Crosbe
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3 Viewbrook Close, Seven Hills

Technical Data Sheet

InfraGrout 190 Low Carbon®

InfraGrout® 190 Low Carbon is a pumpable, thixotropic cementitious grout. It is engineered with low-carbon technology to offer a sustainable solution for civil applications. Designed for encapsulation of roof bolts and cable anchors in tunnelling and underground mining applications where top-down grouting methods are required.

InfraGrout® 190 LC is formulated with advanced additives and supplementary cementitious materials to form a low shrinkage, low chloride, high yield, and high ultimate compressive strength grout.

Advantages:

- **InfraGrout 190 LC** is classified as Non-Hazardous with respect to Respirable Crystalline Silica (RCS) as it contains less than 0.1% RCS
- Rapid thixotropy provides gravity resistance
- Pumpable even at low-rate w/c ratio
- Low bleed even at high flow
- SCM provide for increased density and durability
- Does not segregate

Mixing:

1. Place up to 6.0 litres of potable water (per 20kg bag) into a clean, high shear mixer.
2. Start mixer then slowly add InfraGrout® 190.
3. Mix for 3-4 minutes after the addition of the last bag, ensuring the grout is uniform and free of lumps.
4. Commence pumping whilst continuing to agitate grout.
5. Any grout remaining unused 60 minutes after mixing should be discarded. Do NOT retemper grout by adding water.

Pumping:

Select an effective pumping method to match the specific application, taking into consideration the total volume of grout, distance and change in level from pump to area of application.

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Prior to mixing grout, rinse mixer and flush grout lines with water to cool grouting equipment. Discharge any excess water from pump hopper and grout hoses prior to pumping. It is important to continuously agitate the grout after mixing and during the pumping process. If the grout is allowed to sit unagitated, it will decrease its pump life. Grouting equipment should be rinsed / flushed regularly to prevent the build-up of grout on surface. Built-up grout can become dislodged and cause blockages during the grouting process. Dispose of any unused grout in an appropriate disposal area or construction waste bin.

Temperature Consideration:

The mechanism of interaction between cement and water is temperature sensitive. To avoid significant change in setting times, the recommended ambient temperature and water temperature range is 15 – 25˚C. Working with temperatures outside of this range will also impact the fluidity of the product.

Do not apply grout with ambient temperatures less than 10˚C. When ambient temperatures are above 35˚C, consider using cool water for mixing the grout as well as rinsing and flushing equipment and ducts.

InfraGrout® 190 LC – Product Data:

Property	Test Method		Test Result
Cement Type	AS 3972		GB
Bleeding	ASTM C940		< 0.5%
Compressive strength	AS 1478.2 Appendix A	1 day	> 8 MPa
		3 days	> 30 MPa
		7 days	> 50 MPa
		28 days	> 70 MPa
		56 days	> 77 MPa
Silica Fume	To AS/NZS 3582.3		5 – 10%
Acid-soluble chloride	AS 1379		<0.5 kg/m^3
Shrinkage	AS 2350.13	28 days	< 500 µstrain
Chloride Ion Content	AS 1012.20		< 0.02%
Pump Life			≈ 80 minutes
Fresh Wet Density	AS 1012.5		1920 kg/m^3
Yield	Approx. yield per 20kg bag		13.5 litres

Testing Parameters: 0.30% of water. Laboratory at: 23±2 ˚C > 50% RH

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Packaging:

20kg Polyethylene (PE) bags, 1000kg bulk bags

Shelf Life & Storage:

Shelf Life

The shelf life of the product is 18 months from the date of manufacture, if stored indoors in accordance with recommended storage conditions.

Storage

Store in dry conditions, in unopened and undamaged PE bags and in temperatures below 30C. If stored in excessive temperature conditions, externally exposed to the elements or in high humidity conditions, the shelf life may be reduced.

Safety Data:

InfraGrout 190 LC is classified as Non-Hazardous with respect to Respirable Crystalline Silica (RCS) as it contains less than 0.1% RCS.

This product may cause irritation and an allergic reaction to the skin. It may cause serious eye injury and irritation to the respiratory system. In case of contact with the eyes rinse with running water (15 mins) including removal of contaminated clothing. Wear protective gloves, clothing, eye, and face protection. Avoid inhaling dust/ fume/gas/mist/vapours/spray. Ensure adequate ventilation during mixing and application. A class P2 dust mask is recommended for use when handling powdered material, and whilst grinding or scabbling floors. For detailed information, refer to the SDS for InfraGrout® 190, available at www.crosbe.com.

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Important notice:
A safety Data Sheet (SDS) is available from the Crosbe website (crosbe.com). Please read the SDS carefully prior to using this product. In an emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia).

Product disclaimer:
Recommendations and advice regarding the use of this product are to be taken as a guide only. The manufacturer of this product and any of its affiliate companies cannot be held responsible for any loss or damage arising from the incorrect usage of this product. The use of this product is beyond the manufacturers control, and liability is restricted to the replacement of material should the product be proven faulty. The information contained herein is to the best of our knowledge, true and accurate. We reserve the right to update information without prior notice. No warranty is implied or given to its completeness or accuracy in describing the performance or suitability of the product for a particular application.