HES 70 - QUICK SET HIGH EARLY STRENGTH GROUT

Greenz HES-70 Technical Data Sheet

Greenz HES 70- Quick Setting High Early Strength Cement Grout is a Class-C one-component cement powder which requires only the addition of water to form a rapid setting high strength, early non-shrink cement grout. Suitable for civil engineering applications, where a quick and high early strength is required. It incorporates specially graded aggregates and advanced new generation polymers to form a cementitious grout. Firms in approximately 30 minutes.

Advantages and Solution

- Quick Setting Firms in 30 minutes
- High Early Strength, Non-Shrink
- Pre-mix - just add water
- Anti-corrosion properties
- Alkali resistant performance
- Balustrading Installation,
- Filling Voids & Gaps in Concrete
- Stanchions, Columns & Posts
- Installing Drains & Grates
- Concrete, Stone, Masonry embedment

Mixing Instructions

1. Greenz HES 70 - Quick set grout must be mixed with a power-driven mechanical mixer, such as a mortar mixer or For smaller quantity mixing, an electric drill with a spiral mixing paddle DO NOT MIX BY HAND.
2. The water should be accurately measured and added to a suitable mixing container.
3. Place 80% of the water into the mixing vessel.
4. Slowly add 70% of the powder to the mixing vessel and mix for 1 minute.
5. Add the final 20 % of the water to the mixing vessel.
6. Slowly add the remainder of the powder to the mixing vessel.
7. Mix for 3 minutes or until uniform to a homogenised workable mix
   Note : Do not add additional water as grout may segregate and bleed affecting performance

Water Ratio Limits	Litres per 20 kg bag
Flowable	6.8– 7.6

Applying Mixed Material

- Application thickness: 10 mm to 150 mm.
- Do not exceed the recommended thickness in any layer.
- Do not mix more material than can be placed in 10 minutes.
- Apply small amounts of mixed material into the surface and trowel to a smooth finish.
- When thickness exceeds 110 mm, it is recommended that clean single size aggregate (minimum 10 mm) be packed in the void to distribute the grout better. The weight ratio of aggregate to grout should not exceed 1:1 ratio.

IMPORTANT: Do not mix cementitious products if the temperature is expected to exceed 30 °Celsius, or if the change in ambient temperature exceeds +/- 12 °Celsius

Surface Preparation

- User to consult with a qualified engineer prior to repairing any defective, corroded & chloride contaminated host concrete substrates.
- All defective host substrates must be removed prior to applying materials. Defective material includes cracked or structurally weakened surfaces
- All surfaces must be free from dust, oils, and surface contaminants. This may require cleaning with high-pressure water blasting or saturation to the surface using water with no standing water present prior before applying materials

Placement

- Organize work so that all PPE and equipment are ready before placement
- Place Greenz HES – 70 Quick Set Grout quickly to allow for maximum finishing time, apply final finish float, trowel or broom as soon as possible.
- Optimum Setting times for the Greenz HES –70 Quick Set Grout are based on air, water and powder temperature at 22 degrees Celcius
- WARM WEATHER: Environmental and material temperatures above (22°C) may speed setting time and increase the rate of strength gain. To compensate for warm temperatures, keep material cool, use chilled mix water.
- COLD WEATHER: Environmental and material temperatures below (22°C) may delay setting time and reduce the rate of strength gain. To compensate for cold temperatures, keep material warm, use heated mix water,

User Responsibility

- Before using Greenz products, user to review read current technical data sheets & safety data sheets instructions and warnings For safety data sheets Go to www.greenz.net.au, email Info@greenz.net.au or call 1300 755 827
- Before using confirm product compatibility with manufacture/ supplier of fixtures, fittings, glass or other.
- Use material in well-ventilated areas only, do not breath dust, avoid contact with skin and eyes
- Protect eyes with goggles or safety glasses with side shields, cover skin with protective clothing, gloves, masks and boots.

Test Characteristic

Property	Test Method	Results
Cement	AS 3972	Complies
Chloride Content	AS 3972 Requirement - Max 0.10 %	0.01 %
Sulphur SO3	AS 3972 Requirement - Max 3.5%	2.4%
Volume Change	AS1478.2	<1.8%
Initial Set (Approximate)	AS 1012.18	15-20 minutes @ 20 °C
Final Set (Approximate)	AS 1012.18	70 minutes @ 20 °C
Flow Characteristics	AS 1478.2 (Appendix C)	< 45 Seconds
Compressive Strength	AS 1478.2 (Appendix A)	Complies
Maximum Particle Size	0.6 mm	
Alkali resistant	Performance is very good	
Freeze Thaw	High resistance properties	
Anti-Corrosion	Very good corrosion resistance	
Mixing Time	3 - 4 Minutes	
Yield per (Approximate)	12 litres per 20kg	
Pump Life (Approximate)	15 minutes @ 20°C	

Compressive Strength

Minimum MPa	@ 1 Hour	@ 2 Hours	@ 6 Hours	@ 1 Day	@ 28 Days	Water / 20kg
Flowable	25	30	40	55	80	6.8

The Data testing was conducted in a controlled laboratory environment field results may vary and is beyond Greenz Group control

- **Storage** - Store undercover in cool, dry conditions.
- **Shelf Life** - 12 Months if unopened and kept in a dry location. Best to use within 6 months from purchase date.
- **Clean up** - Clean tools and surfaces using clean water within 30 minutes of applying materials or prior to curing.
- **Packaging** – 20kg bucket, 32 buckets per pallet, pallet weight 670 kg, (including pallet).
- **Disposal** - Keep out of sewer and stormwater lines. In the interest of the environment, please dispose of empty bag and materials as trade waste in accordance with local authority guidelines.
- **Safety Information** - The end-user of this product must first read the latest version of the Safety Data Sheets at www.greenz.net.au before this product can be used.

Greenz Group products are manufactured using ISO 9001 Certified Processes.

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DISCLAIMER *- The end use of this product is beyond the manufacturer's control and liability is restricted to the replacement of material proven to be faulty. The manufacturer is NOT responsible for any loss or damage arising from incorrect usage of this product. The information contained herein is provided in good faith and to best of Greenz knowledge is true and accurate. No warranty is implied or given as to its completeness or accuracy in describing the performance or suitability of the product for an application.*

Users are requested to check that the literature in their possession is of the latest and correct issue, Greenz is a registered trademark of Greenz Group Pty Ltd.
The recommendations to the application and use of the Greenz Group cement products are based on materials mixed and applied under normal conditions. Site conditions and substrates will vary.

The product must be first tested to its suitability of the intended application before use. The end-user of this product must first read the latest version of the Technical & Safety Data Sheets at ww.greenz.net.au before this product can be used.