

# 1117 – Silica Fume Anchor Bolt

## Grout

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### PRODUCT

TARGET® Silica Fume Anchor Bolt Grout consists of accurately weighed Portland cement, silica fume and special chemical admixtures. The product is designed for use as a flowable grout. In working temperature ranges of 5 °C to 35 °C (41 °F to 95 °F), the grout will have a slight expansion prior to final set. The grout contains no chlorides or other admixtures that could aggravate corrosion of embedded steel and meets all the requirements as set forth in ASTM C1107 specification for pre-hardened and post hardened expansion.

### USES

TARGET Silica Fume Anchor Bolt Grout is primarily designed for uses where a premium quality high flow grout that inhibits washout by water and has a very low permeability is required and a higher early strength is desired.

#### Applications include:

- Soil tie back anchor grouting
- Grouting of fissures and cracks in rocks
- Anchor bolt grouting
- Any area where there is a possibility of running water washing out the cement component in conventional grouts before they achieve final set
- Situations where a higher early strength is required

### Typical properties

#### 1117 - Silica Fume Anchor Bolt Grout at fluid consistency

(Corps of Engineers CRD-C62I and ASTM Standard C1107 test procedures)

Tests		Norms	Units	Typical Value
Flow cone		ASTM C939	[sec]	20-30
Expansion		ASTM C940	[%]	1-3
Segregation		ASTM C940	[%]	Negligible
Setting time	Initial	ASTM C191	[hours]	6
	Final	ASTM C191	[hours]	8
Compressive strength	18 hours	ASTM C 109	[Mpa (psi)]	21,3 (3,100)
	24 hours	ASTM C 109	[Mpa (psi)]	31,7 (4,600)
	7 days	ASTM C 109	[Mpa (psi)]	65,0 (9,400)
	28 days	ASTM C 109	[Mpa (psi)]	70,0 (10,150)

\* The tests were carried out under laboratory conditions at a temperature of 20 °C ± 2 °C

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#### APPROXIMATE YIELD

Per 25 kg (55 lb) bag at fluid consistency

bags/m <sup>3</sup>	41.6
bags/yd <sup>3</sup>	31.66
litres/bag	16.75
ft <sup>3</sup> /bag	0.59



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#### PROCEDURES

**WEAR IMPERVIOUS GLOVES, such as nitrile.**

1. The grout must be mixed in a high-speed shear mixer such as a Jiffler mixer or equivalent.
2. Add the grout to clean water and mix to a uniform consistency. Water temperature should be 10 °C to 18 °C (50 °F to 65 °F).
3. The grout can be mixed to plastic, flowable or fluid consistencies, depending on the job application. The water content of the grout should be kept as low as possible, and not exceed 8.75 liters (9.2 US liq qt) of water per 25 kg (55 lb) bag of TARGET Silica Fume Anchor Bolt Grout.
4. Mix the grout continuously for at least 5 minutes before placing. If possible, the grout should be mixed continuously until placing is completed, but if this is not practical, a brief remixing for 1 minute prior to pumping or placement is adequate to overcome the effect of "thixotropic set" caused by the silica fume.
5. Place, using a grout pump or other established grouting procedures. The placement method will depend on the application and grout consistency.
6. In order to obtain full expansion of the grout in place, limit batch sizes to the amount of grout placement that can be completed within 1 hour.

#### CAUTION

- The grout is not recommended for heavy duty precision grouting of machinery base plates or crane rails unless adequate neoprene pads or equivalent vibration and energy absorbing materials are included in the design detail.
- The grout performs best when fully restrained or confined on all surfaces.
- Pours with least dimensions (thickness) in excess of 50 mm (2 inches) are not recommended.
- Ambient temperatures should be between 10 °C (50 °F) and 30 °C (86 °F). Cooler temperatures will retard the rate of strength gain, especially in flowable or fluid mixes. Foundation and bed plate temperatures should be kept above 5 °C (41 °F) and below 35 °C (95 °F) for at least 72 hours after grouting.

#### SPECIFICATION GUIDE

Grout shall be TARGET Silica Fume Anchor Bolt Grout or approved equivalent product meeting the requirements of US Corps of Engineers Specification CRD-C621 and ASTM Standard Specification C1107 for Non-Shrink Grout. The grout shall develop a compressive strength of not less than 82.7 MPa (12,000 lb/in<sup>2</sup>) after 28 days (20 °C) when mixed and cured in accordance with the manufacturer's directions.

#### PACKAGING

TARGET Silica Fume Anchor Bolt Grout is available in 25 kg (55 lb) bag 40 bags /pallet.

**Product performance is affected by many factors, including storage, application method and conditions, and use. User testing is essential to determine the ability of the product to perform according to the method of application and intended use. No verbal or written information can improve this guarantee and/or replace this guarantee. We will replace the product found to be defective. We cannot be held liable for consequential, indirect or other damages arising from negligence or other circumstances.**

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