

APPENDIX I: WBS-301 SEALANT TECHNICAL DATA SHEET



# TECHNICAL DATA

## WBS 301 - WATERLOO BARRIER® GROUT

TDS 2-98

Date: February, 1998

### 1. DESCRIPTION:

Waterloo Barrier Grout - **WBS 301** - is a prepackaged silica fume modified, cementitious based grout for use as a joint sealant with the Waterloo Barrier® System.

### 2. USES:

This product is used exclusively with the Waterloo Barrier® Groundwater Containment System as a low hydraulic conductivity joint sealing material.

### 3. CHARACTERISTICS:

- Contains pre-blended dry superplasticizers providing a low water/cement ratio and increased compressive strength.
- This sealant offers high compressive strength with a rapid strength gain in the first two days.
- Thixotropic nature of the material resists groundwater washout.
- The addition of Silica Fume and Fly Ash additives improves the pumpability of the material while reducing the bleeding and permeability of the mix.
- Expansion agents in the mix generate a 4-8% volumetric expansion.
- Pot life of the mixed material can be varied from 60 to 90 minutes depending upon the installation conditions encountered.
- For special conditions viscosity may be reduced and flowability increased by adding additional water as necessary.

#### 4. MIXING PROPERTIES: (NORMAL)

DESCRIPTION	REQUIREMENTS
SEALANT PACKAGING:	30 kg Bags
MINIMUM WATER VOLUME (per bag):	6.25 L
MAXIMUM WATER VOLUME (per bag):	9.25 L
MIXER TYPE:	Colloidal
MINIMUM MIXING TIME:	2.0 (min.)
MAXIMUM POT LIFE:	180 (min.)

#### 5. CURING AND SET TIMES:

The initial gel time of the sealant varies from 1.5 to 2.0 hours @ 20°C. Initial set time of the sealant varies from 1 to 2 days after placement. Ultimate strength is reached at approximately 28 days.

COMPRESSIVE TESTING	STRENGTH
1 DAY:	10 Mpa
3 DAYS:	20 Mpa
7 DAYS:	35 Mpa
28 DAYS:	50 Mpa

#### 6. PERMEABILITY TESTING:

Independent testing confirms a bulk hydraulic conductivity of  $3.19 \times 10^{-15}$  m/s.

#### 7. YIELD:

Each 30 kg (66 lb) bag of **WBS 301** sealant produces approximately 0.01 cubic metres of grout.

#### 8. SAFETY PRECAUTIONS:

Waterloo Barrier® Grout - WBS 301 - contains Portland Cement, Fly Ash, Silica Fume and other admixtures. Normal safety wear, such as rubber gloves, dust masks and safety glasses that are used to handle conventional cement based products should be worn.

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