



CI/SfB: (43) Pr4
Issue No: 4
Issue Date: MAR 10
Technical Data: TD054
Page Page 1 of 2

RYEDUR DD POLYURETHANE COATING

DESCRIPTION

Ryedur DD polyurethane systems are the latest development in polyurethane technology. The cured coating is virtually insoluble and unmeltable, exhibits excellent resistance to a wide range of chemicals, and has outstanding light and weather stability.

Concrete, steel and many other metals are readily attacked, not only by industrial chemicals, but by pollutant chemicals in the atmosphere and rainwater. Ryedur DD coating systems enable problems to be overcome that would be impossible to solve with conventional paint materials.

Uses

Ryedur DD coatings, because of their wide range of properties, are ideal for a variety of different substrates such as concrete, render, brick, plasterboard, steel, aluminium, etc. Ryedur DD coatings are ideal for protecting internal and external mineral substrates in a wide range of functional or decorative situations, particularly in the food and chemical industries.

They are ideal as an anti-corrosion coating for internal and external structural steelwork and comply with FDA regulations for food process machinery in that they do not yellow or support bacterial growth.

Advantages

Excellent Adhesion

Ryedur DD has excellent adhesion to a wide range of substrates and, when tested with concrete, in all cases the adhesion of the DD film to the concrete was greater than the cohesion of the concrete itself.

Light Stability and Weather Resistance

Ryedur DD is light stable, the ultra-violet part of the solar radiation has virtually no effect on the film surface. It is this which gives the coating its outstanding weather resistance. This means retention of the original gloss, good chalking resistance and excellent colour fastness.

Barrier against Heavy Rain

Compared with mineral building materials and conventional coatings, a Ryedur coating system has a very low water absorption coefficient. Tests carried out on plaster specimens to DIN 53495.

Protection from Carbonation

The coating of new or repaired concrete surfaces with Ryedur DD prevents the diffusion of acid gases. This stops the neutralisation process and prevents the pH from falling.

Anti-graffiti Properties

Surfaces treated with Ryedur DD may be simply cleaned by

dissolving off the offending graffiti in a suitable solvent mixture, paint stripper or graffiti remove. Although the graffiti is removed, Ryedur DD stays unaffected by the chemicals used.

Hygienic Sterile Finish

Areas treated with Ryedur DD are impervious to attack by soiling, bacteria and aggressive disinfectants. Tests on a cured DD sample showed that an incubated fungal spore suspension showed no growth after 14 days. Soil repellency and ease of cleaning make maintenance of Ryedur DD surfaces simple.

Ease of decontamination to BS4247: Part 1 Test A - "Excellent".

Chemically Resistant

Ryedur DD treated surface exhibits excellent resistant to a wide range of chemicals including Skydrol. Please refer to technical data sheet reference TD112.

Fire Testing to BS476

BS476: Part 7:1987 (amended 1990) Surface Spread of Flame - Class 1 rating.

BS476: Part 6:1989 Flame Propagation - Class 0 rating to UK Building Regulations 1985, Section 15, Approval Document B2/3/4.

Colours

Ryedur DD is available in a wide range of colours or in clear. Please see colour chart.

Substrate Preparation

All substrates must be protected by an adequate and effective DPM and have a maximum residual moisture content of 5% by weight (75% Relative Humidity).

Surfaces to be treated must be sound, free from all oil or other contaminants, loosely adhering coatings, laitance and dust.

Smooth and dense surfaces must be mechanically abraded to provide a mechanical key, all dust and loose material must be removed by industrial vacuum before priming to ensure that primer penetration is not retarded by residual dust.

Application

Ryedur DD systems should be installed ideally at 18-20°C. Minimum 7°C, maximum 25°C.

As with conventional coating systems, Ryedur DD systems

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also comprise a three coat build-up consisting of: 1) Primer
2) Undercoat (Pigmented) 3) Finish Coat (Pigmented).

Primers

a) Cementitious Substrates

Ryedur DD Clear Primer is a saponification resistant polyurethane penetration primer. The high cross-linking density of the cured material ensures a high level of hardness and thus good consolidation of friable surfaces. Application rate approximately 10-6.6m²/kg/coat.

b) Mineral Substrates

i) Gypsum Based Plasters

Due to the wide range of gypsum based plasters in use, experience indicates that the Ryedur DD Primer should be omitted. A coat of Ryepime DS should be applied, left to cure for a minimum of 48 hours at 20°C and then followed by a coat of Ryedur DD Undercoat and a coat of Ryedur DD Finish. Please see Ryepime DS data sheet.

ii) Dense Substrates

Such as glazed ceramic tiles, vitrified quarry tiles, terrazzo. Ryepime DS should be specified in accordance with section (i).

c) Metal Substrates

All metal surfaces should ideally be pretreated by blast cleaning with chilled iron grit to provide a standard of cleanliness complying with Swedish Std SA2.5: Mean profile 50 microns. Alternative pretreatments such as acid etching or chromate pickling may be adopted. Manual preparation can be employed, however the performance of this system will vary depending upon the effectiveness of this process.

(i) Ferrous Metals

When coating FERROUS METALS prepared to SA2.5, finish with the Ryedur DD system, Ryedur DD Clear Primer should be omitted. Simply process with Ryedur DD Undercoat and Finish. 2 coats of Ryedur DD

Undercoat may be required where light colour shades are specified. DO NOT USE RYEPRIME DS.

(ii) Non-Ferrous Metals

When coating NON-FERROUS METALS with the Ryedur DD system, Ryedur DD Clear Primer should be omitted. Apply Ryepime DS in accordance with relevant data sheet. Allow to cure for a minimum of 48 hours at 20°C and apply Ryedur DD Undercoat, followed by Ryedur DD Finish Coat.

(iii) Previously Coated Metal Finishes

When coating SOUND PREVIOUSLY PAINTED METAL SURFACES, abrade the existing paint coating and apply Ryepime DS in accordance with the data sheet. Allow to cure for a minimum of 48 hours at 20°C and apply one coat Ryedur DD Undercoat and 1 coat Ryedur DD Finish.

Undercoat

Ryedur DD Undercoat is a high solids two pack aliphatic polyurethane with excellent opacity, which dries to a flat matt

CI/SfB: (43) Pr4
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Page Page 2 of 2

finish. Application rate is approximately 6-4-4m²/kg.

Finish Coat

Ryedur DD Finish Coat is a high solids two pack aliphatic polyurethane available in Gloss or Silk. Application rate is approximately 8.3-7.1m²/kg.

This build up produces a dry film bond is approximately 125-180um.

Ryedur DD can be applied by brush, roller, or spray.

Mixing

Ryedur DD Undercoat and Finish Coats

Thoroughly mix base resin by slow-speed paddle drill. Thoroughly agitate hardener container to disperse any storage settlement. Add hardener to base resin and mix with a slow speed electric stirrer until homogeneous consistent colour is achieved. Ryedur DD can be applied by brush roller, or spray.

Tool Cleaning

Clean tools with Ryesolve prior to initial cure of resin, avoiding contact with the skin and eyes.

Properties @ 20°C

	U/Coat	Gloss	Silk
SG	2.18	1.38	1.60
Pot Life	3 hrs	2 hrs	3 hrs
Tack free @ 50um dft		2 hrs	6 hrs
Overcoating time	16 hrs	15 hrs	16 hrs
Recommended overcoating time	24 hrs	24 hrs	24 hrs
Maximum overcoating time	5 days	3 days	3 days
Light foot traffic	N/A	Approx	Approx
		16 hrs	16 hrs
Hard finish		48 hrs	48 hrs
Full Cure	N/A	7 days	7 days

Health and Safety

Please read technical data sheet reference TD103 and specific health and safety data for this product provided in compliance with the requirements of EC Directive 91/155.

Storage, Mixing & Application

The storage, mixing and application conditions can affect the quality of the finish produced. Please read technical data sheet reference TD104.

Technical Advice

For further information on this or any other Ryebrook product, please contact our Technical Department on 01293 565500.

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