

# FLOWCRETE WITH SILICA FUME

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## PRODUCT

TARGET® Flowcrete with Silica Fume consists of accurately weighed Portland cement, aggregates and chemical admixtures. The product is designed to be used as a repair concrete in situations requiring a high-quality concrete with a maximum aggregate size of 10 mm (3/8 inch). It may be mixed to any consistency from plastic to flowable. An air-entraining agent is incorporated in the dry product to produce a concrete having good resistance to freezing and thawing. Shrinkage compensating agents are included to minimize plastic shrinkage. For use anywhere a Class C-XL Exposure Classification concrete is required (CSA 23.1).



## TYPICAL PROPERTIES OF TARGET FLOWCRETE WITH SILICA FUME

MIX CONSISTENCY		FLOWABLE	PLASTIC
<b>WATER ADDED</b> Litres / 25 kg bag (US quarts) / 55 lb bag		2.5 to 2.75 (2-3/5 to 3)	2.2 to 2.4 (2-1/3 to 2-1/2)
<b>RAPID CHLORIDE PERMEABILITY (ASTM C1202; 56 Day Cycle)</b>		365 (Very Low)	
<b>SLUMP</b> , mm (inches)    CSA A23.2-5C		180-220 (7"-9")	100-130 (4"-5")
<b>FLOW</b> , cm (in)          DIN EN 12350-5		60 (23.6")	Not Applicable
<b>COMPRESSIVE STRENGTH</b> MPa (lb/in <sup>2</sup> ) ASTM C109 (CSA A23.2-3C,9C) 100 mm diameter cylinders			
at 1 day		16 (2350)	24 (3500)
at 3 days		25 (3600)	35 (5100)
at 7 days		37 (5400)	48 (7000)
at 28 days		45 (6500)	55 (8000)
<b>VOLUME CHANGE</b> % expansion Prior to initial set, unrestrained, CSA A23.2-1B After final set, CRD-C621		0	0
at 3 days		0.02	0.01
at 7 days		0.02	0.01
at 28 days		0.02	0.01
<b>AIR CONTENT</b> , % volume* CSA A23.2-4C		5.8	5.1

\* The exact air content will vary, depending on the consistency of the mix and mixing procedures adopted. The values given are typical for rotating drum mixers.

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## USES

TARGET Flowcrete with Silica Fume is designed for uses such as the following:

- Grouting of keyways or general grouting operations where a maximum aggregate size of 10 mm (3/8 inch) is desirable.
- Levelling beds with a thickness of 25 mm (1 inch) or more.
- Void filling where a 10 mm (3/8 inch) aggregate is desirable or where the minimum dimension of the pour exceeds 25 mm (1 inch). For smaller dimensions, use TARGET Machine Base Grout, TARGET Portland Expanding Grout or TARGET 1118 Grout.
- Structural repairs and applications requiring a high quality concrete at any consistency between plastic and flowable where the quantities involved or placement conditions make the use of conventional ready-mixed concrete impractical.
- For concrete pours and surfaces requiring Class C-XL Exposure Classification (CSA A23.1) including structurally reinforced concrete exposed to high chlorides or other severe environments with or without freezing and thawing conditions, with higher durability performance expectations than the C-1, A-1 or S-1 classes. Can also be used in bridge decks, parking decks and ramps, all marine structures located within the tidal and splash zones, concrete exposed to seawater spray, and salt water pools.

## PROCEDURES

1. Prepare existing concrete surfaces for application of TARGET Flowcrete with Silica Fume by thoroughly cleaning, using appropriate techniques to remove dirt, oil, laitance, efflorescence or deteriorated concrete. Mechanically roughening Host concrete surfaces may be required. Bring existing concrete surface to SSD (Saturated Surface Dry) to ensure a firm bond.

**Note:** In some cases, such as overlays, levelling beds or repair work, a bonding slurry of TARGET Fast Set Patching Concrete with a mixture of one part by volume of TARGET Polymer Bonding Agent to two parts by volume of clean water is required. See product literature for TARGET Polymer Bonding Agent for additional details. Placing of TARGET Flowcrete with Silica Fume over the slurry coat should be completed before the slurry dries and within one hour of mixing the slurry.

2. Add clean water to a suitable mixing container. Appropriate mixers include Jiffler or paddle mixers powered by a 1/2 inch drill, or conventional mortar or concrete mixers where batch sizes warrant the use of a larger mixer. Rotating drum mixers are suitable only if the batch size is 50% to 75% of the nominal capacity of the mixer, and the mixer fins are in good condition.

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3. Add TARGET Flowcrete with Silica Fume to water with continuous mixing to achieve the required consistency.
4. Mix for not less than 2 minutes. If a mixing period of less than 5 minutes is used, remix before placing.
5. Place and consolidate within 30 minutes of mixing, using methods suited to the application and consistency required.
6. Use conventional concrete finishing procedures to obtain the required surface finish. The use of magnesium or Plexiglass trowels has been found to give improved finishes to flatwork.
7. Place only at ambient temperatures above 5 °C (40 °F) and below 30 °C (86 °F). Protect from freezing and from temperatures above 35 °C (95 °F) during the first three days after placing.

## CAUTION

TARGET Flowcrete with Silica Fume is a cement-rich material and while it is formulated for minimum plastic shrinkage it should be used with caution in large exposed areas in excess of 10 ft<sup>3</sup>. Adequate moist curing for at least 3 days from the time of placing is essential to reduce the potential for drying shrinkage cracking, as would be required for all large concrete pours.

## CHARACTERISTICS

- COLOUR -** Uniform Gray
- SHELF LIFE -** 1 (one) year from date of manufacture when stored in a dry, protected and heated environment. (Production date and batching number stamped on side of each bag.)
- HEALTH AND SAFETY -** Please consult Target Products Ltd. Safety Data Sheets for personal exposure risks and safe handling procedures.

## PACKAGING

Target Flowcrete with Silica Fume is available in 25 kg (55 lb) bag 56 bags/pallet or in 1 yd<sup>3</sup>, 1588 kg (3500 lb) bulk bags or 1134 kg (2500 lb) bulk bags 1/pallet.

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