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# MULTICRETE XPR™ SHOTCRETE TECHNICAL DATA SHEET

For Cold Temperature Applications

## DESCRIPTION

**Multicrete XPR™ Shotcrete** is a preblended, dry shotcrete based on a modified hydraulic cement for a very rapid strength gain.

**Multicrete XPR™ Shotcrete** also has greatly enhanced shooting characteristics and physical properties due to specially selected admixtures.

## USES

In the dry process, the **Multicrete XPR™ Shotcrete** is blown through the hose and mixing water is added at the nozzle. The shotcrete impacts the surface at a high velocity resulting in a well-compacted, high quality concrete with excellent bond.

**Multicrete XPR™ Shotcrete** was specially developed for the following shotcrete applications:

- Areas requiring Rapid Strength gain (+/-2500 psi in 3 hours).
- Spraying onto frozen ground such as structural tunnel linings.
- Cold weather use.

**Multicrete XPR™ Shotcrete** may be used in combination with steel fibre reinforcement to enhance load-carrying capacity and accelerator to provide fast set times. It can be blended to meet ACI 506 gradation #1 or #2.

## ADVANTAGES

**Rapid Strength Gain:** **Multicrete XPR™ Shotcrete** is specially designed to meet the demands of high early strength for structural support which cannot be met with a conventional Portland cement based product.

**Stickiness:** **Multicrete XPR™ Shotcrete** has vastly improved cohesion characteristics compared to conventional shotcrete; this stickiness saves time and money because:

- Rebound is significantly reduced, resulting in lower material usage.
- Sagging and sloughing are eliminated.
- Thick layers can be applied in a single pass in both the vertical and overhead orientations without the use of caustic accelerators. This increases shooting efficiency as passing over work two or three times to achieve a certain thickness is no longer necessary.

**Physical properties:** Silica fume in **Multicrete XPR™ Shotcrete** creates a higher strength shotcrete with low permeability and excellent freeze/thaw durability.

**Resistance to water washout:** **Multicrete XPR™ Shotcrete** in the plastic state has tremendous resistance to washout by flowing water. This resistance allows **Multicrete XPR™ Shotcrete** to be applied to moderately wet surfaces.

## PACKAGING

**Multicrete XPR™ Shotcrete** can be custom blended with or without steel fibre reinforcement. It is normally packaged in bulk bags up to 1680 kg (one cubic yard), with double shrink-wrap on wooden pallets.

## SAFETY PRECAUTIONS

**Multicrete XPR™ Shotcrete** contains Portland cement, silica fume and other carefully selected additives. Normal safety wear such as rubber gloves, dust mask and safety glasses used to handle conventional cement based products should be worn. Safety Data Sheets are available on request.

## TECHNICAL DATA

	TEST METHOD	RESULTS
Compressive Strengths:	CAN3-A23-14C ASTM C42	Mpa (PSI)
3-hour:		17 (2500)
1-day:		28 (4000)
7-day:		35 (5000)
28-day:		45 (6500)
Flexural Strengths:	ASTM 1018	7 (1000)
Boiled Absorption:	ASTM C842	5.0 per cent
Volume of Permeable Voids:	ASTM C842	14.0 per cent
Rebound:	Consultant's Test	8.0 per cent
		<b>Vertical</b>
		<20.0 per cent
		<b>Overhead</b>