

A nonmetallic, inorganic grout offering significant advantages for structural and machine placement.

Engineers and architects concerned with a structural and machine placement that requires grouting are aware of the need for a nonmetallic, inorganic, premixed and dimensionally stable material. Sauereisen's high-early strength Grout No. F-100 meets this need. Sauereisen No. F-100 is composed of inorganic materials of the highest purity -- a coarse quartzite aggregate of 99.6% pure silica screened to size for ultimate density. Continuous quality control of raw materials and the finished product results in a grout that is COMPLETELY STABLE.

Sauereisen Grout No. F-100 will remain volume stable in both wet and dry conditions. It remains stable without cracking or lamination from compressive loading, severe impact, lateral thrust, high heat or continuous vibration.

Metallic grouts contain metal filings which corrode and expand unpredictably under normal conditions. When subjected to wet and dry cycles, metallic grouts expand, crack and stain. Sand and cement grouts mixed from materials of variable quality are known to have different properties from batch to batch, resulting in unpredictable shrinkage. Some grouts contain gas-forming chemicals which expand to compensate for the shrinkage that occurs in the plastic state before hardening. No. F-100 contains no materials which produce corrosion or the evolution of gases. Most of the other nonmetallic and organic-based grouts are not volume stable and eventually shrink.

PHYSICAL PROPERTIES

Compressive strength (CRD-C-621)	
@ 24 Hours	4,700 psi (330 kg/cm ²)
@ 7 Days	5,600 psi (394 kg/cm ²)
@ 28 Days	8,000 psi (562 kg/cm ²)
Flexural strength (ASTM C-293)	
	600 psi (42 kg/cm ²)
Tensile strength (ASTM C-190)	
	400 psi (28 kg/cm ²)
Volume Change, Unconfined (CRD-C-621)	
@ 24 Hours	+0.0074%
@ 14 Days	+0.0094%
@ 28 Days	+0.0180%
@ 1 Year	+0.0380%

Physical properties were determined on specimens prepared under laboratory conditions using applicable ASTM procedures. Actual field conditions may vary and yield different results; therefore, data are subject to reasonable deviation. The above properties were obtained using the plastic mix ratio of 4.125 quarts of water to a 50 pound bag of powder.

CHARACTERISTICS

- Nonshrinking.
- Nonmetallic.
- Develops high early strength.
- Impact resistant.
- Flows without pocketing.
- Excellent bond to metal.
- Nonconductive.
- Nonstaining.
- Safe to use/Nontoxic.
- Provides a level bearing surface.
- Can be pumped, vibrated or ready mixed.

Shading the substrate and using cold water for mixing is not uncommon for warm weather installations. Special consideration should be taken when elevated temperatures or low humidity conditions are present during application. Consult Sauereisen for recommendations.

Surface Preparation

Grouting is a specialized job which requires early inspection of the work area; therefore, no work should commence until everything is organized for a successful grouting job.

AREA PREPARATION

Temperature of Working Area

The material should be maintained at 65°F to 85°F for 48 hours prior to beginning work to ensure ease of application. For optimum conditions, maintain a temperature of 60°-90°F on air, substrate, water and Grout No. F-100 during mixing, application and cure.

At temperatures below 60°F, the application becomes more difficult and curing is retarded.

Above 90°F, the material working time decreases. It is recommended that the material components be stored in a cooler area prior to mixing.

All surfaces to receive No. F-100 Grout must be properly designed and capable of withstanding imposed loads. Surfaces must be free of dust, loose particles, laitance, oil, grease, chemical contaminants and previously applied coatings.

Concrete surfaces which are contaminated with form oils or grease must be chemically cleaned or scarified to remove contaminants prior to beginning recommended surface preparation. Likewise, oil, grease and dirt should be removed from the underside of machinery base plates, equipment and bolts.

Hydroblasting can be utilized to remove laitance, contaminants, or loose particles and to produce a clean hard surface. All standing surface water should be removed prior to applying Sauereisen Grout No. F-100. To ensure maximum adhesion and to prevent dehydration of No. F-100 at substrate interface, the concrete should be thoroughly dampened with water prior to application. If concrete cannot be dampened or an unusual stress condition exists, a concrete bonding agent is recommended. Consult Sauereisen for recommendations.

Set machinery or equipment in place and align in proper position. Coat any leveling shims that will be removed after the grout has hardened with a thin film of grease or wax.

Forms

Forms should be constructed of coated wood or metal and anchored firmly. They should be strong enough to retain the grout in place, leakproof and high enough to contain a "head" of Sauereisen Grout No. F-100 when required. Forms may be removed after 18 hours at 72°F. Lower temperatures will require longer cure periods before removing forms. If forms cannot be made leak tight, mix a "stiff mud" of No. F-100 and pack around forms where there are leaks.

APPLICATION

Mixing

Mixing should be done mechanically with a slow speed mortar mixer or drill motor with a "Jiffy" type mixing blade to obtain a uniform consistency. The mixing equipment must be clean and free of Portland cement or other contaminants. The size of the batch will be governed by the area to be covered, the number of workers applying the material, temperature of the area and the speed with which it can be placed.

Place approximately 75% of the required water per mix design into the mortar mixer. Slowly add No. F-100 Grout Powder to the water while mixing. See the following chart for suggested mix ratios.

Suggested Mix Ratios

(Water Per 50 lb. Bag)

Type	Water Required	
	Quarts	Pounds
DRY PACK	2 1/2	6
STIFF	3 3/4	7 3/4
PLASTIC	4 1/8	8 1/2
FLOWABLE	4 3/4	9 3/4
PUMPABLE	5	10 1/2

After two (2) minutes of mixing, add remaining water to material and continue mixing for 2-3 minutes. Always weigh or measure water accurately so that each batch has the same consistency. As with all Portland cement products, it is recommended that the minimum water content be used.

Mix only as much grout as can be placed in 15 to 30 minutes. Clean mixer between each batch. Do not retemper by adding more water and remixing. Grout that has hardened due to delay in placing must be discarded. Also, refrain from adding sand, gravel or other additives.

Grout No. F-100 should be used in as stiff a consistency as possible. If an exceptionally flowable mix is needed, a specially formulated additive to improve fluidity, Sauereisen Flow-Aid, is available.

Installation

Pouring - Pour Sauereisen No. F-100 Grout into only one side of the form to avoid entrapping air. Place in a continuous operation to avoid segregation. Work No. F-100 into place with metal tools and make certain the space to be grouted is completely filled and free of air pockets or voids. In addition to rodding or strapping, the F-100 may be vibrated with a pencil vibrator or similar tool. A minimum 1 inch thickness of grout is recommended under base plates. This thickness increases as the distance of the grout pour increases. Consult Sauereisen for guidelines on thickness versus length of pour.

Pumping - Grout No. F-100 may be pumped with conventional equipment and techniques. Consult manufacturer for specific recommendations.

Ready-Mix Trucks - Sauereisen No. F-100 Grout is satisfactory for batching in conventional ready-mix trucks on large installations.

Dry-Pack - Make the mix just damp enough to maintain cohesiveness when squeezed into a ball in the palm of your hand. A hydraulic or pneumatic ram is suggested but a wood tamper may be used. Pack from one side only. Dry-pack should be confined to retain the minimal amount of water. A dry-pack may be covered with a sand/cement mix to help hydration or a curing membrane may be used.

COVERAGE

Sauereisen Grout No. F-100 yields approximately 0.43 cubic feet per 50 pound bag for a flowable mix.

	Wt./ft ³	Wt./yd ³	Wt./ft ² @1" thick
No. F-100	116 lbs.	3140 lbs.	9.7 lbs.

SETTING/CURING

Sauereisen Grout No. F-100 should be cured in accordance with the recommended concrete curing practices of the American Concrete Institute regarding temperature and moisture retention. The use of a resin-based curing compound meeting ASTM C-309 is recommended.

At 70°F, Sauereisen No. F-100 Grout will take an initial set in approximately thirty (30) minutes. A 24 hour cure is recommended for most applications.

CLEAN-UP

All equipment should be cleaned by scrubbing with a stiff brush and water at the end of each working period or when build-up becomes pronounced.

PACKAGING

Grout No. F-100 is packaged in 50 lb. moisture-resistant bags on plastic wrapped pallets.

SHELF LIFE

Sauereisen No. F-100 has a shelf life of six (6) months when stored unopened in a dry location at 70°F. Avoid freezing. If there is a doubt as to the quality of the materials, consult a Sauereisen representative.

CAUTION

Consult Material Safety Data Sheets and container label Caution Statements for hazards in handling these materials.

WARRANTY

We warrant that our goods will conform to the description contained in the order, and that we have good title to all goods sold. WE GIVE NO WARRANTY, WHETHER OF MERCHANTABILITY, FITNESS FOR PURPOSE OR OTHERWISE, EXPRESS OR IMPLIED, OTHER THAN AS EXPRESSLY SET FORTH HEREIN. We are glad to offer suggestions or to refer you to customers using Sauereisen cements and compounds for a similar application. Users shall determine the suitability of the product for intended application before using, and users assume all risk and liability whatsoever in connection therewith regardless of any suggestions as to application or construction. In no event shall we be liable hereunder or otherwise for incidental or consequential damages. Our liability and your exclusive remedy hereunder or otherwise, in law or in equity, shall be expressly limited to our replacement of nonconforming goods at our factory or, at our sole option, to repayment of the purchase price of nonconforming goods.

- **Distributors and agents in major cities throughout the world. Consult manufacturer for locations.**
- **Information concerning government safety regulations available upon request.**
- **Sauereisen also produces inorganic compounds for assembling, sealing, electrically insulating and grouting.**

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