

Technical Data Sheet (TDS)

RCO2 (Reduced carbon performance binder)

Description

RCO2 is a multi-purpose combination hydraulic binder which can offer extreme performance when desired.

Rapid, yet controlled curing allows the user to achieve desired results much faster than any other product available on the market.

No additives are required as RCO2 already contains dosed amounts of flow, set, and workability powders. Simply add potable water. Low carbon (CO₂) output. 40% reduction compared to OPC. 120% carbon reduction compared to CAC cements.

Recommended Uses

Common applications would be:

- Fast set concrete / shotcrete
- Concrete repair
- Pre-cast addition
- Non-shrink grouting
- Underlay
- Casting
- Anchoring
- Base plates
- Rapid construction
- Basement / carpark
- Roadways
- Airport runways
- Post tension grouting

Features & Benefits

- Self-levelling
- Rapid early strength
- Continued late strength development
- Low CO₂ output (compared to OPC and CAC)
- Lower pH (compared to OPC and CAC)
- Extreme controlled performance
- Can be slowed to improve workability
- Environmental advantage
- Approximate 50% CO₂ reduction versus CAC
- Approximate 15% CO₂ reduction versus OPC

Performance Data

For chemical properties please refer to the relevant SDS.

	COMPRESSIVE STRENGTH (UCS)*
3 hours	30MPa
6 hours	40MPa
12 hours	50MPa
1 day	60MPa
7 days	80MPa
28 days	100MPa

W:P Ratio @ 0.25:1

AS1478.2. 50mm cubes at 23 °C (± 2 degrees)

Set Times*

Initial set: 30 minutes

Final set: 60 minutes

Note: *from mixing.

Please note these are laboratory generated test results under controlled conditions, and this testing cannot replicate in-situ or field/practical results.

Water: Powder ratio [W:P]

A water powder ratio of 0.20-0.28:1 by weight of binder. Do not exceed 0.28:1 W:P as this W:P may negatively affect overall product performance.

Bleed / Shrinkage

To be confirmed.

Wet Density

At W:P 0.25, wet density is 2080kg/m³

Yield / Addition rate

Each 20kg bag of RCO2 mixed with 5 litres of water yields 0.012m³ volume.



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Application

RCO2 must be used as a 100% OPC replacement. The product allows the user to reduce total binder content.

RCO2 can be mixed with varying proportions of aggregate, sand, or the like. Application of RCO2 is considered the responsibility of the user.

Please contact the technical department at GreenTech Cement for tailored application suggestions.

Surface Preparation

Surface should be free of dust, or powders. For overlay, it is suggested one test section is prepared to evaluate suitability of material and procedures.

Mixing

Mixing should be undertaken in an efficient shear mixer by adding the powder to water. Clean, potable water is required.

Product Options

GreenTech Cement can recommend many additional high-performance products which incorporate RCO2. Contact the sales department for further information.

Storage and Shelf Life

If kept in its original packaging in a dry environment, shelf life of at least 6 months is to be expected. This time may be reduced if the product is subject to elevated temperatures or humidity. Bulk bags are expected to remain covered in plastic until use.

Packaging

RCO2 is packaged in 20kg bags or 1.0/1.2 tonne bulk bags. Other packaging options are available on request.

Packing slips will state batch manufacture date and batch number for QC traceability.

Health and 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.

Please refer to the relevant SDS for further information. See www.greentechcement.com or contact us.

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 GreenTech Cement Limited has no control over mix design, handling or use of the product.

Contact

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