NCC X-CALIBUR CONSTRUCTION CHEMISTRY

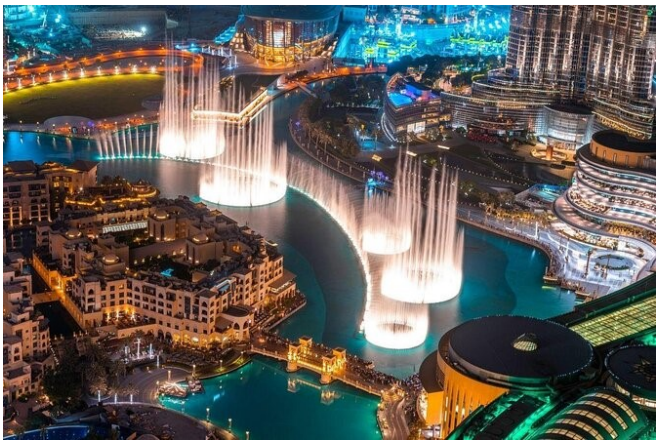
Technical Data Sheet

X-Shield RG40ARU (Polyaspartic)

Solvent free 100% solids polyaspartic coating

Product Description

X-Shield RG40ARU is an advanced ceramic filled polyaspartic coating with high abrasion resistance and exceptional UV resistance. It has a very fast return to service time making it suitable for fast track situations. The product is low VOC meeting various Green Building codes. RG40ARU is part of the RG40 family of products with a 20+ year track record.



Advantages

- Solvent free
- Fast turn around
- Color and UV stable
- Hygienic seamless surface
- Excellent impact resistance
- Good chemical resistance

Uses

- Heavy duty floor coating application
- External high traffic areas
- Performance enhancing layer for polyurea and other resin systems

Laboratory Test Data

Property	Typical Results	Test Method
Tensile strength	15MPa	ASTM D412
Elongation	≥60%	ASTM D412
Hardness (Shore D)	>90	ASTM D2240
Pull-off strength	>2MPa	ASTM D7234

The above results were obtained on 7 day old samples cured at 35C.

Application Properties

Application temperature (Ambient)	-29C to 49C
Service temperature (Ambient)	-29C to 66C
Pot life	30 to 45 minutes at 25C
Tack free time	3 to 4 hours
Return to service time	12h at 25C 8h at 35C

Color

Grey, white, black and clear. Other colors are available subject to minimum order quantities.

Coverage

3.9m²/kg at 0.2mm thickness.

Packaging

5 kg kit.

Shelf Life

12 months when stored unopened below 25C under shade in a dry environment.

Installation Guidelines

X-Shield RG40ARU should be applied by experienced coating crews. NCC X-Calibur provides detailed method statements on all its products for use in various applications. These must be referred to prior to starting work. The information below is a summary intended for guidance only.

Surface Preparation

Concrete

The surface being coated must be fully cured for 28 days, structurally sound (200psi or greater according to ASTM D4541), clean (ASTM D4258), and dry (less than 5%, ASTM D4263). It must have low moisture-vapor transmission (less than 3lbs/24 hr/1,000ft², RMA Test Method). Profile surface according to ICRI Guide 03732 to a minimum of CSP 3 by abrasive blasting or hydro-blasting. Remove contaminants before blasting. Fill all voids and cracks to achieve a uniform coating surface. Voids and cracks can be pre-filled with X-Prime BugFill.

Moisture Testing
The concrete slab should be tested for moisture with the Rapid RH system following the procedure in ASTM F2170. If the humidity reading is greater than 80% then conduct moisture vapor emission rate (MVER) testing using the procedure in ASTM F1869. If the MVER is under 3lbs/1000ft^2/24h use X-Prime SF. If the MVER is 3 to 5 lbs/1000ft^2/24h use a single coat X-Prime MT100 at 165 microns wft. If the MVER is 5 to 12 lbs/1000ft^2/24h use two coats of X-Prime MT100 at 200 microns wft per coat. When MVER is <12 lbs/1000ft^2/24h use X-Shield VaporStop HB as a moisture vapor barrier in conjunction with X-Prime MT100.

Steel
Steel surfaces must be cleaned before blasting (SSPC-SP1). Remove any sharp edges and other surface imperfections. Dry abrasive blast surface according to SSPC-SP -10/NACE No. 2 (0.003" profile). Remove any visible soluble salt contamination (less than 3µg/cm², NACE 6G186, CHLOR*RID). Apply coating only if steel surface temperature is 3C above the dew point to avoid application over damp surfaces. Apply primer and coating within the same day and before the prepared steel surface is chemically contaminated or rusting reoccurs.

Priming
Priming of concrete or steel substrates is required. Apply X-Prime MT100 at a thickness of 150 microns. The mixed primer should then be applied to the prepared substrate with a stiff brush or roller. Do not over apply or allow puddles of primer to form. If the primer is easily absorbed into the surface, it will be necessary to apply a second coat once the initial coat is tack-free. Allow the primer to become tack-free before the second application. Apply next layer within 24 hours of priming.

Mixing
Thoroughly mix each separate component (Part A and Part B) with a low-speed drill and clean mixing blade for a minimum of 2 minutes. Mix slowly to minimize the vortex and to prevent air entrapment in Part B. Combine Part B and Part A in a mixing container. Thoroughly mix both parts with a slow-speed drill and mixing blade for a minimum of 2 minutes. Keep the lid on the mixing container to extend the pot life of the product.

Application
Apply by brush, 6mm short-nap mohair roller, or airless spray. Two 0.2mm coats are normally required. Allow first coat to dry for a minimum of 45 minutes and a maximum of 3 hours before applying the new coat. Clean up using acetone to clean spray equipment and parts. Cured material must be mechanically removed.

Limitations
Do not apply at thicknesses above 300 microns per coat
Do not apply in rain or wet conditions or within 3C of the dewpoint.
Avoid skin contact.
Do not discard into the water system.
Apply only on to slabs that have a waterproofing system installed in order to prevent blistering due to osmosis.

Health and Safety
This product is for industrial use only by trained operatives. It is potentially hazardous if not used correctly. Please refer to the Material Safety Data Sheet (MSDS) prior to the purchase and use of this product. The MSDS can be obtained via our website www.ncc.com.eg

Authorized Technical Specialist
Please note that only NCC X-Calibur Authorized Technical Specialists ('ATSs') are permitted to change any of the information in this data sheet or to provide written recommendations concerning the use of this product. Visit www.ncc.com.eg for a full list of NCC X-Calibur ATSs.

Datasheet Validity
NCC X-Calibur makes modifications to its product datasheets on a continuous basis. Please check the datasheet update section on www.ncc.com.eg to ensure you have the latest version.

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