

In-Pakt Construction is a pre-packaged, general purpose, pumpable, non-shrink, cementitious grout. It is a cement-based, non-metallic, non-shrink grout containing well-graded, natural, fine aggregate and other carefully selected components. In-Pakt Construction meets ASTM C 1107, Type C grout and can be used at varying consistencies from dry pack to fluid.

FEATURES & BENEFITS

- Can be mixed and placed from dry pack, plastic and fluid consistencies using relatively low water:cement ratios
- Excellent pumpability
- Non-corrosive, non-chloride, non-metallic
- Excellent resistance to freeze-thaw cycling
- All KING products are manufactured using ISO 9001:2015 Certified Processes

USES

- Grouting machinery base plates and column sole plates
- Grouting anchor bolts, dowels and hand rails
- Repair of pre-cast units
- Infill of pipes and sleeves

PROCEDURES

Surface Preparation: All surfaces to be in contact with In-Pakt Construction must be free from dust, oil, grease or any other foreign substances that may interfere with the bond of the material. Remove all delaminated or unsound concrete providing a roughened surface. Clean the area to be repaired with potable water, leaving the concrete saturated but free of standing water (SSD).

Water Proportioning for Grout Consistency: The following amounts of water will produce the following grout consistencies:

Dry Pack – Approx. 2.4 L (0.63 US gallon) of water

Plastic – Approx. 3.3 L (0.87 US gallon) of water

Fluid – Approx. 3.75 L (0.98 US gallon) of water

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

Mixing: Place 75% of required potable water into mixer and slowly introduce entire bag of In-Pakt Construction. Add balance of required water slowly while mixer is running, not exceeding maximum recommended volume of water. Continue mixing for a minimum of 3 minutes and stop only when material has obtained a consistent homogeneous mix.

Placing:

Dry Pack – Firmly press or ram In-Pakt Construction into place using metal or hardwood tamping tools and a mason's trowel. Grout consistency when pressed into a firm ball should display no cracking or excessive surface moisture.

Plastic – Rod into place or trowel into area as where material can not flow into place. Grout consistency should be similar to that of a masonry mortar (between 100% and 115% flow, ASTM C 1437).

Fluid – In-Pakt Construction may be poured or pumped into place. Pour continuously with adequate head pressure or pump into place ensuring that all voids are completely filled. Formwork joints should be caulked with suitable material. Adequately vent high points to allow entrapped air to escape.

CURING

Curing is essential to optimize physical properties of the concrete and minimize plastic shrinkage. Cure immediately after material has reached initial set or immediately after forms are removed in accordance with ACI 308 "Guide to Curing Concrete". Continuously moist cure for a minimum period of 7 days. Alternatively, moist cure for a minimum period of 24 hours and apply a curing compound that complies with ASTM C 309. Curing is particularly critical in rapid moisture loss conditions such as high temperatures, high winds and low humidity.

TECHNICAL DATA

The following data is representative of typical values achievable under laboratory conditions. Results in the field may vary.

	DRY PACK	PLASTIC	FLUID
WET DENSITY ASTM C 138		2130 kg/m ³ (133 lb/ft ³)	2160 kg/m ³ (135 lb/ft ³)
FLOW ASTM C 1437		110%	> 150%
VOLUME OF WATER PER 25 KG (55 LB)	2.4 L (0.63 US gallon)	3.3 L (0.87 US gallon)	3.75 L (0.98 US gallon)
WORKING TIME	30 minutes	60 minutes	60 minutes
SET TIME ASTM C 191 (METHOD A)			
Initial		3.0 hours	4.0 hours
Final		4.5 hours	6.5 hours
COMPRESSIVE STRENGTH ASTM C 109			
1 Day	35 MPa (5075 psi)	25 MPa (3625 psi)	21 MPa (3000 psi)
3 Day	45 MPa (6500 psi)	30 MPa (4350 psi)	25 MPa (3625 psi)
7 Day	50 MPa (7250 psi)	35 MPa (5075 psi)	30 MPa (4350 psi)
28 Day	65 MPa (9425 psi)	40 MPa (5800 psi)	35 MPa (5075 psi)
SPLITTING TENSILE STRENGTH ASTM C 496			
28 Day		4.0 MPa (580 psi)	3.0 MPa (435 psi)
BOND STRENGTH BY SLANT SHEAR ASTM C 882			
28 Day		14.5 MPa (2100 psi)	7.8 MPa (1130 psi)

	DRY PACK	PLASTIC	FLUID
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MODULUS OF ELASTICITY

ASTM C 469

28 Day	24.5 GPa (3.5 x 10 ⁶ psi)	18.2 GPa (2.6 x 10 ⁶ psi)
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BOND STRENGTH PERFORMANCE OF ANCHORS*

ASTM E 1512 & ASTM E 488

24 Hour		45 kN (10100 lb)
7 Day		60 kN (13475 lb)
28 Day		70 kN (15725 lb)

*Tests conducted with a 15 M (#4) steel rebar embedded at a depth of 150 mm (6 inches) in a 19 mm (¾ inch) diameter hole drilled in 35 MPa concrete.

HARDENED HEIGHT CHANGE

ASTM C 1090

28 Day	0.01%	0.02%
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ABSORPTION

ASTM C 642

28 Day	10.3%	14.3%
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FREEZE-THAW RESISTANCE

ASTM C 666

28 Day	106% (Excellent durability factor)	102%
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OPTIMUM PERFORMANCE

- Not recommended for areas of extremely high vibration
- Grout should be protected from freezing until after final set
- Surface temperature of the grouted area should be between 5 °C (40 °F) and 30 °C (86 °F)
- For void filling applications larger than 50 mm (2 inches), use MS-S10 SCC or RS-S10 SCC
- Contact your local KING Technical Representative for recommendations or information on uses or conditions not listed

YIELD

25 KG (55 lb)

PLASTIC

0.0127 m³
(0.45 ft³)

FLUID

0.0132 m³
(0.47 ft³)

PACKAGING

In-Pakt Construction is normally packaged in 25 KG (55 lb) triple-lined bags and polywrapped on wooden pallets. All KING products can be custom packaged to suit specific job requirements.

STORAGE AND SHELF LIFE

Material should be stored in a dry, covered area, protected from the elements. Unopened bags have a shelf life of 12 months.

SAFETY PROCEDURES

In-Pakt Construction contains Portland cement. Normal safetywear such as rubber gloves, dust mask and safety glasses used to handle conventional cement based products should be worn. Safety Data Sheets are available upon request.

Warranty: 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. [REV.0009_2458717.5]

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