



# Non-Shrink Grout 410

## DESCRIPTION

King Non-Shrink Grout 410 is an all-purpose, expanding grout. This formulation contains set regulating and reactive chemical ingredients that provide positive expansion and increased workability. (CONTAINS NO CALCIUM CHLORIDE.) King Non-Shrink Grout 410 meets ASTM C-1107 grade classification A.

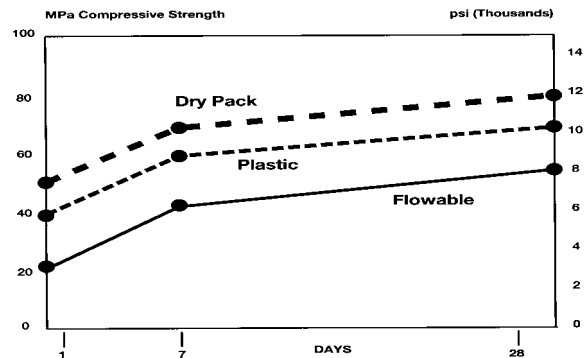
## USES

For use when grouting base plates of machinery, columns and rails, and when grouting anchor bolts of all sizes. The homogeneous expansion of up to 4% results in permanent contact with the structural member being grouted. The rapid strength development provides for early loading (see strength vs time graph). Since no chlorides are present in the product, placing in conjunction with prestressing steel cables or reinforcing rods is not a constraint.

## TECHNICAL DATA

Specification	Water/		% Flow
	Solids	Consistency	
ASTM C 827-95	0.12	Dry Pack	44%
ASTM C 1090-90	0.14	Plastic	105%
	0.18	Flowable	+145%
Modulus of Elasticity ASTM C 348-80	Water/ Solids		Results
	Age		
Flexural Strength ASTM C 348-80	0.12	7 Days	325Mpa
	0.14	28 Days	11.5Mpa
		0.18	28 Days
Unrestrained Expansion	0.14	3.0 Hours	6.4Mpa
			3.0%

## Compressive Strength vs Time Non-Shrink Grout 410



## LIMITATIONS

Not recommended in areas of extreme high vibration, nor where service temperatures will exceed 175°C, nor where contact with acids or alkalis are likely.

## SURFACE PREPARATION

Surfaces must be structurally sound. Clean surfaces free of dirt, sand, dust, paint, etc. by brushing vigorously with a broom or stiff brush and water. If small amounts of grease or oil are present, scrub vigorously with a strong detergent solution and flood with large volumes of water.

Thoroughly saturate the area with clean water and remove any free standing water. Some very porous concrete may require several application of water to ensure complete saturation.

This product is designed to meet the performance specifications outlined in this product data sheet. If the product is used in conditions for which it was not intended, or applied in a manner contrary to the written recommendations contained in the product data sheet, the product may not reach such performance specifications. The foregoing is in lieu of any other warranties, representations or conditions, expressed or implied, including, but not limited to, implied warranties or conditions of merchantable quality or fitness for particular purposes, and those arising by statute or otherwise in law or from a course of dealing or usage of trade.

## NON-SHRINK GROUT 410

### WATER PROPORTION FOR GROUT CONSISTENCY

Use the following amounts of water with a 25 kg bag to produce the grout consistency required.

Dry Pack Grout – approx. 3.0 litres of water  
Plastic Grout – approx. 3.5 litres of water  
Flowable Grout – approx. 4.5 litres of water

Note: Water requirement varies with temperature. Increase water slightly as temperature rises and decrease water slightly as temperature decreases.

### MIXING

Add the dry pre-mix to the required water. Mix mechanically at a slow speed to ensure even consistency. Allow minimum 5 minutes mixing time when using a vertical shaft mixer. Allow 10 minutes mixing time if using a spiral blade mortar mixer. Keep grout mix well agitated until placed.

### PLACING

**Dry Pack** – King Non-Shrink Grout 410 must be firmly pressed or rammed into place. Use metal or hardwood tamping tools and a mason's trowel. Consistency should be such that hand pressing into a firm ball shows no evidence of cracking or excessive surface moisture.

**Plastic** – King Non-Shrink Grout 410 may be rodded into place or trowelled into areas. Where freedom of movement is permitted, consistency can range from slightly dry to that of wet masonry mortar.

**Flowable** – King Non-Shrink Grout 410 may be used with low-pressure cement grout pumping equipment or poured into place.

The most suitable means should be used to completely fill the void to be grouted. Grout should be poured from one side of the plate towards the open side. All joints in form work should be caulked with suitable caulking material.

**Note:** High points must be adequately vented to allow entrapped air to escape.

### CURING

Immediately after grout has been placed all exposed areas are to be covered with moist rags. These are to remain in place until such time as a pointed mason's trowel will not penetrate the grout when allowed to rest, pointed end down, on the grout surface. The forms may now be removed and excess grout cut back to the base plate. The exposed shoulders should be covered with wet rags for 24 to 36 hours and then coated with a curing compound.

### FINISHING

Finishing of exposed grout should be kept to a minimum.

### COVERAGE

25 kg of King Non-Shrink Grout 410 when mixed with 4.5 litres of water will produce approx. 13.6 litres of flowable grout (approx. 0.5 cu. ft.).

### CLEAN-UP

Clean all tools with water immediately after use.

### STORAGE LIFE

Stored under dry conditions – one year.

### CAUTION

Avoid contact with eyes. Avoid ingestion or inhalation. Contains cement which, when mixed with water, forms a calcium hydroxide solution. Avoid contact with skin, including contact with saturated clothing.

## **NON-SHRINK GROUT 410**

### **FIRST AID TREATMENT**

#### **INHALATION:**

If inhaled move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

#### **INGESTION:**

Do **not** induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed call a physician immediately. Loosen tight clothing such as collar, tie, belt or waistband.

#### **EYE CONTACT:**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

#### **SKIN CONTACT:**

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before re-use. Thoroughly clean shoes before re-use. Get medical attention immediately.