FIRE PROTECTION COATING FOR STRUCTURAL STEEL SECTIONS / STEEL STRUCTURES

TECHNICAL DATA SHEET
- Environmentally friendly
- Non-VOC, free from halogens, APEO, borates and plasticizers
- Classified according to UL 263
- Fire resistance rates up to 2.5 hours

TECHNICAL PERFORMANCE
- Smooth surface and low coating thicknesses, easy to apply
- Also suitable for galvanized steel profiles
- Topcoat in RAL / NCS or individual colour shades available
- Maintenance-free
- Suitable also for shop application
- Fire resistance rates up to 2.5 hours according to UL 263
- Approved for: open steel profiles, hollow sections, unrestrained and restrained beams

Additionals
- High efficiency due to low material consumption/low coverage rates and fast drying times
- Monitored by independent third party institutes

APPLICATION AREA
- Designed for indoor use and semi-exposed conditions
- Suitable for shop application and temporary exterior weathering / storage
- Approved for exterior use with top coat acc. to UL 263
- Structural steel / steel profiles as columns / I- / H-sections
- Approved with a two component epoxy primer, solvent-based alkyd primer, water-based acrylic primer and a two component polyurethane primer. In case of epoxy zinc rich primer or other primer chemistry, please contact our service team for technical support
- Indoor use without top coat, approved for Interior General Purpose and Interior Conditioned Space according to UL 263
- Top coatings for finish and aesthetic purposes available

INSTRUCTIONS FOR APPLICATION
- The coating system consist of primer DURAPRIME CORR, fire protection coating DURAPAINT FR and top coat DURATOP C
- The coating system should only be applied by trained staff!
- System should be preferably applied and dried at a temperature above + 10 °C / 50 °F and at a relative humidity below 80 %
- Surface temperature should be at least +5°C / 41°F above dew point. During application see Corrosion Protection Standard EN ISO 12944 -7

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- In line with good painting practice, application should not take place in conditions which are deteriorating, e.g. where the temperature is falling or where there is a risk of condensation forming on the steel
- Steel surface should not be warmer than + 35 °C / 95°F during application and drying time
- The ambient conditions during application must be documented in a report according to EN ISO 12944-7 and -8 for warranty reasons.

SURFACE PREPARATİON / PRİMER

Bare Profiles

- Sandblasting Sa 2.5 according to EN ISO 12944-4
- Application of DURAPRIME CORR (solvent based 2-pack epoxy primer):
- Conditions for application: relative humidity < 80 %, temperature +10 °C / 50 °F
- Surface temperature must be at least + 5 °C / 41 °F above dew point
- Surfaces must be free from oil, dust, grease and moisture
- Surface preparation should be carried out according to good painting practises – DIN EN ISO 12944-4
- Application by brush, roller or airless spraying
- Tip size: airless: 0.019"– 0.023"

Drying Times

Drying time depends on temperature and relative humidity. At a temperature of approx. +20 °C / 68 °F and a relative humidity of approx. 65 % drying times are as follows:

- Dust-dry after approx. 60 minutes
- Ready for overcoating after approx. 24 hours

Notice: The coverage rates does not consider the correction factor for rough surfaces according to ISO 19840.

Primed Profiles

- DURAPAINT FR is designed to be applied over suitableprepared and primed substrate
- The compatibility between DURAPAINT FR and unknown already applied primers need to be checked; any damage (corrosion, impact e.g.) must be repaired carefully with DURAPRIME CORR or other compatible two component epoxy primers. Please contact our service team for technical support.

Before the application of DURAPAINT FR already primed surfaces must be checked for damages and dry film thickness if they have been exposed to the weather for longer. If necessary, repair work is needed!

GALVANİZED PROFİLES

- Surface has to be cleaned to remove contamination and to ensure adhesion
- Efficient washing with solvents and cleaning by high pressure are recommended according to the degree of pollution. Alternatively, a mechanical pre-treatment (preferred method: sweeping) of the galvanized steel surface is also possible.
- Application of DURAPRIME CORR (solvent-based)
- Coverage rate min. 150 g / m², wet 4 mils, dry 2 mils
- Next application after 24 hours (+20 °C / 68 °F and 65 % relative humidity)

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APPLİCATİON

Before application stir up thoroughly with slow speed!

Properties

- Colour: white with a flat matt finish
- Density: 1.35 kg / l ± 0.05 = 11.3 lb / gal ± 0.5
- Solids by Weight: 70 ± 2 %
- Hardness: ≥ 90 shore A (7 days @ DFT = 1 mm / 40 mils)
- pH: 7.5 – 8.5

Conditions for Application

- Relative humidity < 80 %, temperature +10 °C / 50 °F
- Surface temperature must be at least +5 °C / 41 °F above dew point

AİRLESS SPRAYİNG

- Material temperature of about +20 °C / 68°F is recommended for achieving an optimal spraying behaviour and result
- Spraying application without thinning recommended; if needed thinning with max. 5 % water
- Recommended operation pressure 200 – 250 bar = 2.900 – 3.650 psi
- Nozzle size 0.017" – 0.025"; flow rate > 4l /min = >1.06 gal / min
- All filters should be removed
- Coverage'': 1 mm DFT = 1,429 mm WFT = 1,929 kg /m², 28 mils DFT = 40 mils WFT = 1,141 ft² / gal @ 1 mil DFT
- Recommended spray coverage is 2.5 mm WFT /100 mils performing under 2 coat application. 1 coat of approx. 1.25 mm WFT / 50 mils instantly sprayed another 1.25 mm WFT/ 50 mils on top
- Particular attention should be paid to the internal and external angles of flanges and webs where excessive build-up of paint can occur and air flow may be restricted
- Occasionally cracking may occur on edges of flanges and external or internal angles of structural steel, depending on geometry, over-application and ambient conditions. This does not detrimentally affect the fire performance properties of the product.
- After reaching fingernail hardness each further layer can be applied of 1 – 1.25 mm / 40 – 50 mils wet film thickness
- To ensure the correct thickness is being applied, frequent measurements should be taken using a wet film thickness gauge
- Typical coverage rate of DURAPAINT FR applied in one layer depends on the type of steel profile and the position within construction

Brushing and Rolling

• Rolling by lambskin or foam roller, brushing with long-bristled Chinex-bristle

TOP COATS

DURATOP C top coats offer the possibility of colored design, protection against moisture and should be applied when the surfaces, during the usage, are exposed to environmental influences, regular cleaning and similar external influences.

For DURAPAINT FR the following top coats* have been approved by UL:

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STORAGE AND TRANSPORT

- Storage and Transport free from frost!
  Preferably at a minimum of +5 °C to a maximum of +30 °C /88 °F
- Shelf life of unopened pails: 12 months
- Opened pails must be sealed carefully after use!

PACKAGİNG

20 and 25 kg can or pail

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