

# Structural RENEWAL & Protection

*manhole rehabilitation simplified*

# CRM

## Corrosion Resistant Mortar

### PRODUCT DESCRIPTION

**STRUCTURAL RENEWAL & PROTECTION CRM (SR&P CRM)** is a premium calcium aluminate based mortar material specifically designed to achieve exceptionally high physical strengths. **SR&P CRM** is a specially formulated, shrinkage compensated combination of blended cements, aggregates, silica fume and polypropylene fibers which, when mixed with water, results in a dense, low rebound, high build mortar. The required low water to cement ratio ensures low permeability, high early strength and ultimate long-term strengths.

**SR&P CRM** was specifically designed for application by spincasting, troweling and low pressure spraying of mortar for repair of concrete and masonry structures.

### RECOMMENDED USES

Any concrete and masonry surfaces where rehabilitation of an existing structure requires enhancement of the structural integrity, corrosion protection from Hydrogen Sulfide gas (H<sub>2</sub>S) and/or there is a need to stop inflow and infiltration.

- Sanitary sewer manholes
- Sanitary sewer lift stations
- Pipelines and tunnels
- Clarifiers
- Digesters
- Wastewater treatment plants
- Water treatment facilities

### ADVANTAGES

**Quality Controlled** – materials proportioning, mixing and packaging ensures product consistency. Every production run of product is batch coded and tested prior to shipment.

**High Early Strengths** – and ultimate compressive, flexural, slant shear and bond strengths allowing for high build application of the product. Trowelable and Sprayable – trowels easily after spraying or can be trowel applied on small placements.

**Low Permeability** – under 300 Coulombs creating an extremely dense product.

**Sulfide Resistant** – calcium aluminate enhancement improves chemical resistance to H<sub>2</sub>S attack.

### PACKAGING AND COVERAGE

**SR&P CRM** is available in 55 lb. poly-lined bags – 55 bags per pallet. One (1) 55 lb. bag of **SR&P CRM** yields approximately .52 cubic feet and will cover approximately 12.56 sq. ft. at ½” thickness.

### SURFACE PREPARATION

Surfaces to receive coating must be cleaned of all oil, grease, rust, scale, deposits and other contaminants to insure a proper bond. Concrete and masonry surfaces can generally be prepared by 3000-5000 psi pressure water blasting or abrasive blasting.

Any hydrostatic leaks in substrate should be stopped with **SR&P PLUGnPATCH** or similar hydraulic cement product. A saturated substrate with a moist surface is desirable. However, any moving water must be eliminated.

### MIXING

For spincast and spray applications, mix 2¾ -3¼ quarts of potable water per 55 lb. bag of **SR&P CRM**. For best results mix approximately 3-5 minutes with a low speed mortar mixer by first adding water, starting mixer and then adding **SR&P CRM** until mortar is thoroughly mixed. A paddle and drill mixer may be used for one-bag mixes.

### PLACEMENT

Dampen all surfaces to be coated to assure proper saturation. For spincasting and spray applications, the surface to be sprayed must be Saturated Surface Dry (SSD).

For troweling, the surface to be troweled must be SSD and all surfaces should be primed with a slurry coat of **SR&P CRM** that is loose enough to be applied with a stiff mason's brush. Scrub the slurry into the substrate and trowel on **SR&P CRM** as soon as the slurry mix becomes tacky to the touch and before it dries.

For additional coats allow first coat to completely dry before applying second coat.

**PLACEMENT (cont.)**

**SR&P CRM** can be wet process sprayed to a thickness of 2" vertically and 1/2" overhead in a single application. For hand troweled applications, **SR&P CRM** can be applied up to 3" vertically and 1/2" thick overhead. Minimum thickness for either wet process spray or hand trowel application is 1/2" thick.

**CAUTION**

Use of this product may be hazardous to your health. This product contains Portland cement and Silica sand. Prolonged inhalation may cause delayed lung injury including silicosis and possible cancer. Avoid direct contact with skin and eyes. In case of contact, flush with plenty of water for at least 15 minutes. Contact a physician. Wash exposed skin areas promptly with water. Do not take internally. Keep out of the reach of children. Please consult MSDS prior to use.

**IMPORTANT**

STORE IN DRY PLACE IN ACCORDANCE WITH ACI GUIDELINES.

**WARRANTY**

STRUCTURAL RENEWAL & PROTECTION warrants its products to be free of defects in material and workmanship and will replace any product that has been proven defective and that has been applied in accordance with the manufacturer's recommended specifications. STRUCTURAL RENEWAL & PROTECTION will replace any defective product.

**SR & P CRM - TECHNICAL DATA:**

		<u>4 Hrs</u>	<u>1 day</u>	<u>7 days</u>	<u>28 days</u>
ASTM C-109	Compressive Strength	2500	4500	7500	9800
ASTM C-78	Flexural Strength		500	800	900
ASTM C-882	Slant Shear		1800	2500	
ASTM C-496	Splitting Tensile		450	825	1020
ASTM C-266	Set Time		Initial: 35 minutes Final: 90 minutes		
ASTM C-267	Chemical Resistance (sulfide solution)		No Weight Loss		56 days
AASHTO T-277	Permeability		300 Coulombs		
Test Temperature (Powder)		72° F	Water Content:		13.00%

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