

Technical Data Sheet (TDS)

VShot FS

Description

VShot FS is a pre-packaged, ready to use, shotcrete mix for wet applications utilising the Ventsec Wet Applicator Pumping System. Engineered for high early strength and rapid setting time.

VShot FS is extremely cohesive, has good early and increasing strength and produces linear flexural strength. A primary advantage is increased development and potential project finalisation.

The innovative use of specially selected raw materials allows VShot FS to deliver the right material at the right time through the Ventsec Wet Applicator Pumping System to eliminate potential dust exposures and to reduce setting time improving early-stage strength development during application.

VShot FS has been specifically established for applications in mining and civil industries. Customers may request poly or steel fibres to suit their specific application. Corrosion inhibition available on request (CI).

Recommended Uses

VShot FS is recommended for use in all mining or civil applications where a dry shotcrete mix is deemed appropriate.

- Underground mining support & lining, Ventilation sealing and water control.
- Ground & embankment stabilisation
- Concrete repairs to buildings, bridges, marine structures, pipework etc.
- Tunnel linings & repairs.
- Expedited set project requirements.
- Early-stage strength development.

Features & Benefits

VShot FS is a cost effective, time saving alternative to conventional concrete applications. Without sacrificing quality of materials, the advantages of using VShot FS are as follows:

- Easy application in dry mix shotcrete systems
- High build
- High early strength shotcrete

- Rapid setting
- Dust Free Application

Performance Data

Setting Times

Setting should not be confused with hardening, which refers to the gain in mechanical strength after the certain degree of resistance to the penetration of a special attachment pressed into it.

***Initial set – 30 mins**

Initial setting time is the time when the paste starts losing its plasticity. Initial set times are important for transportation, placing and compaction of cement concrete.

***Final set – 90 mins**

Final setting time is the time when the paste completely loses its plasticity.

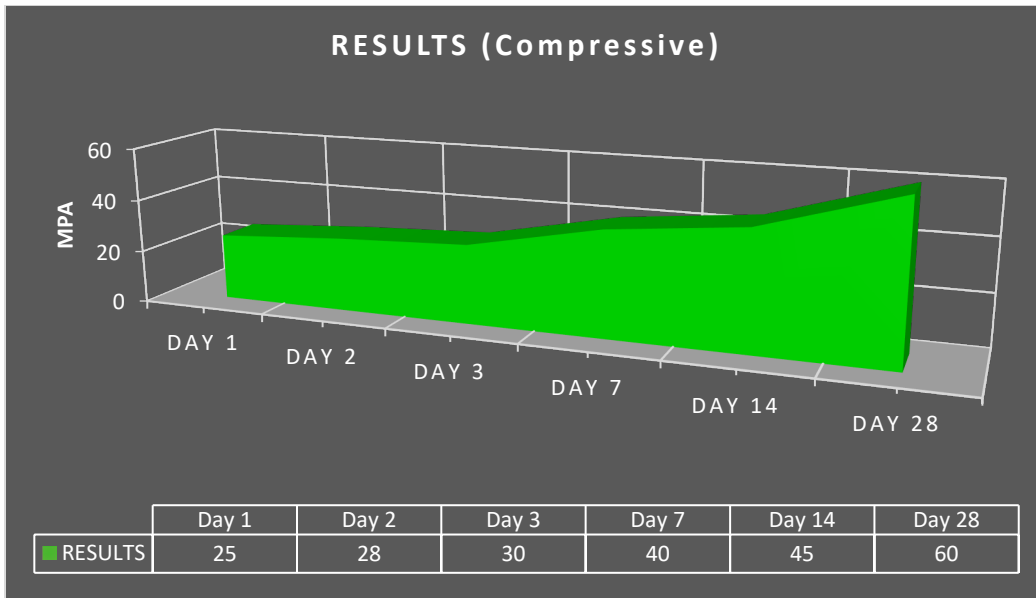
It is the time taken for the cement paste or cement concrete to harden sufficiently and attain the shape of the mould in which it is cast.

Determination of final setting time period facilitates safe removal of scaffolding or form.

Compressive Strength

VShot FS has extremely fast early Strength still reaching in excess of 55 Mpa in 28 days. This material has a Flexural strength of 6.41Mpa tested at 28 days and an extremely low shrinkage average of 333 micro strain over 56 days.

Compressive Strength typical 28-day Test cycle



Compressive Strength 12-hour Test cycle



*Variations are to be expected as a result of changing site conditions, weather, quality of preparation, level of expertise during application & curing. Results from independent core testing.

Application

The surface to be sprayed should be prepared by removing all traces of unsound concrete, dust and debris.

For structural repairs, ensure the area has been saturated with clean water. Ensure this occurs a minimum of 7 hours prior to shotcrete application.

Mix VShot FS with approximately 0.13 liters of water per 1kg.

VShot FS can be sprayed to depths of 10-100mm in one pass depending on weather conditions and operator competence.

Cleaning

Rinse all tools & equipment with clean water immediately after use, removing all traces of VShot FS.

Storage & Shelf Life

If VShot FS is kept in its original packaging in a dry environment, shelf life of 6 months is to be expected.

This time may be reduced if the product is subject to high temperatures or humidity.

Bulk bags are expected to remain covered in plastic until use.

Packaging

VShot FS is packaged in 20kg bags or 600kg, 1000kg and 1200kg bulk bags. Other packaging options can be requested.

Health & Safety

- Avoid contact with skin and eyes. Wear suitable protective clothing.
- Avoid inhalation or ingestion.
- In case of contact with skin or eyes, rinse immediately.
- Seek medical attention immediately if ingested.

Disclaimer

The technical information and application advice summarised in this document is based on our current practical knowledge.

Intending users should read this TDS as well as the SDS and consider the information provided in the context of how the product will be handled and used in the workplace, including in conjunction with other products.

We accept no responsibility for loss or injury caused by improper use, incompetent preparation or ordinary wear and tear.

Our responsibility for product sold is subject to our standard terms and conditions; no warranty expressed is implied as Ventsec has no control over mix design, handling or use of the product by third parties. Ventsec retains the right to update this TDS without prior notice.

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