

RESICOAT®



DUAL LAYER PIPELINE COATINGS



AkzoNobel

RESICOAT® – DL

dual layer coatings for pipelines



RESICOAT® DL DUAL LAYER PIPE COATINGS

Dual Layer FBE Coatings were introduced in the early 1990's as an alternative to liquid over-coating systems for directional drilling applications.

RESICOAT® DL is designed to achieve outstanding pipeline properties, even in the most severe operating environments.

Two stand-alone FBE coatings are applied successively by electrostatic spray in one spray booth and the overspray of both layers can be recycled and sprayed between both layers. Through this combination the resulting film performance characteristics are better than the sum of the individual coatings. The first layer Resicoat® R-726 has the excellent adhesion and corrosion-resistance properties of a stand-alone FBE coating. The second layer typically is deposited during the melt stage of the first layer and the result is an intimate chemical bond between the two layers. The key to the superior properties of the Dual Layer Coating System is the specially formulated second layer.

This provides a range of options for superior performance that is designed to suit an important range of applications.

APPLICATION RANGE OF RESICOAT® DL DUAL LAYER SYSTEMS

GOUGE RESISTING SYSTEM: Resicoat® R-726 + R-641

Pipes are exposed to various mechanical attacks during transportation and handling. Resicoat® R-726 + R-641 ensures optimal protection while laying, handling, backfill and during horizontal drilling. The special formulation of the second layer Resicoat® R-641 increases the gouge resistance in hardness and abrasion resistance. The Resicoat gouge resisting system meets CSA Z245.20-06 System 2B.

FLEXIBLE SYSTEM: Resicoat® R-726 + R-105

This system ensures highest flexibility at highest film thickness. It not only meets CSA Z245.20-06 System 2A but also exceeds the requirements of the standard in terms of its flexibility.

ANTI-SLIP SYSTEM: Resicoat® R-726 + R-741

During pipe laying from a laybarge it is important to prevent the pipe slipping out of the concrete weight coating. This can be achieved by applying a rough FBE coat as a second layer which increases the bond strength to concrete by a factor of 4. Pipe handling is improved through increased friction. In addition the anti-slip properties of the pipe surface makes it safer for walking on wet pipe. Resicoat® Anti-Slip System meets CSA Z245.20-06 System 2C.

UV-RESISTANCE: Resicoat® R-600

A polyester powder coating on top of a Dual Layer System will ensure good resistance to sunlight exposure. The polyester layer absorbs the UV radiation that causes degradation and erosion of the FBE coating. This provides long life-time protection particularly for above ground pipelines.



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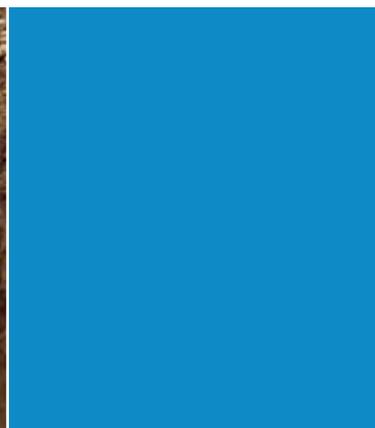
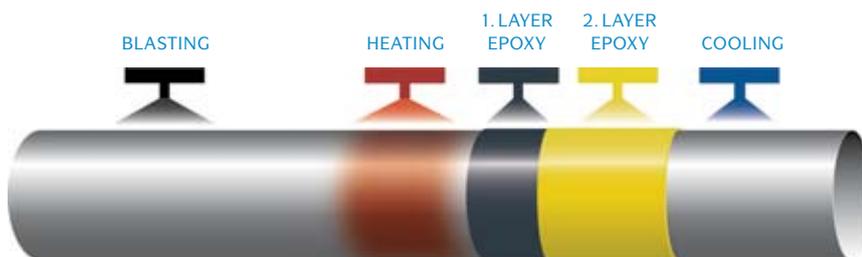
application process

ADVANTAGES OF DUAL LAYER COATING SYSTEMS

- ▶ Excellent mechanical properties
- ▶ High anti-corrosion properties
- ▶ Easy application in existing coating plants
- ▶ Avoids cathodic protection shielding problem
- ▶ Total homogeneity: the same coating can be used for the entire pipeline including girth welds and any fittings

APPLICATION PROCESS FOR GOUGE- AND FLEXIBLE SYSTEMS

Abrasive cleaning with steel grit/shot is required to achieve a surface purity grade of $> Sa 2.5$ with an anchor pattern of $50 - 100 \mu m$ ($2 - 4$ mils). The steel must reach a temperature of $220 - 240^\circ C$ ($428 - 464^\circ F$). The FBE is deposited by an electrostatic spray process. A second set of guns applies the second layer in line immediately after the first layer. The coating cures quickly and is capable of supporting the weight of the pipe within seconds of application. Once cured, the pipe is cooled for safe handling and inspection. The coated pipe is then ready for installation and use.



GLOBAL

RESICOAT® global connections

ARGENTINA

T +54 (11) 4709 3109/3118
F +54 (11) 15 4709 3788

AUSTRALIA

T +61 3 9313 4555
F +61 3 9311 9141

BENELUX

T +32 2 255 2260
F +32 2 255 2268

BRAZIL

T +55 11 2184 9700
F +55 11 4709 3109/3118 Ext. 4

CHINA

T +86 512 6825 7828
F +86 512 6825 9139

CZECH REPUBLIC

T +420 553 692 255; 275
F +420 233 692 455; 357

DENMARK

T +45 44 66 44 44
F +45 44 66 44 88

EGYPT

T +20 2 3833 1415
F +20 2 3833 0368

FRANCE

T +33 1 60 81 81 81
F +33 1 60 81 81 21

GERMANY

T +49 7121 519 191
F +49 7121 519 199

GREECE

T +30 210 8160 160
F +30 210 8161 843

HUNGARY

T +36 1 348 0640
F +36 1 348 0639

INDIA

T +91 80 2289 5000
F +91 80 2289 5500

INDONESIA

T +62 21 893 4270
F +62 21 893 4275

ITALY

T +39 031 345 111
F +39 031 345 342/352

KOREA

T +82 31 432 1100
F +82 31 432 1108

MALAYSIA

T +60 7 254 1102
F +60 7 252 9963

MEXICO

T +52 (818) 374 3244
F +52 (818) 372 8642

POLAND

T +48 (12) 651 8191
F +48 (12) 651 8190

PORTUGAL

T +351 2121 99100
F +351 2121 99129

RUSSIA

T +7 495 411 7350
F +7 495 411 8420

SLOVAKIA

T +421 415 640 612
F +421 415 620 526

SOUTH AFRICA

T +27 11 907 8195
F +27 11 907 2316

SPAIN

T +34 (9) 3 680 6900
F +34 (9) 3 680 6946

SWEDEN

T +46 31 928 500
F +46 31 928 570

TAIWAN

T +886 2 2603 5700
F +886 2 2601 8520

TURKEY

T +90 232 2522 700
F +90 232 2521 517

UK

T +44 191 469 6111
F +44 191 469 1560

USA

T +1 (615) 259 2430
F +1 (615) 255 7903

VIETNAM

T +84 35 60730 Ext. 203
F +84 61 3560740

You may also contact the head office in Reutlingen, Germany of our Business Unit Functional Powder Coatings.

As part of AkzoNobel, the world's largest coatings company, we are committed to the highest possible standards of quality in all aspects of our business – in over 25 manufacturing plants world-wide and sales operations in more than 50 countries. Drawing on 30 years experience as world leader in powder coatings, we are uniquely placed to meet the needs of our customers locally and globally.

Akzo Nobel
Powder Coatings GmbH
Markwiesenstr. 50
72770 Reutlingen
Germany

T +49 7121 519 191
F +49 7121 519 199

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www.akzonobel.com/resicoat
resicoat@akzonobel.com

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