# K A U F M A N

PRODUCT INFORMATION

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## K Pro UW Grout

### Description

K Pro UW Grout is a three-component, 100% solids, extended-pot life, and moisture-insensitive marine epoxy grout system. The extended pot life of K Pro UW Grout sets it apart from the competition. This unique feature enhances the ability to pump K Pro UW Grout longer distances. K Pro UW Grout can also easily be poured or used in tremie applications.

No fillers, non-reactive diluents, or solvents are used in K Pro UW Grout. Additionally, K Pro UW Grout may be used in fresh, salt, or brackish water, and will bond effectively to wood, concrete, steel, and fiberglass.

### Uses

K Pro UW Grout is ideal for the restoration of structural pile members in underwater applications as an epoxy grout to fill the annular space between pile jackets and pilings. Extremely flowable and easy to pump, K Pro UW Grout is ideal for plural component pumping applications, both above and below the water line, where large volumes of epoxy grout must be placed. K Pro UW Grout is ideal for tremie applications, as well as for other marine applications, such as piers, sea walls, dams, bridges, and other offshore structures. K Pro UW Grout is impact resistant as well.

Additionally, K Pro UW Grout is also a multi-purpose system and may be used in many other types of epoxy grout applications, including in both wet and dry environments where a high strength epoxy grout is necessary.

| Test Methods | High Flow Mix Ratio Test Results | Standard Mix Ratio Test Results |
|---|---|---|
| **Product Information** | | |
| Mix Ratio | 2:1 by Volume | |
| Gel Time (ASTM C-881) | 55-65 Minutes | |
| Viscosity (ASTM D-2556) | 200-400 cps. | |
| Shelf Life | 2 Years | |
| Density (ASTM C-905) | 121 lbs./ft$^3$ | 128 lbs./ft$^3$ |
| VOC Content | 0 Grams/Liter | |
| **Technical Information** | | |
| Bond Strength (ASTM C-882)<br>2 Days Moist Cure<br>14 Days Moist Cure<br>14 Days Air Cured | <br>1,500 psi.<br>2,500 psi.<br>2,300 psi. | |
| Compressive Strength (ASTM D-695)<br>1 day<br>7 Days | <br>4,000 psi.<br>9,870 psi. | |
| Compressive Strength, (ASTM C-579 Proc. B)<br>1 Day<br>7 Days<br>28 Days | <br>6,000 psi.<br>13,200 psi.<br>14,500 psi. | <br>5,750 psi.<br>13,700 psi.<br>14,600 psi. |
| Flexural Strength, 7 Days (ASTM C-580) | 5,300 psi. | 5,200 psi. |
| Adhesion (ASTM D-4541)<br>Fiberglass<br>PVC<br>Steel<br>Marine Wood | <br>1,100 psi.<br>1,400 psi.<br>2,000 psi.<br>1,800 psi. | |
| Adhesion (ASTM D-7234)<br>Concrete | <br>500 psi. | |
| Tensile Strength (ASTM C-307) | 2,550 psi. | 2,450 psi. |
| Tensile Strength (ASTM D-638)<br>7 Days | <br>6,500 psi. | |
| Tensile Elongation (ASTM D-638) | 8-10% | |
| Water Absorption (ASTM D-570) | 0.07% at 24 Hours | |
| Effective Bearing Area (ASTM C-1339) | >85% | |

**All results achieved when tested at 75ºF.**

For professional use only. Not for sale or use by the public.

## Directions

### Surface Preparation

Piling surfaces must be clean and sound. Remove all grease, oil, wax, curing compound, sealers, laitance, loose concrete or wood, rust, marine growth, and other foreign matter that would function as a bond-breaker. Water-blasting and/or a wire brush are the preferred methods of preparation to provide an open textured profile. A concrete surface profile (CSP) as per ICRI Guideline 310.2R of 6-9 must be achieved for proper bonding adhesion to concrete. Steel surfaces must be prepared by water-jetting or other mechanical means required to achieve SSPC-SP 12/NACE 5 WJ-4. Wood surfaces may best be prepared by high-pressure water blasting to achieve a sound surface free of contaminants. All areas that have excessive section loss, whether it is concrete, steel, or wood, should be repaired or replaced.

## Proportioning/Mixing

The volumetric ratio of K Pro UW Grout is 2:1 (A:B) for the epoxy to hardener. To mix, proportion two parts A and 1 part B into a clean pail. Mix thoroughly for 2-3 minutes with a paddle on a low speed (400-600 rpm) drill until blend is a uniform color. Take care to avoid entrapping air in the mixed material. Slowly add K Pro UW Aggregate to produce either a flowable or a stiff consistency epoxy grout. Mix all three components for 2-3 minutes or until uniformly blended.

K Pro UW Grout may be pumped. The annular space between the pile jacket and piling must be a minimum of ½". Install pumping ports at 90° from the tongue and groove joint, alternating sides. The first port should be at least 9-12" from the bottom. Place subsequent ports at a maximum of 5 feet vertical spacing, while alternating sides. Always pump from the lowest port and move upwards. Never exceed 10 feet pumping distance between ports. All submerged forms should be inspected prior to epoxy mortar application to prevent leaks or failures and should be checked during placement.

K Pro UW Grout may be poured or used in tremie applications; however, it is imperative that the hose be placed at the bottom of the form. The tremie hose shall be retracted as the annular space fills.

When either pumping, pouring, or the tremie method of application, the water will be displaced out the top of the form. Continue to fill the annular space until undiluted epoxy grout overflows from the sleeve. Once the epoxy mortar has cured adequately, top off with epoxy mortar, and finish as desired.

Underwater product placement should only be attempted by experienced diving contractors. *Read Safety Data Sheet before using* K Pro UW Grout. Please refer to the *General Epoxy Instructions* for complete details on proper application during cold and hot weather. Take care always to prevent spills.

## Packaging/Yield

**High Flow Epoxy Grout**: One 3-gallon unit of epoxy and hardener when mixed with two bags of aggregate will yield 1.05 $ft^3$ of flowable epoxy grout.

**Standard Flow Epoxy Grout**: One 3-gallon unit of epoxy and hardener when mixed with three bags of aggregate will yield 1.38 $ft^3$ of a stiff consistency epoxy grout.

## Technical Information

Test results were achieved under laboratory conditions. Statistical variations will occur based upon mixing methods, temperature & humidity, test methodology, site conditions, curing conditions, application methods, and equipment.

## Storage Conditions

Store dry at 40-95°F. Condition material to 65-85°F before using.

## Precautions

Do not thin K Pro UW Grout. The contractor shall use the test method prescribed ACI 503R to determine that the preparation produced a surface capable of providing tensile bond strength greater than 250 psi. If stored below 40°F, some settling, and lumping may appear. Do not use it in ambient temperatures below 45 degrees Fahrenheit.