High-performance single-component anti-corrosion DTM (Direct-to-Metal) coating – water-based.

DESCRIPTION OF THE PRODUCT

FEATURES:

RD-Monoguard SG is a single-component, water-based anti-corrosion coating designed as a DTM (Direct-To-Metal) system, combining primer and finish functions in one product.

Based on a proprietary blend of innovative acrylic resins, RD-Monoguard SG provides long-term corrosion protection for ferrous and non-ferrous metal substrates, including exposure to aggressive industrial and marine environments.

When adequate surface preparation is carried out, effective protection can be achieved without abrasive blasting, making the system suitable for both new construction and maintenance projects.

The product is non-flammable, virtually odor-free, and safe to use in occupied buildings.

Its fast-drying properties significantly reduce downtime and improve on-site productivity.

RD-Monoguard SG forms a smooth, UV-resistant enamel-type finish and is part of the SCS – Single Coating System product range. An SCS system means that one single product provides all functions: primer, intermediate coat, and topcoat.
➡️ One product, multiple layers, full protection.

TYPICAL APPLICATION:

- ✓ Steel structures and engineered constructions
- ✓ Bridges, tanks, industrial installations
- ✓ Harbour and coastal related structures
- ✓ Maintenance and refurbishment projects
- ✓ Application in occupied or sensitive environments
- ✓ Food and pharmaceutical industries

KEY FEATURES & BENEFITS:

- ✓ Direct-to-Metal (DTM): primer and finish in one system
- ✓ Water-based formulation, low VOC and environmental impact
- ✓ Non-flammable – no fire risk
- ✓ Fast drying – reduced downtime and site occupancy disruption
- ✓ Excellent adhesion on ferrous and non-ferrous metals
- ✓ UV-resistant, aesthetic semi-gloss finish
- ✓ Suitable for corrosivity categories C3 to C5-VH
- ✓ High durability, even in severe exposure conditions
- ✓ REACH compliant, PFAS, APEO and heavy metals free

SUBSTRATES:

- ✓ Carbon steel
- ✓ New and weathered galvanized steel
- ✓ Stainless steel
- ✓ Aluminum
- ✓ Copper
- ✓ Lead
- ✓ Existing paints & coatings such as epoxies, polyurethanes, alkyds, acrylics…
- ✓ Also suitable for many other properly prepared substrates.

RECOMMENDED SYSTEMS

GENERAL PURPOSE APPLICATION – NON ISO 12944 CLASSIFIED

Application on ferrous and non-ferrous metals and various other substrates.
Typical 2-coat system for general-purpose projects where no specific corrosion protection standard is required.

Product	Minimum total dry film thickness in µm | mils	Minimum number of coats (*)	Total theoretical consumption ± (**)	Total theoretical coverage ± (**)
RD-Monoguard	150 µm | 6 mils	2	0.35 L/m²	2.9 m²/L | 115 sq-f/gal

SYSTEMS ACCORDING TO ISO 12944 CLASSIFICATION

C5 Very High (VH) – Durability > 25 years before first major maintenance
Indoor: Buildings or areas with almost permanent condensation and high pollution.
Outdoor: Industrial and coastal areas with high humidity and aggressive atmospheres including high salinity.

Product	Minimum total dry film thickness in µm | mils	Minimum number of coats (*)	Total theoretical consumption ± (**)	Total theoretical coverage ± (**)
RD-Monoguard	270 µm | 11 mils	3	0.63 L/m²	1.6 m²/L | 65 sq-f/gal

C5 High (H) – Durability above 15 and below 25 years before first major maintenance
Indoor: Buildings or areas with almost permanent condensation and high pollution.
Outdoor: Industrial and coastal areas with high humidity and aggressive atmospheres including high salinity.

Options	Product	Minimum total dry film thickness in µm | mils	Minimum number of coats (*)	Total theoretical consumption ± (**)	Total theoretical coverage ± (**)
# 1	RD-Monoguard	200 µm | 8 mils	2	0.46 L/m²	2.15 m²/L | 87 sq-f/gal
# 2	RD-Elastometal + RD-Monoguard	220 µm | 9 mils 80 µm | 3.2 mils	1 1	0.50 Kg/m² 0.19 L/m²	2 m²/Kg | 105 sq-f/gal 5.4 m²/L | 219 sq-f/gal
# 3	RD-Monoguard + RD-Hydrograff HP	100 µm | 4 mils 50 µm | 2 mils	1 1	0.23 L/m² 0.10 L/m²	4.3 m²/L | 75 sq-f/gal 9.6 m²/L | 390 sq-f/gal

C4 High (H) – Durability above 15 and below 25 years before first major maintenance
Indoor: Industrial areas with high humidity and aggressive atmospheres (chemical plants, swimming pools).
Outdoor: Industrial areas and coastal zones with moderate salinity.

Options	Product	Minimum total dry film thickness in µm | mils	Minimum number of coats (*)	Total theoretical consumption ± (**)	Total theoretical coverage ± (**)
# 1	RD-Monoguard	150 µm | 6 mils	2	0.35 L/m²	2.86 m²/L | 115 sq-f/gal
# 2	RD-Elastometal RD-Monoguard	175 µm | 7 mils 80 µm | 3.2 mils	1 1	0.40 Kg/m² 0.19 L/m²	2.5 m²/L | 130 sq-f/gal 5.4 m²/L | 219 sq-f/gal
# 3	RD-Monoguard + RD-Hydrograff HP	80 µm | 3.2 mils 40 µm | 1.6 mils	1 1	0.19 L/m² 0.08 L/m²	5.4 m²/L | 219 sq-f/gal 12 m²/L | 488 sq-f/gal

C3 High (H) – Durability above 15 and below 25 years before first major maintenance
Indoor: Buildings with moderate humidity and some air pollution (food processing plants, laundries, breweries).
Outdoor: Urban and industrial atmospheres with moderate sulfur dioxide pollution; coastal areas with low salinity.

Options	Product	Minimum total dry film thickness in µm | mils	Minimum number of coats (*)	Total theoretical consumption ± (**)	Total theoretical coverage ± (**)
# 1	RD-Monoguard	110 µm | 4.4 mils	2	0.26 L/m²	3.9 m²/L | 160 sq-f/gal
# 2	RD-Elastometal + RD-Monoguard	120 µm | 4.8 mils + 80 µm | 3.2 mils	1 1	0.27 Kg/m² 0.19 L/m²	3.7 m²/Kg | 190 sq-f/gal 5.4 m²/L | 219 sq-f/gal

(*) Number of coats
Depends on the application method, tools used and site conditions. Certain application methods may require additional coats. Achieving the specified dry film thickness in fewer coats is not recommended and may not be technically feasible.

(**) Theoretical consumption
Values are theoretical and may vary depending on surface profile, shape, roughness, porosity, application method and site conditions. Higher consumption should be anticipated.

Occasional contact with chemicals and/or intensive surface wear
The system can be top coated by one or two additional coats of RD-Hydrograff HP if not already specified in the system.

Limitation
Not suitable for hot substrates (e.g. pipes, equipment) with continuous temperatures above 80 °C | 176 °F.

For project-specific recommendations, please contact your RD Coatings representative.

APPLICATION INSTRUCTIONS

APPLICATION CONDITIONS:

Ambient temperature:
- Minimum: 5°C | 41°F – beware on condensation risks and slow drying
- Optimal: 12-25°C | 54-77°F

Relative humidity: **maximum 80 %**
Surface temperature: minimum **3°C | 5°F above dew point**.
Avoid application during winter conditions or periods with high condensation risk.

APPLICATION METHODS:

Brush
Roller
Airless spray (recommended):
- Nozzle size: 0.011–0.015
- Pressure: 70-150 bar | 1000-2200 psi

Conventional (low pressure/HVLP):
- Nozzle size: 1.4 mm | 0.0551 in
- Pressure: 4-6 bar | 60-90 psi

Note: Additional coats may be required depending on the application method.

SURFACE PREPARATION:

General:
The substrate must be clean, dry, degreased, and free from dust, salts, oil, grease, and all non-adherent materials prior to application.
RD-Eco PowerClean is recommended as a pre-cleaning agent. Apply RD-Eco PowerClean, allow to react for 10–15 minutes, then rinse thoroughly using high-pressure water.

Possible preparation methods:
- Manual or mechanical cleaning to ST2 acc. ISO 8501-1 | SSPC SP2–SP3
- Abrasive blasting to SA 2.5 acc. ISO 8501-1 | SSPC SP10
- High-pressure water jetting to WJ-4 acc. ISO 8501-4 | SSPC SP12
- High-pressure washing (200–500 bar) using an oscillating turbo tip (general-purpose, non-standardized preparation)

Specific substrates:
- Aluminum: clean with 10% diluted sulphuric acid or light sanding.
- Galvanized & stainless steel: cleaning with RD-Eco PowerClean recommended.
- Copper: clean with 10% diluted hydrochloric acid or light sanding.
- Existing paints & coatings: Only apply over sound, clean, and well-adhering coatings. Light to moderate sanding may be required. Perform adhesion test first.

Note: Surface preparation may affect finish and performance. Contact your RD Coatings representative for guidance.

DILUTION:

Product is ready-for-use.
Dilute with **maximum 3%** water when applying by airless or in warm weather conditions (> 25°C / > 77°F).

DRYING TIME: (20°C | 68°F)

Touch dry: ± 1 hour
Recoatable: ± 2 hours – No maximum recoating window.
Drying times also depend on film thickness and ambient humidity.

CLEANING OF TOOLS:

Water.

SPECIFICITIES:

Mix homogenously with a paddle mixer at low speed.

TECHNICAL DATA

FINISH:	Semi-Gloss - Minimum 70% +/- 5 (Gardner 60°), depending on the shade.
COLORS:	White. RAL, NCS and bespoke colors available via the RD Coatings tinting system. Also available in a clear version – please refer to RD-Monoguard Clear.
DENSITY:	1.15 ± 0.05 Kg/L | ± 9.6 lb/gal (US)
SOLIDS CONTENT:	In weight: 51 % ± 2 In volume: 43 % ± 2
VISCOSITY:	30 - 50 P (Brookfield 20RPM)
VOC CONTENT:	< 45 g/L | 0.38 lb/gal (US)
FLASH POINT:	Non-flammable.
STORAGE STABILITY:	24 months: keep away from heat and frost

PERFORMANCE STANDARDS & TEST RESULTS

Standard / Norm	Short description	Result
ISO 7784-2 / ASTM D4060	Abrasion resistance (Taber test, CS-10 wheel, 1000 cycles)	85 mg loss
ISO 2409 / ASTM D3359	Adhesion by cross-cut / tape test on various substrates	GT 0 / 5B (excellent)
ISO 4624 / ASTM D4541	Pull-off adhesion strength	Up to > 9 MPa (> 1300 psi)
ISO 1519	Flexibility – cylindrical mandrel bending (Ø 2 mm)	No cracking or delamination
ASTM D522	Flexibility – conical mandrel bending	No cracking or delamination
ISO 12944-6 C5 VH (Regime 2)	Cyclic corrosion ageing for very high corrosivity environments	Passes C5 Very High
ISO 12944-6 C5 H (Regime 1)	Salt spray & condensation corrosion protection test	Passes C5 High
ISO 9227 / ISO 4628	Neutral salt spray corrosion resistance	Passes 1440 h
ISO 6270-2 / ISO 4628	Resistance to humidity / condensation	Passes 720 h
ISO 1522	Pendulum hardness (Persoz)	70 s
ISO 15184	Pencil hardness	F
ASTM D2794	Impact resistance (direct & indirect)	> 4.5 Nm (good flexibility)
ISO 16000-6	Indoor air VOC emissions	A+
Living Building Challenge v4.0 – Red List	Restricted substances compliance	Compliant

DoP, EPD and/or performance criteria with more details are available upon request.

SAFETY DATA

Information related to hygiene and safety can be found in the Safety Data Sheet available on request.

DISCLAIMER

These specifications are given for information. Since the manufacturer is not able to check the application of the products, he cannot accept any responsibility for it. This technical data sheet replaces all previous editions.