



SPI Performance Coatings
Mopes Ln, Purton, Wiltshire
SN5 4HG

Raven® 705CA

Technical Data Sheet

Selection and Specification Data

Description

Raven® 705CA is a reinforced calcium aluminate cementitious product for use on concrete and masonry structures as a repair mortar. Designed as a reinforced stand-alone product or as an underlayment for Raven coatings, 705CA's properties allow it to be efficiently spray applied to rehabilitate substrates providing a suitable surface for the application of a polymer topcoat.

Physical Properties (typical)

Test	Method	Result
Compressive strength	ASTM C109, 28 days	>9,200 psi
Flexural strength	ASTM C293	>1,650 psi
Tensile strength	ASTM C496	>685 psi
Shrinkage @ 90% R.H.	ASTM C596	0%
Freeze thaw	ASTM C666, 100 cycles	No visible damage
Bond	ASTM C882	>4,000 psi
Applied density	2162.49kg ± 80.09kg/m ³	

The value ranges stated in this Technical Data Sheet are based on system processing under controlled laboratory conditions. Equipment configuration and/or field application conditions may produce variances in the final system values.

Typical Uses

Surfaces where rehabilitation of an existing structure requires enhancement of the structural integrity and where exposure to concentrated acids and caustics may be expected, including:

- Tunnels and pipelines
- Digesters
- Secondary containment
- Wastewater facilities
- Clarifiers
- Tanks
- Manholes
- Floors and walls

Coverage and Application Thickness

Theoretical coverage is approx. 1.27m² per 29.5 kilos at 1.27cm nominal thickness (yielding 0.16 cubic centimetres per bag). Actual surface coverage will depend upon substrate roughness and irregularities.

Raven 705CA is designed for applications from 1.27cm to 2.5cm. Additional thickness may be applied in successive applications as necessary.

Surface Preparation

Prior to application surfaces shall be damp but free of flowing or excess water; a Saturated, Surface Dry (SSD) condition. Follow standard practices: the substrate must be prepared in a manner that provides a uniform, clean, sound, and neutralised surface with all active leaks stopped. The substrate must be free of all contaminants, such as oil, grease, rust, scale, or deposits. Loose and protruding brick, mortar, and concrete shall be removed using a mason's hammer, chisel, and/or scraper.

Concrete and Masonry

Concrete and Masonry surfaces must be sound and contaminant-free with a surface profile equivalent to a minimum of CSP 5 in accordance with ICRI Technical Guideline No. 310.2R-2013. This can generally be achieved by abrasive blasting, shot blasting, high pressure water cleaning, water jetting, or a combination of methods.

Application

Apply with trowel, cementitious spray system or other suitable method. Optimal mixing and application is achieved with the use of a Raven approved low velocity cementitious spray system (such as SPRAYMATE® 35C, 35D or MINIMATE® MACHINE).

Application Temperatures

No application shall be made when ambient temperature is 4.4°C or less or when substrate temperatures are (or may become within 24 hours of application) less than 1.7° C. Precautions shall be taken to keep the ambient, substrate, and mix temperature below 32°C at time of application. Water temperature shall not exceed 26.7°C. Chill with ice if necessary.

Components and Mixing

Dry cement powder, 29.5 kilos per bag, is to be mixed with 4.5 to 5.9 litres of clean, potable water (or as recommended by Raven based upon application conditions).

Clean Up

To clean tools and equipment flush with water. To clean skin, wash immediately and thoroughly with soap and water. Refer to the MSDS for additional information on health and safety.



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Cure Time

Caution should be taken to minimize exposure of applied product to sunlight and air movement. If time between applications of additional product is to be longer than 15 minutes, place cover over structure to restrict air movement. At no time should the finished product be exposed to sunlight or air movement for longer than 15 minutes. In extremely hot and arid climates surfaces shall be shaded while application is in process. In environments where humidity level is below 70% the finished product shall be kept damp for 72 hours.

At 72°F, working time is 45 minutes, initial set time is 20 hours and cure 24 hours before surface preparation for polymer topcoat.

Packaging

Available in 27.2 kilo bags. Raven 755 is available through SPI Performance Coatings.

Shelf Life

Product shelf life is 1 year from purchase date in sealed bags, stored in a sheltered area between 4.4°C and 43°C. Materials are to be kept dry and protected from weather.

Safety

SDS's are available on the website, (www.spiperformancecoatings.com) or upon request. Consult the Safety Data Sheet for this product concerning health and safety information before using. Strictly follow all notices on the Safety Data Sheet and container label. If you do not fully understand the notices and procedures provided on the SDS or if you cannot strictly comply with them, do not use this product. Actual safety measures are dependent on application methods and work environment. Keep uncured product away from children at all times.

Warranty

Limited Warranty: Company warrants its goods to be free of manufacturing defects. Goods manufactured by Company will comply with all applicable federal, state and local laws and regulations. Company makes no warranty as to any parts or equipment manufactured by others. Customer shall look solely and only to the manufacturer of such parts or equipment with respect to any warranty claims. Company hereby assigns to Customer the original manufacturer's warranties to all such equipment and parts, to the full extent permitted. THE AFORESAID IS THE EXCLUSIVE WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. SPECIFICALLY, THERE ARE NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

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