



## TECHNICAL DATA SHEET

### CARBONTECH V-SEAL

---

#### Description

**Carbontech V-Seal** is a flexible 2-part polymer-based cement spray liner with excellent, long term bonding and waterproofing properties. The extreme durability and high impact resistance of **V-Seal** makes it ideal for a wide range of applications.

#### Intended Uses

- Soil stabilisation in tunnelling works
- Prevention of falls of ground by locking Key Blocks
- Prevents rock from oxidising
- Reinforcement protection barrier against rock strain movements
- Stabilisation of areas prone to soil movements
- Protection barrier against weathering and soil erosion

#### Features and Benefits

- **V-Seal** is very easy to apply
  - Stable under high rock temperatures
  - Long term secondary, non-structural support
  - Flexibility allows for substrate movement and deformation
  - Long term bond strength to most rock-type surfaces
  - Extremely durable and impact resistant
  - Minimal dust and rebound during application
  - Fast setting, high early-strength gain
-



---

## Product Information

### Cement Part

- Physical State: Powder
- Colour: Grey
- Specific Gravity (20°C) : 2.60
- pH : Alkaline
- Setting Time: 40min @ 25°C (Mixed with Liquid)
- Application Thickness: 8mm
- Application Temperature: 5°C - 40°C
- Flammability: Non-Flammable

### Liquid Part

- Physical State: Liquid
- Colour: Milky White
- Specific Gravity (20°C): 1.00
- Smell: Polymer like
- Solubility in water: Miscible in all proportions
- Flammability: Non-Flammable
- Boiling Point: 100°C
- Freezing Point: 0°C

## Technical Specifications

### Minimum Requirements

	<u>24 Hours</u>	<u>3 Days</u>	<u>7 Days</u>	<u>14 Days</u>	<u>28 Days</u>	<u>72 Days</u>
Biaxial Flexural Strength	2.5 MPa	3 MPa	5.5 MPa	6.5 MPa	8 MPa	
Flexural Deformation	>5mm	>5mm	>5mm	>5mm	>5mm	
Tensile Strength	2 MPa	3 MPa	3.5 MPa	4 MPa	4.5 MPa	
Bond Strength	0.8 MPa	1.2 MPa	1.5 MPa	2.5 MPa	3 MPa	3.5 MPa

\*Biaxial Flexural Strength and Deformation measured on a 100mm diameter, ±5mm thick disc.



## Application Details

### Surface preparation

Remove loose rocks and debris from the surface and ensure that the surface is sound. Soil conditions must be carefully inspected and the appropriate stabilisation system must be recommended by a qualified geotechnical engineer. The application of **V-Seal** must be used under the supervision of a qualified person.

### Mixing

Add approximately 5 litres polymer to a 25kg bag of **V-Seal**. Mix thoroughly with a mechanical mixer for 2 – 3 minutes until the desired homogenous slurry is achieved. Ensure that the mix is free from lumps before use.

**\*NB – Do not add additional water to the mix as it will have a negative effect on the quality of the product.**

### Cleaning

All of the equipment can be cleaned by blowing compressed air and water through the system. The nozzle itself should be inspected and cleaned out with water after every break in the spraying process. During continuous application, there is no need for nozzle cleaning as long as the water and air supply is sufficient.



## **Storage**

**Carbontech V-Seal** is guaranteed for 12 months from the manufacturing date, provided no other chemicals are added to it.

The product should be stored in a dry place in temperature between 5°C and 40°C.

## **Packaging**

25kg Bag + 5 Litre Liquid

## **Health and safety**

This product is classified as harmless. **Carbontech** will provide onsite assistance when requested. Refer to MSDS.