thickness.
7. Tools can be cleaned with toluene, xylene or mineral spirits.

\*Failure to follow the above instructions, unless expressly authorized by a Milamar Technical Service Representative, will void our material warranty.

## Precautions

1. Do not apply below 50°F
2. Do not try to feather edge.

## Product Specification

The specified area shall receive an application of ICO Grout CR as manufactured by Milamar Coatings, Oklahoma City, Oklahoma. The material shall be installed by precisely following the manufacturer's published recommendations. The material shall be a 100% solids, zero VOC, three-part epoxy novolac grout that is pourable in any thickness down to ½" without any shrinkage. It shall be a flexibilized material with a tensile elongation (resin only) of 5% and a Gardner Impact strength of 160 inch - pounds. It shall have a maximum compressive strength of 10,500psi. It shall have a maximum aggregate: liquid fill ration of 2:1 by volume. It shall be chemically resistant to such acids as 98% sulfuric, 85% phosphoric, 37% hydrochloric and 30% nitric acid, as well as concentrated caustics, for a minimum 30 day immersion service.

## LIMITED WARRANTY

Milamar Coatings products are manufactured to be free of defects in material and workmanship in meeting the properties specified on its individual Product Data Sheets. Users and installers of Milamar Coatings products are solely responsible for determining the suitability of the products for specific product applications. Milamar Coatings makes no Warranty or Guarantee, express or implied, including warranties of fitness, design compatibility or merchantability, for any particular use and shall have no responsibility or liability, including direct, indirect or consequential damages, due to injury, delay or third party claims for installation or repair. Likewise, Milamar Coatings assumes no liability of any nature for products that are adjusted in the field or that do not utilize all specified Milamar Coatings components. Should any Milamar Coatings product be proved to be defective within one year from the date of shipment, Milamar Coatings will, at its sole discretion, either replace the material; issue a credit to the customer's account; or provide a cash refund for the initial, paid purchase price of the material. Potential claims regarding product quality must be received in writing by Milamar Coatings within 30 days of the discovery of such potential defect. This Warranty is exclusive of all other warranties, expressed or implied, and may only be adjusted in writing, signed by an officer of Milamar Coatings, L.L.C.

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