

# ICO-GROUT

## Product Description

**ICO-Grout** is a three part, USDA-approved, 100% solids, low odor epoxy grouting and bedding material used in acid brick and tile installations. It combines the high chemical resistance of furan and vinyl ester-based grouts with the higher bond strengths, greater moisture tolerance and safety of epoxies. Unlike conventional water-based epoxy grouts, **ICO-Grout** provides excellent chemical resistance to most commonly used C.I.P. cleaners. With a 9% elongation in the base resin, it also has far greater resiliency, enabling it to better withstand thermal shock and expansion of the brick without cracking, compared to more brittle conventional epoxy grouts.

**ICO Grout** is available in a bricklayer version (**ICO Grout BL**) and a tile-setters (**ICO Grout TS**).

For faster cure or for installation temperatures between 32°F and 50° fast cure version of each of these materials is available (**ICO Grout FC**). For extremely high concentration of acids, then **ICO Hi Grout** or **Grout X** should be specified.

## Typical Application

**ICO-Grout** is commonly used in food and beverage facilities for the bedding and jointing of acid brick and quarry tile. With excellent adhesion to damp, as well as dry, concrete it is oftentimes used on less-than-28 day cured new concrete structures. Because of its high chemical resistance to most cleaners containing nitric acid, chlorine, caustics, and phosphoric acid, **ICO-Grout** offers an excellent alternative to furan and vinyl ester grouts in C.I.P. areas. It has excellent high temperature resistance up to 212°F and will withstand direct steam cleaning.

## Chemical Resistance

**ICO-Grout** can withstand at least seven day immersion in the following chemicals:

Acetic Acid, 10%	Hydrogen Peroxide, 50%	Salt Brine	Uric Acid
Animal Fats	Lactic Acid, 20%	Sodium Hydroxide, 50%	Vinegar
Beer	Nitric Acid, 30%	Sodium Hypochlorite, 10%	Water, Distilled
Chlorine Water	Oleic Acid	Phosphoric Acid, 30%	
Citric Acid, concentrated	Palm Oil	Sugar	
Hydrochloric Acid, concentrated	Phosphoric Acid, 30%	Sulfuric Acid, 50%	

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

## Physical Properties

Tensile Strength (ASTM C307)	: 2030 psi	Bond Strength to Quarry Tile	: >1000psi
Tensile Elongation (D-638, unfilled)	: 9%	Coefficient of Thermal Expansion (D-696)	: 1.7x10 <sup>-5</sup> per °F
Compressive Strength (C-579)	: 5170 psi	Gardner Impact	: >160 inch-pounds
Flexural Strength (C-580)	: 2530 psi	Water Absorption (D-570)	: 0.3% in 24 hours
Hardness Shore D (D-2240)	: 75		

## Physical Characteristics

(all data are for regular cure material except where otherwise noted)

Density, lbs/gal.	Mixing Ratios	ICO Grout		ICO Grout FC	
		By Volume	By Weight	By Volume	By Weight
Pt. A : 9.5	Pt. A : Pt. B	1.8:1	2:1	2.6:1	2.9:1
Pt. B : 8.6	Aggregate : Liquid	2:1	3:1	2:1	3:1
A&B Mixed : 9.2	<b>Curing Times @</b>	<b>32°F</b>	<b>50°F</b>	<b>77°F</b>	<b>90°F</b>
<b>Viscosity@77°F, cps</b>	Pot Life	-	60 min.	50 min.	25 min.
Pt. A : 700	Work Time	-	50 min.	60 min.	35 min.
Pt. B : 300	Hard Foot Traffic	-	24 hrs.	15 hrs.	5 hrs.
A&B Mixed : 630	Pot Life, FC	50 min.	45 min.	30 min.	10 min.
<b>Shelf Life</b>	Work Time, FC	5 min.	20 min.	20 min.	15 min.
1 year at 77°F in unopened containers.	Hard Foot Traffic, FC	28 hrs.	14 hrs.	3 hrs.	2.75 hrs.

Maximum Hardness and chemical resistance are achieved after 7 days at 77°F.

## Color Availability

Standard colors: gray, beige red and black. Custom colors available upon request.

## Packaging

**Basic Kit:** 36 pound, premeasured kit consisting of 6 pounds, Pt. A, 3 pounds, Pt. B and 27 pounds of finely graded silica aggregate.

**Bulk Pack:** 360 pound kit, consisting of 60 pounds of Pt. A and 30 pounds of Pt. B. packed in 5 gallon pails and 270 pounds of finely graded silica aggregate packed in 27# bags.

**Drum Kit:** 3600 pound kit, consisting of 600 pounds of Pt. A and 300 pounds of Pt. B packaged in 55 gallon drums and 100-27# bags of finely graded silica aggregate.

Note: Must specify "BL" or "TS"

## Coverage

Setting Bed (ICO-Grout BL)		Number of Basic Kits Needed per 1000 SF	Mortar Joints Size of Brick/Tile	Joint Width	Number of Basic Kits Needed per 1000 SF
Thickness of Bed	Coverage				
1/16"	72 SF/Kit	14	4" x 8" x 1/2"	1/8"	6
3/32"	54 SF/Kit	18	6" x 6" x 3/4"	1/4"	11
1/8"	36 SF/Kit	28		1/8"	7
1/4"	18 SF/Kit	55	4" x 8" x 1 3/8"	1/4"	14
				1/8"	15
				1/4"	26

## Installation Summary

 (Note: Specify ICO Grout FC for applications between 32° and 50°F)

1. No primers are needed to apply **ICO-Grout** as a "thin set" bed.
2. A normal 28 day cure of new concrete is recommended; however, installation can be made sooner. Check moisture with a plastic sheet and calcium chloride test apparatus.
3. For the bricklayers method, **ICO-Grout BL** can be used for both the setting bed and the jointing material. It is recommended to use slightly finer sand (**ICO-Grout BL 110**) for jointing if flush joints are required.
4. For tilesetters method, **ICO-Grout BL** should be specified for the bedding and **ICO-Grout TS** for the joints.
5. For regrouting, we recommend **ICO-Grout TS** with colored sand be specified for ease of cleanup.
6. Cleanup can be accomplished with warm soapy water or solvent (toulene, xylene, or MEK). For new brick installations, however, we recommend use of waxed brick.

For complete Installation Instructions refer to our publication: **Installation Procedures for ICO-Grout Systems.**

## Precautions

Avoid skin contact with liquid Part A and Part B as they may cause skin irritation to some people. Protective hand creams and /or gloves should be used. Cleanup can be done with hot soapy water before the material starts to set. Once the material has set it can be removed with a paint stripper.

## Product Specification

The specified area shall receive an application of **ICO-Grout** as manufactured by **International Coatings Inc., Franklin Park, Illinois**. The material shall be a low odor, solvent free, 100% solids USDA-approved epoxy. It shall be flexibilized for withstanding slight movement with tensile elongation of 9% (unfilled), a maximum hardness (Shore D) of 75, and a maximum compressive strength of 5200 psi. It shall be able to be applied over less-than-28 day cured concrete and have a bond strength that exceeds the tensile strength of concrete (350 psi) and quarry tile (1000 psi). It shall resist chemical attack for up to 7 days from caustic cleaners, chlorine water, 30% nitric acid, 20% lactic, and 30% phosphoric acids and animal fats and grease.

## Other ICO Products

- For expansion joints : **ICO-Caulk or ICO Lastic Gun Grade**
- For waterproofing membranes : **ICO-Lastic**
- For patching holes or sloping floor : **ICO-Patch**
- For glazed wall coatings : **ICO-Glaze®**

Contact **ICO Customer Service** for additional literature.

The data, statements and recommendations set forth in this product information sheet are based on testing, research and other development work which has been carefully conducted by us, and we believe such data, statements and recommendations will serve as reliable guidelines. However, this product is subject to numerous uses under varying conditions over which we have no control, and accordingly, we do NOT warrant that this product is suitable for any particular use. Users are advised to test the product in advance to make certain it is suitable for their particular production conditions and particular use or uses.

**WARRANTY** - All products manufactured by us are warranted to be first class material and free from defects in material and workmanship.

Liability under this warranty is limited to the net purchase price of any such products proven defective or, at our option, to the repair or replacement of said products upon their return to us transportation prepaid. All claims hereunder on defective products must be made in writing within 30 days after the receipt of such products in your plant and prior to further processing or combining with other materials and products. WE MAKE NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE SUITABILITY OF ANY OF OUR PRODUCTS FOR ANY PARTICULAR USE, AND WE SHALL NOT BE SUBJECT TO LIABILITY FROM ANY DAMAGES RESULTING FROM THEIR USE IN OPERATIONS NOT UNDER OUR DIRECT CONTROL. THIS WARRANTY IS EXCLUSIVE OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND NO REPRESENTATIVE OF OURS OR ANY OTHER PERSON IS AUTHORIZED TO ASSUME FOR US ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF OUR PRODUCTS.



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