

PORTLAND EXPANDING (NON SHRINK) GROUT

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PRODUCT

TARGET® Portland Expanding Non-Shrink Grout consists of accurately weighed Portland cement, non-metallic aggregate, expanding agents and admixtures. These materials are pre-blended, and require only mixing with water before use. In normal working temperature ranges of 10°C to 30°C (50°F to 86°F), the grout has a slight expansion prior to final set and is designed for use at dry pack, plastic, flowable or fluid consistencies. It also contains other admixtures to give non-shrink properties after final set has occurred to meet the requirements of ASTM 1107, Grade C, and US Corps of Engineers Specification CRD-C621. The grout contains no chlorides or other admixtures which could aggravate corrosion of reinforcing steel or prestressing steel cables.

On request, this product can be manufactured using Type V (Type 50) Portland cement for applications requiring improved sulphate resistance.

TYPICAL PROPERTIES OF PORTLAND EXPANDING GROUT

PHYSICAL PROPERTY	MIX CONSISTENCY				
	USA	Fluid	Flowable	Plastic	Dry-Pack
WATER DEMAND , kg/kg liters/25 kg bag US gal/55 lb bag	-	0.25	0.225	0.205	0.140
	-	6.25	5.63	5.13	3.50
	-	1.65	1.49	1.36	0.92
FLOW CONE (time) sec Flow Table (Spread) %	ASTM C939	24	-	-	-
	ASTM C827		135	95	Forms a ball
EXPANSION , % volume Before final set After final set at 3 days at 14 days at 28 days	ASTM C940 (Modified)	1.70	1.98	2.01	N/A
	ASTM C1090 or CRD-C621	0.03	0.01	0.01	N/A
		0.03	0.04	0.03	
		0.06	0.06	0.06	
COMPRESSIVE STRENGTH , MPa (psi) at 24 hrs at 3 days at 7 days at 28 days	ASTM C109				
	ASTM C942				
		9.7(1,410)	17.0(2,460)	22.0(3,190)	46.1(6,680)
		25.2(3,650)	28.7(4,160)	48.0(6,960)	72.9(10,570)
	36.4(5,280)	41.5(6,020)	52.3(7,580)	79.4(11,510)	
	48.8(7,080)	53.9(7,820)	60.5(8,770)	91.1(13,200)	
DENSITY kg/m ³ lb/ft ³	ASTM C138				
		2,067	2,115	2,131	2,275
		128.7	131.7	132.7	141.7
YIELD bags/m ³ bags/yd ³ ft ³ /bag					
		66	69	70	78
		51	53	54	60
		0.53	0.51	0.50	0.45

Product performance is affected by many factors, including storage, method and conditions of application and use. User testing is ESSENTIAL to determine suitability of product for intended method of application and use. Target's SOLE WARRANTY is that the product has been manufactured to specifications. No oral or written information or advice shall increase this warranty or create new warranties. Target's SOLE LIABILITY is to replace product proved defective. In no event shall Target be liable for any consequential, indirect or other damages whether arising from negligence or otherwise.

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COLOR

Similar to concrete

USES

TARGET Portland Expanding Non-Shrink Grout is designed for use in applications where a non-shrink grout is required, such as the following:

- Grouting under columns, base plates, sole plates and machinery not subjected to heavy impact or dynamic loadings or vibrations. For applications involving such loads consult TARGET Products Ltd.
- Grouting of prestressed or post-tensioned tendons, anchor bolts, or cables.
- Grouting of post-tensioned structural sections.
- Grout jacking of concrete structures.
- Repairs to concrete structures.
- Void backfilling in tunnel work.
- Underpinning of buildings.
- Permanently anchoring posts, signs, parking meters, railings, columns and other fixtures in concrete, rock or masonry.
- Pile grouting.

PROCEDURES

Surface Preparation

1. Remove all laitance, loose material, grease, oil and other contaminants from surfaces that will be in contact with the grout. Water blast or sandblast if necessary.
2. Saturate the substrate with clean water for 24 hours prior to grouting. Just before grouting, remove all excess water and allow the substrate to become saturated surface-dry or surface-damp when the grout is placed.

MIXING

1. Add the grout to clean water with continuous mixing to achieve the required consistency. Approximate water requirements are:
 - Dry Pack** - 3.25 to 3.5L/25kg bag, or 0.86 to 0.92 US gal/55 lb bag
 - Plastic** - 5.13L/25kg bag, or 1.36 US gal/55 lb bag
 - Flowable** - 5.63L/25kg bag, or 1.49 US gal/55 lb bag
 - Fluid** - 6.25L/25kg bag, or 1.65 US gal/55 lb bag**IMPORTANT:** Do not exceed 6.5L or 1.7 US gallons of water per 55 lb bag of grout. The temperature of the mixed grout should be 10°C to 25°C (50°F to 77°F).
2. For plastic or flowable consistencies, the grout is best mixed in a high speed shear mixer such as a Jiffler mixer or grout mixer. DO NOT use a rotating drum mixer. For dry pack consistency, use a mortar mixer or equivalent.
3. Mix continuously for a minimum of 3 minutes before use, and continue mixing during placement. Commence grout placing within 30 minutes of the start of mixing.
4. Placing should be completed within 1 hour of mixing. Discard any grout that is not placed

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within 1 hour of the start of mixing.

5. Maintain base plate, substrate and grout temperatures in the range of 5°C to 35°C (41°F to 95°F) for at least 72 hours after grouting. Exposed grout surfaces should be kept moist for at least 3 days after grouting. Alternatively, the use of curing compounds meeting the requirements of ASTM C309 is permitted after 24 hours of moist curing in situations where the ambient and grout temperatures do not exceed 25°C (77°F).

CAUTION

- This product should not be used for heavy duty precision grouting of machinery base plates, crane rails and situations where it will be subjected to severe dynamic or cyclic loadings or vibrations. The grout can be used under such conditions only if adequate neoprene pads or equivalent vibration and impact absorbing materials are included in the design detail. For further information on alternative products such as TARGET Machine Base Grout contact your TARGET representative.
- Base plates or machinery should be firmly bolted down to confine the grout vertically during placement and use.
- Pours with least dimensions (thickness) in excess of 6 inches are not recommended. For pours with least dimensions greater than 6 inches use TARGET Flowcrete or TARGET Machine Base Grout. Minimum pour thickness is 1/4".
- The ideal ambient temperature for grouting is between 10°C to 30°C (50°F to 86°F). Cooler temperatures will retard the rate of strength gain, especially in flowable or fluid mixes. Foundation and bedplate temperatures should be kept above 5°C (41°F) and below 35°C (95°F) for at least 72 hours after grouting.

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