



RediROK™ Bulk Cement System for General Use Structural Industrial Concrete

CeraTech's **RediROK™ Cement System** is comprised of a non-portland hydraulic cement and proprietary liquid admixtures. CeraTech's **RediROK's™** cement can be mixed in all standard industry mixing apparatus including barrel mixers, pan type turbo mixers and continuous mix systems.

Depending upon product and / or project specifications, the **RediROK's™ Cement System** may require standard industry portland cement concrete admixtures such as AEA's & SRAs. Other admixtures used with portland cement are no longer needed.

Working times, slump, strength development and finishing times can be easily adjusted by varying CERATECH's liquid admixture ratios.

RediROK™ is a hydraulic cement. Concrete produced with **RediROK™** cement meets or exceeds ASTM C1157 & C1600 requirements.

Characteristics

RediROK™ cement concrete utilizes SCM's as a 100% portland cement replacement. The use of SCM's facilitates a very low water:cement ratio and results in a rapid drying concrete with exceptional resistance to concrete degradation caused by exposures to sulfates and alkali's. **RediROK™** cement concrete sets the durability standard for general use concrete, with 3-4 times the durability of typical portland cement concretes, all while offering the ability to apply coatings 48 – 72 hours after placement.

Applications

RediROK™ is a general use concrete solution for a wide variety of demanding industrial concrete construction applications. **RediROK™** enhanced durability and rapid drying characteristics will reduce costs associated with concrete maintenance, and shorten shutdown times. **RediROK™** cement concrete is suitable for general use concrete applications in the industrial environment including foundations, plant infrastructure, loading areas, gantry crane wheel paths, vehicle washouts, coated secondary containments, fill stations, collection ponds and most any other similar new construction application.

Typical Concrete Strengths

Data based on a nominal concrete mix design utilizing 750 pounds of cement powder per cubic yard of concrete produced. Concrete performance also dependent upon aggregate types & quality and mix design. CeraTech's materials meet and/or exceed established internal quality control standards, (available upon request)

Concrete Strengths, psi (MPa)	24 hours	7 day	28 day	ASTM Test Method
Compressive	>2,500 (16.2)	>4,500 (29.2)	>5,500 (35.7)	ASTM - C - 39
Flexural	>400 (2.6)	>550 (3.6)	>700 (4.5)	ASTM - C - 78
Splitting Tensile	>200 (1.3)	>500 (3.2)	>600 (3.9)	ASTM - C - 496
Modulus of Elasticity, msi (GPa)	4.1 (28.7)	4.8 (33.2)	5.1 (35.0)	ASTM - C - 469
Coefficient of Thermal Expansion in/in/°F	Not Applicable	Not Applicable	4.6	AASHTO - TP-60
Rapid Freeze Thaw Resistance, (Durability Factor - Retained percentage of Dynamic Modulus) 300 Cycles	100%			ASTM - C - 666A
Scaling Resistance, lbs/ft² (kg/m²) 50 Cycles	0			ASTM - C - 672



Properties & Typical Concrete Strengths (continued)

Color: RediROK™ cement concrete cures to a taupeish gray.

Specific Gravity: 2.6 - 2.8

Concrete Setting Time (@ 72°F / 22°C) ASTM C403

Initial Set: 60 minutes to 4 hours

Final Set: 90 minutes to 6 hours

Note: Set times can be adjusted by varying the dosage rates of CeraTech's liquid additives.

Curing: Follow standard ACI curing practices.

Coating Time: Concrete may be coated with a non-breathable epoxy type material 48 -72 hours from time of placement. Place ceramic tile, wood laminates & vinyl within 7 days & sheeting within 21 days.

Availability

The RediROK™ Cement System is available throughout the U.S. Contact CeraTech Sales for more information 800-581-8397

Powder available in 2000 lb. Super Saks or bulk. Liquid additives available in 275 gallon totes or bulk transport truck.

Storage

Cement powder should be stored in cool dry conditions
Liquid admixtures should kept above 50°F / 10°C.

Conditions of Use

- To achieve optimum results from RediROK's™ cement in concrete, it is essential that it is correctly specified and used.
- Consult with CeraTech Field Engineering for concrete mix designs, water to cement ratios and appropriateness of RediROK's™ cement for your specific project requirements.
- Normal hot & cold weather practices should also be followed.
- RediROK's™ cement is produced from natural materials and slight shade variations may occur.
- CeraTech USA cannot be held responsible where workmanship has not been carried out in accordance with industry standard practices.

Sustainability & Environmental Impact

Materials Usage	One Ton of Cement		One Cubic Yard of Concrete (Based on 1/3 ton of cement)	
	Portland Cement	RediRok™	Portland Cement	RediRok™
Virgin Resources	3500 lbs.	16 lbs.	667 lbs.	5.3 lbs.
Renewable Resources	0 lbs.	80 lbs.	0 lbs.	26.7 lbs.
Pre-Consumer Waste (Coal Ash)	None	1900 lbs.	200 lbs.	602 lbs.
Landfill Relief (Coal Ash)	None	1900 lbs.	200 lbs.	602 lbs.
Recycled Fine Aggregate (Pulverized consumer waste glass)	NA	NA	Cannot Use	50%
Post Consumer Waste (Crushed glass as an aggregate)	NA	NA	Cannot Use	Yes
Crude Oil	55 gallons	0 gallons	18.3 gallons	0 gallons
Total Energy Req'd.	6 M BTUs	0 BTUs	1.7 M BTUs	0 BTUs
Total CO ₂ Production	2000 lbs.	12 lbs.	667 lbs.	4 lbs.
Water H ₂ O Required	Varies	0 Gals.	*36 Gals.	**18 Gals.

Portland cement production data from www.epa.gov

* Based on a w/c ratio of 0.44 ** Based on a w/c ratio of 0.22



Technical Support

Further information and advice on this product and the full range of CERATECH™ Cement products can be obtained through the contacts listed below. Click on the following link for immediate access to our website. www.ceratechusa.com
email: fieldengineering@ceratechinc.com

Health & Safety

- See **Material Safety Data Sheet (MSDS)** www.ceratechusa.com
- This document does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.
- Dispose of water and materials in accordance with Federal, State and Local regulations.
- The use of a dust mask, safety goggles and gloves is recommended.



The information in this data sheet is accurate at time of printing, but **CeraTech Inc.** reserves the right to amend details as part of their product development program.

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