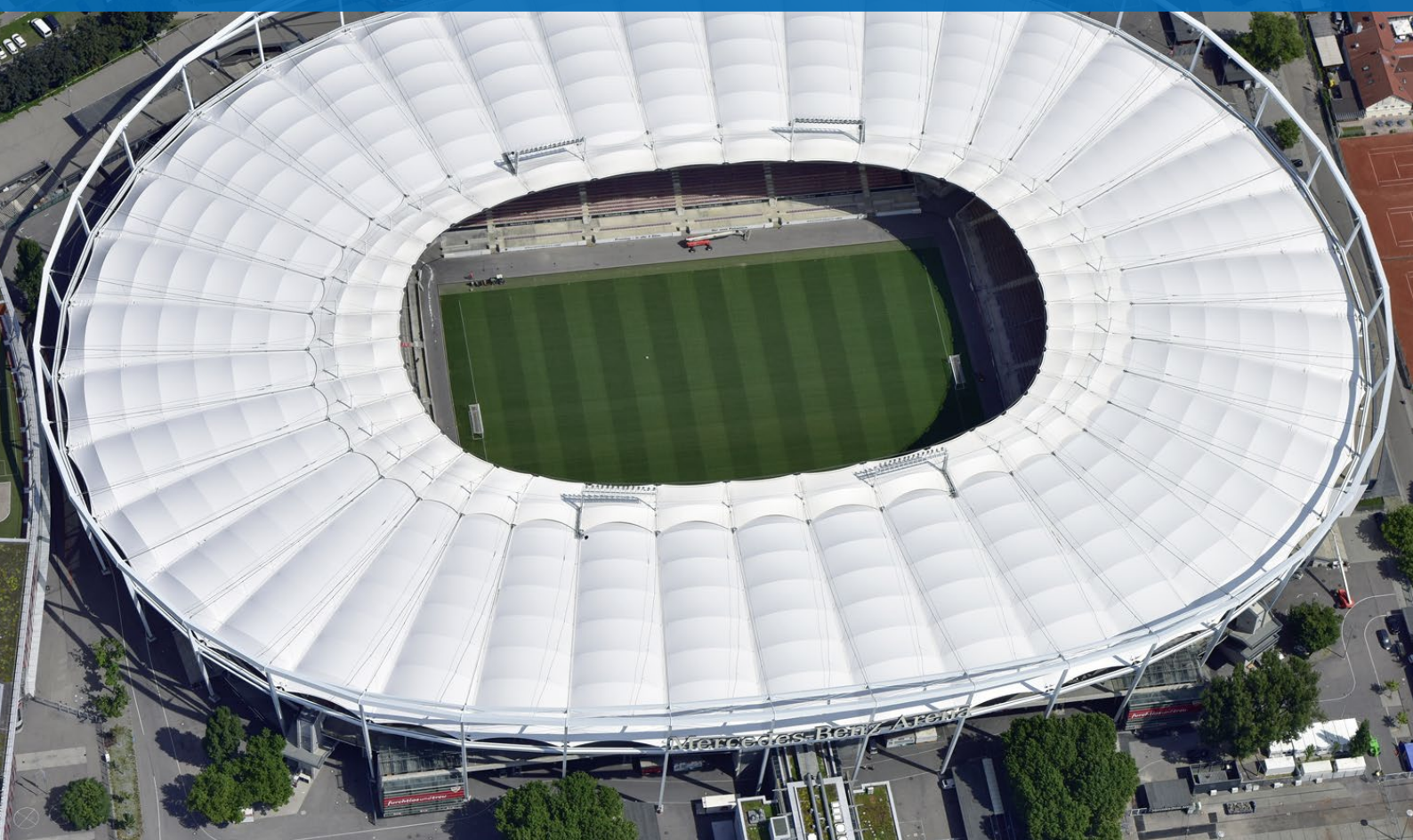


АНТИКОРОЗІЙНІ ПОКРИТТЯ ДЛЯ КОНСТРУКЦІЇ ІЗ СТАЛІ

СИСТЕМИ ПОКРИТТІВ ДЛЯ ВСІХ
ЗАСТОСУВАНЬ
ВІДПОВІДНО ДО ISO 12944-5:2020





CORROSION PROTECTIVE COATINGS FOR STEEL STRUCTURES

Insufficient corrosion protection of steel structures can have serious consequences. Lack of protection frequently leads to structural problems quite apart from the structure’s visual appearance. Appropriate protective coatings and sensible maintenance intervals ensure long-term protection of steel structures and can avoid cost-intensive total refurbishment or even decommissioning.

Sherwin-Williams solutions are efficient product systems, high reliability, decades of experience and excellent technical service. Our specialists assist you – whether you are an architect, a planner, a fabricator, a steel constructor or responsible for creating tendering documents – when you need an individual corrosion protection solution.

We accompany your project from object analysis to selecting the right coating system to the final project conclusion.

CONTENT

Our quality promise	4
Increased safety through efficient products and professional consulting	7
Perfect results due to innovative and proved coating systems	8
Protection over decades – ISO 12944-5:2020	10
Table 1a: Selection of coating systems on steel for conditions up to C3 high/ C5 low	12
Table 1b: Selection of steel coating systems for conditions up to C5 high	14
Table 1c: Selection of steel coating systems for conditions up to C5 very high	16
Table 2: Selection of coating systems on hot-dip galvanized steel	18
Table 3: Selection of coating systems for Aluminium and stainless steel	20
Table 4: Selection of coating systems for thermal-sprayed zinc coating	20
Table 5: Selection of coating systems for refurbishment of old coatings	22
Table 6: Product features of our primers	24
Table 7: Product features of our intermediate coats	26
Table 8: Product features of our top coats	28
Sherwin-Williams Protective & Marine	30

Important notice:

Following the transfer of the Industrial Coatings business from Sika to Sherwin-Williams on 1st April 2022, our entire product portfolio had to be rebranded in accordance with the Sherwin-Williams branding as of 1st July 2023.

Detailed information on product naming and a holistic overview of all old and new product names can be found in our new Product Reference Guide.

Download the brochure now at:
protectiveeu.sherwin-williams.com



OUR QUALITY PROMISE

Thanks to advanced technologies, exceptional service and decades of experience, Sherwin-Williams Protective & Marine Coatings is a reliable partner for corrosion protection coatings in steel construction.

Our competent sales team, our specialized application technology, the experienced experts in product management, our innovative development department, as well as the production team all contribute to our quality promise.



INSTRUCTION ON-SITE
during the coating works on request

Within the framework of control areas carrying out
SURFACE CHECKS

Consultation and sale by our experts,
tested as
**FROSIO INSPECTOR
LEVEL III**

**INDIVIDUAL
CONSULTATION**
in the choice of the optimal
coating system



INCREASED SAFETY THROUGH EFFICIENT PRODUCTS AND PROFESSIONAL CONSULTING

Without long-lasting and functional corrosion protection, many steel structures start to 'look quite old' after only a few years. But it is not only the appearance that is affected – the strength of the structure can also start to suffer. In the worst case, the only choice is between decommissioning the structure or a full refurbishment. That's why you can rely on Sherwin-Williams coating systems to maintain their value, durability and aesthetics right from the start.

Since 1998, the corrosion protection of steel structures has been regulated by the international standard ISO 12944. In 2018, the entire standard was adapted to the state of the art with constantly increasing requirements and findings with regard to corrosion protection coatings. In its nine parts, this standard illuminates the following aspects in detail:

- Basics and environmental influences
- Surface evaluation and preparation
- Conception of initial protection and refurbishment
- Laboratory testing of coating systems
- Execution and supervision of works

Our high-performance products and systems cover the entire spectrum of the defined requirements.

Further information on our full range of corrosion and fire protection coatings can be found on page 27. The selection of the optimal coating system in terms of technical and economic aspects takes work. For this reason, we have presented our suggestions and products in easy-to-follow tables.

Our practice-oriented information will also become a welcome aid for you and make choosing the right corrosion protection system easier. If you have any questions, we will gladly advise you.

Table	
1	Coating systems on steel surfaces
2	Coatings on hot-dip galvanised steel
3	Refurbishment of old coating
4	Product features of our primers
5	Product features of our intermediate coats
6	Product features of our top coats
7	Product features of our intermediate coats
8	Product features of our top coats

PERFECT RESULTS DUE TO INNOVATIVE AND PROVED COATING SYSTEMS

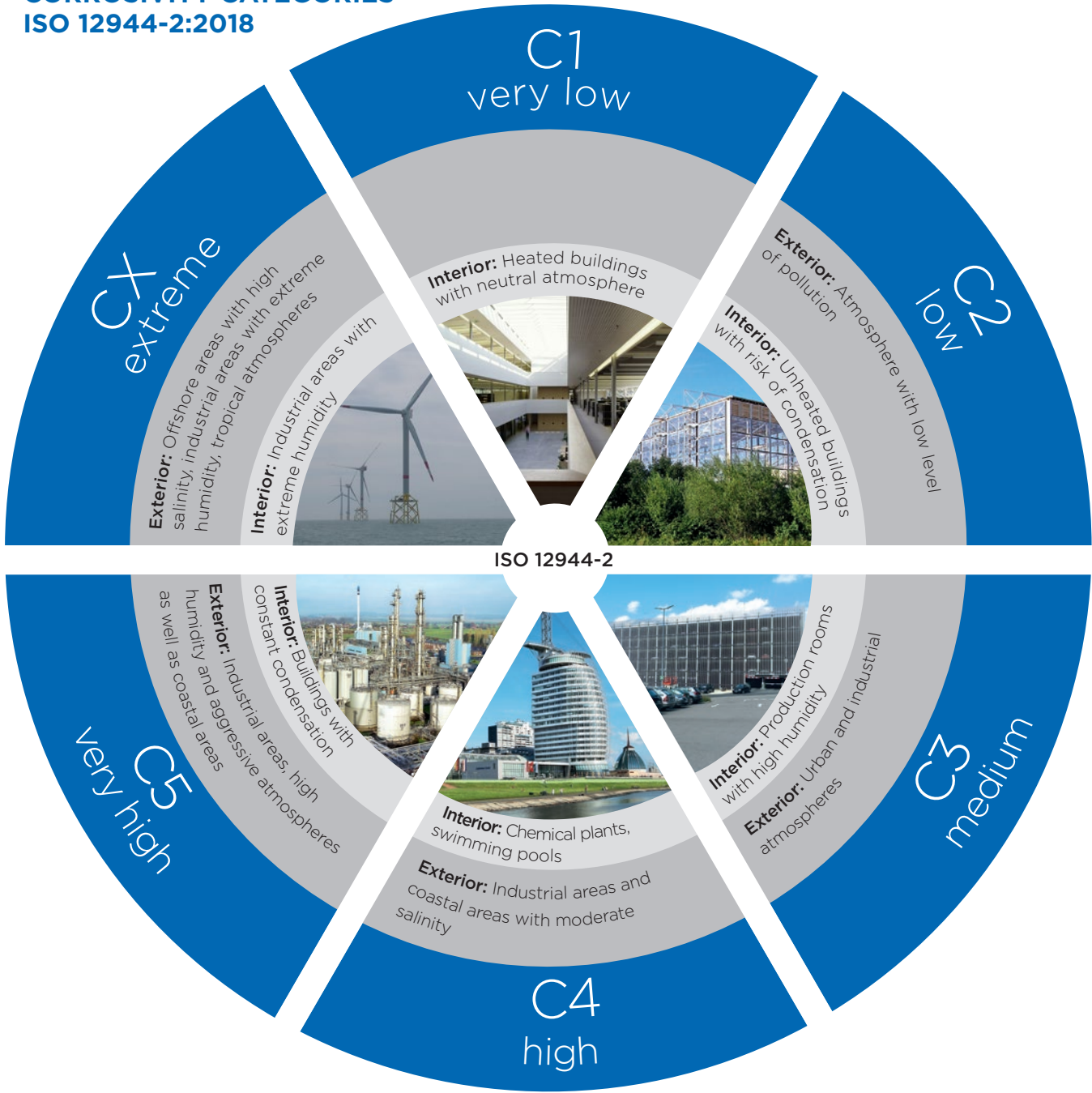
Corrosion protective coatings of steel structures are exposed to specific corrosion loads depending on the ambient conditions. These are defined in ISO 12944-1,-2 depending on durability range and corrosivity category.

Based on many years of experience, it is now possible to provide coating systems for steel with more than 25 years of durability in almost all atmospheric load ranges. As a result, increasing the durability range to more than 25 years has now been possible.

Durability range	Abbreviation (s)	Period of time
Low	L (low)	Up to 7 years
Medium	M (medium)	7 – 15 years
High	H (high)	15 – 25 years
Very high	VH (very high)	More than 25 years



CORROSIVITY CATEGORIES ISO 12944-2:2018



The corrosivity categories were restructured in the 2018 revised standard and now range from C1 to CX. CX describes extreme conditions related to marine climate or tropical atmosphere and is treated within the new part 9 of the standard.

PROTECTION OVER DECADES – ISO 12944-5:2020

To offer safe protection against corrosion, the diffusion barrier through coatings plays an essential role. Therefore, minimum requirements for coating systems are defined in the standard. The minimum number of layers and the minimum layer thickness are normative, i.e. required to protect the object in accordance with ISO 12944.

REQUIREMENTS ON COATING SYSTEMS

NUMBER OF LAYERS AND MINIMUM LAYER THICKNESS

- The **minimum number of coats** (MNOC) and the total film thickness (NDFT = **N**ominal **d**ry **f**ilm **t**hickness) of the individual systems are obligatory. Higher film thicknesses and more working steps are possible.

SUBSTRATE

- The standard lists normative systems for steel in surface preparation grade Sa 2½, galvanised steel and steel and steel with thermally sprayed zinc coatings.
- According to the revised standard, metallic zinc layers are a part of the corrosion protection system and no longer part of the substrate.

SYSTEM BUILD-UP*

- The coating system varies according to the desired corrosivity category and durability range.
- From C2 very high it is also possible to adopt coating systems from higher or lower categories. Only the durability range varies according to the corrosivity category.
- From C2 low to C2 high it is possible to use C3 coating systems, but not on reverse. This means that a coating system which is highly suitable for C2 is not necessarily suitable for C3 medium despite identical coating thicknesses. This is due to different corrosion resistance requirements in the two corrosivity categories.

*The requirements based on the revised standard are shown in the table on page 11.

MINIMUM REQUIREMENTS FOR COATING SYSTEMS ON BLASTED OR HOT-DIP GALVANIZED STEEL SUBSTRATES IN ACCORDANCE WITH ISO 12944-5:2020

Coating system			Corrosivity categories							
Type of primer	Type of the following layer	Durability range	C2		C3		C4		C5	
			Number of coats	Total coating thick-ness (µm)	Number of coats	Total coating thick-ness (µm)	Number of coats	Total coating thick-ness (µm)	Number of coats	Total coating thick-ness (µm)
Blasted steel substrate										
Zinc Rich Primer (ESI, EP, PUR)	EP, PUR, AY	L	-	-	-	-	1	60	2	160
		M	-	-	1	60	2	160	2	200
		H	1	60	2	160	2	200	3	260
		VH	2	160	2	200	3	260	3	320
ESI, EP, PUR	EP, PUR, AY	L	-	-	-	-	1	120	2	180
		M	-	-	1	120	2	180	2	240
		H	1	120	2	180	2	240	2	300
		VH	2	180	2	240	2	300	3	360
AK, AY	AK, AY	L	-	-	1	100	1	160	-	-
		M	1	100	1	160	2	200	-	-
		H	1	160	2	200	2	260	-	-
		VH	2	200	2	260	-	-	-	-
Hot-dip galvanized steel										
EP, PUR	EP, PUR, AY	L	-	-	-	-	1	80	1	120
		M	-	-	1	80	1	120	2	160
		H	1	80	1	120	2	160	2	200
		VH	1	120	2	160	2	200	2	240
AY	AY	L	-	-	-	-	1	80	2	160
		M	-	-	1	80	2	160	2	200
		H	1	80	2	160	2	200	-	-
		VH	2	160	2	200	-	-	-	-

AK: 1-pack alkyd resin coatings AY: 1-pack acrylic resin coatings ESI: 1-pack or 2-pack ethyl silicate coatings EP: 2-pack epoxy resin coatings PUR: 1-pack or 2-pack polyurethane coatings

TABLE 1A

SELECTION OF COATING SYSTEMS ON STEEL FOR CONDITIONS UP TO C3 HIGH / C5 LOW

COATING SYSTEMS FOR CORROSION PROTECTION OF STEEL STRUCTURES IN VARIOUS ATMOSPHERIC CONDITIONS ACCORDING TO ISO 12944-5:2020. SURFACE PREPARATION: SA 2½ (ISO 12944-4:2018)

Primer		Top coat		Total system		Corrosivity category															
Product name	NDFT (µm)	Product name	NDFT (µm)	Number of coats	NDFT (µm)	C2				C3				C4				C5			
						low	medium	high	very high	low	medium	high	very high	low	medium	high	very high	low	medium	high	very high
Kem-Kromik™ Steel Protect VHS Rapid	100			1	100																
Kem-Kromik™ Steel Protect VHS Rapid	80	Kem-Kromik™ CorroTop	80	2	160																
Kem-Kromik™ Aktivprimer Rapid	80	Kem-Kromik™ CorroTop	80	2	160																
Acrolon® PUR Color Plus	120			1	120																
Macropoxy® EP Color	120			1	120																
Kem-Kromik™ Steel Protect VHS Rapid	120			1	120																
Kem-Kromik™ Steel Protect VHS Rapid	120	Kem-Kromik™ Steel Protect VHS Rapid	80	2	200																
Kem-Kromik™ 6630 High Solid	100	Kem-Kromik™ 6630 High Solid	100	2	200																
Acrolon® PUR Color Plus	90	Acrolon® PUR Color Plus	90	2	180																
Macropoxy® EP Color	100	Macropoxy® EP Color	80	2	180																
Macropoxy® EP Color	100	Acrolon® PUR Color Plus	80	2	180																
Macropoxy® EG-1 Plus	100	Acrolon® EG-5*	80	2	180																
Macropoxy® EG Phosphate Rapid	100	Acrolon® EG-5*	80	2	180																
Acrolon® ZP Primer	100	Acrolon® PUR Color Plus	80	2	180																

* Alternatively Acrolon® EG-4, Acrolon® 2330 or Acrolon® 2230 VHS

TABLE 1B

SELECTION OF COATING SYSTEMS ON STEEL FOR CONDITIONS UP TO C5

COATING SYSTEMS FOR CORROSION PROTECTION OF STEEL STRUCTURES IN VARIOUS ATMOSPHERIC CONDITIONS ACCORDING TO ISO 12944-5:2020. SURFACE PREPARATION: SA 2½ (ISO 12944-4:2018)

Primer		Intermediate coat		Top coat		Total system		Corrosivity category								
Product name	NDFT (µm)	Product name	NDFT (µm)	Product name	NDFT (µm)	Number of coats	NDFT (µm)	C3	C4				C5			
								very high	low	medium	high	very high	low	medium	high	very high
Kem-Kromik™ 6630 Primer	80	Kem-Kromik™ 6630 High Solid	100	Kem-Kromik™ 6630 High Solid	100	3	280									
Macropoxy® Primer HE N	160			Acrolon® EG-5*	80	2	240									
Macropoxy® EG-1 Plus	160			Acrolon® EG-5*	80	2	240									
Macropoxy® 450 Rapid	120			Acrolon® EG-120	120	2	240									
Macropoxy® Poxicolor	120			Macropoxy® Poxicolor	120	2	240									
Zinc Clad® 2204 VHS	220			Acrolon® 2230 VHS	80	2	300									
Dura-Plate® Poxicolor SW N	220			Acrolon® EG-5*	80	2	300									
Macropoxy® EG Phosphate N	100	Macropoxy® EG-1 Plus	120	Acrolon® EG-5*	80	3	300									
Macropoxy® EG Phosphate Rapid	100	Macropoxy® EG-1 Rapid Plus	120	Acrolon® EG-5*	80	3	300									
Acrolon® ZP Primer	100	Acrolon® ZP-1	120	Acrolon® EG-5*	80	3	300									
Zinc Clad® R Plus	80	Macropoxy® EG-1 Plus	100	Acrolon® EG-5*	80	3	260									
Zinc Clad® R Rapid Plus	80	Macropoxy® EG-1 Rapid Plus	100	Acrolon® EG-5*	80	3	260									
Macropoxy® Primer HE N	100	Macropoxy® EG-1 VHS/Plus	120	Acrolon® EG-5*	80	3	300									
Zinc Clad® R Plus	80	Macropoxy® EG-1 VHS	100	Acrolon® EG-5*	80	3	260									
Zinc Clad® R Plus	80	Macropoxy® Poxicolor	120	Macropoxy® Poxicolor	120	3	320									

* Alternatively Acrolon® EG-4, Acrolon® 2330 or Acrolon® 2230 VHS

TABLE 1C

SELECTION OF COATING SYSTEMS ON STEEL FOR CONDITIONS UP TO C5 VERY HIGH

COATING SYSTEMS FOR CORROSION PROTECTION OF STEEL STRUCTURES IN VARIOUS ATMOSPHERIC
CONDITIONS ACCORDING TO ISO 12944-5:2020. SURFACE PREPARATION: SA 2½ (ISO 12944-4:2018)

Primer		Intermediate coat		Top coat		Total system		Corrosivity category									
Product name	NDFT (µm)	Product name	NDFT (µm)	Product name	NDFT (µm)	Number of coats	NDFT (µm)	C3	C4				C5				
								very high	low	medium	high	very high	low	medium	high	very high	
Zinc Clad® 2204 VHS	140	Zinc Clad® 2204 VHS	140	Acrolon® EG-5*	80	3	360										
Zinc Clad® R Plus	80	Macropoxy® EG-1 VHS/Plus	160	Acrolon® EG-5*	80	3	320										
Zinc Clad® R Rapid Plus	80	Macropoxy® EG-1 Rapid Plus	2x80	Acrolon® EG-5*	80	4	320										

* Alternatively Acrolon® EG-4, Acrolon® 2330 or Acrolon® 2230 VHS

TABLE 2
SELECTION OF COATING SYSTEMS
ON HOT-DIP GALVANIZED STEEL

DUPLEX SYSTEMS FOR CORROSION PROTECTION OF STEEL STRUCTURES IN VARIOUS ATMOSPHERIC
CONDITIONS ACCORDING TO ISO 12944-5:2020. HOT-DIP GALVANIZED STEEL ACCORDING TO ISO 1461

Surface preparation	Primer		Top coat		Total system		Corrosivity category															
	Product name	NDFT (µm)	Product name	NDFT (µm)	Number of coats	NDFT (µm)	C2				C3				C4				C5			
							low	medium	high	very high	low	medium	high	very high	low	medium	high	very high	low	medium	high	very high
Sweep-blasting	Acrolon® 2330	80			1	80																
Sweep-blasting	Kem-Kromik™ 6630 High Solid	80	Kem-Kromik™ 6630 High Solid	80	2	160																
Sweep-blasting	Acrolon® EG-120	120			1	120																
Sweep-blasting	Kem-Kromik™ 6630 High Solid	100	Kem-Kromik™ 6630 High Solid	100	2	200																
Sweep-blasting	Macropoxy® EG-1 Plus	80	Acrolon® EG-5*	80	2	160																
Sweep-blasting	Macropoxy® 450 Rapid	120	Acrolon® EG-5*	80	2	200																
Sweep-blasting	Macropoxy® EG-1 Plus	120	Acrolon® EG-5*	80	2	200																
Sweep-blasting	Macropoxy® EG-1 VHS	120	Acrolon® EG-5*	80	2	200																
Sweep-blasting	Macropoxy® Poxicolor	120	Macropoxy® Poxicolor	120	2	240																
Sweep-blasting	Macropoxy® EG-1 VHS	160	Acrolon® EG-5*	80	2	240																
Sweep-blasting	Macropoxy® EG-1 Plus	160	Acrolon® EG-5*	80	2	240																

Surface-active, aqueous cleaning of galvanized steel ⁽¹⁾																					
Clean with Cleaner Wash ⁽¹⁾	Kem-Kromik™ 6630 High Solid	80	Kem-Kromik™ 6630 High Solid	80	2	160															
Clean with Cleaner Wash ⁽¹⁾	Acrolon® EG-120	120			1	120															
Clean with Cleaner Wash ⁽¹⁾	Macropoxy® EG-1 Plus	80	Acrolon® EG-5*	80	2	160															

* Alternatively Acrolon® EG-4, Acrolon® 2330 or Acrolon® 2230 VHS
⁽¹⁾ Preparation of the surface: Thoroughly clean and degrease galvanized steel surfaces by using an surface-active, aqueous cleaning agent e.g. Cleaner Wash (exposure time approx. 10 min). Wash the cleaned surfaces carefully and thoroughly with clear water. All adhesion-reducing layers must be removed. The surface must be free from oil, grease, dirt and corrosion products.

TABLE 3

SELECTION OF COATING SYSTEMS FOR ALUMINIUM AND STAINLESS STEEL

SYSTEMS FOR ALUMINUM AND STAINLESS STEEL
Coating systems for aluminum and stainless steel are not regulated in ISO 12944.
The coating systems and tests are based on ISO 12944-5 and 12944-6.
The durability is based on ISO 12944-1 and ISO 12944-2.
Other typical tests for these substrates were not carried out.

Surface preparation	Primer		Intermediate coat		Top coat		Total system		Corrosivity category															
	Product name	NDFT (µm)	Product name	NDFT (µm)	Product name	NDFT (µm)	Number of coats	NDFT (µm)	C2				C3				C4				C5			
									low	medium	high	very high	low	medium	high	very high	low	medium	high	very high	low	medium	high	very high
Degreasing	Macropoxy® EG-1 Plus	80			Acrolon® EG-5*	80	2	160																
Sweep-blasting	Macropoxy® EG-1 Plus	120			Acrolon® EG-5*	80	2	200																

TABLE 4

SELECTION OF COATING SYSTEMS FOR THERMAL-SPRAYED ZINC COATINGS

SYSTEMS ON THERMAL-SPRAYED ZINC COATINGS
ACCORDING ISO 12944-5: 2020 AND ISO 2063: 2019

Sealer		Intermediate coat		Top coat		Total system		Corrosivity category															
Product name	NDFT (µm)	Product name	NDFT (µm)	Product name	NDFT (µm)	Number of coats	NDFT (µm)	C2				C3				C4				C5			
								low	medium	high	very high	low	medium	high	very high	low	medium	high	very high	low	medium	high	very high
Macropoxy® EG-1 Plus + 20% Thinner EG	~ 20	Macropoxy® EG-1 Plus	120	Acrolon® EG-5*	80	2	200																
Macropoxy® EG-1 Plus + 20% Thinner EG	~ 20	Macropoxy® EG-1 Plus	160	Acrolon® EG-5*	80	2	240																

TABLE 5
SELECTION OF COATING SYSTEMS FOR
REFURBISHMENT OF OLD COATINGS

COATING SYSTEMS FOR MAINTENANCE OF STEEL CONSTRUCTIONS IN ATMOSPHERIC CONDITIONS

Surface preparation partially	Primer		Intermediate coat		Top coat		Total system		Corrosivity category															
	Product name	NDFT (µm)	Product name	NDFT (µm)	Product name	NDFT (µm)	Number of coats	NDFT (µm)	C2				C3				C4				C5			
									low	medium	high	very high	low	medium	high	very high	low	medium	high	very high	low	medium	high	very high
P St 3	Kem-Kromik™ Aktivprimer Rapid	80			Kem-Kromik™ Steel Protect VHS Rapid	80	2	160																
P St 3	Kem-Kromik™ Aktivprimer Rapid	80			Kem-Kromik™ CorroTop	80	2	160																
P St 3	Kem-Kromik™ Aktivprimer Rapid	80	Kem-Kromik™ Aktivprimer Rapid	80	Kem-Kromik™ 6630 High Solid	80	3	240																
P St 2	Kem-Kromik™ 6630 Primer	80	Kem-Kromik™ 6630 High Solid*6	80	Kem-Kromik™ 6630 High Solid	80	3	240																
P St 2	Macropoxy® Primer HE N	140			Acrolon® PUR Color Plus	80	2	220																
P St 2	Macropoxy® Primer HE N	140			Acrolon® EG-5*	80	2	220																
P St 3	Macropoxy® Primer HE N	100	Macropoxy® EG-1 VHS/Plus	80	Acrolon® EG-5*	80	3	260																
P Ma	Macropoxy® Primer HE N	100	Macropoxy® EG-1 VHS/Plus	140	Acrolon® EG-5*	80	3	320																
P Sa 2½	Macropoxy® Primer HE N	80	Macropoxy® EG-1 VHS/Plus	140	Acrolon® EG-5*	80	3	300																
P Sa 2½	Macropoxy® EG Phosphate N	80	Macropoxy® EG-1 Plus	140	Acrolon® EG-5*	80	3	300																

* Alternatively Acrolon® EG-4, Acrolon® 2330 or Acrolon® 2230 VHS

COATING SYSTEMS FOR THE REFURBISHMENT OF STEEL CONSTRUCTIONS IN ATMOSPHERIC CONDITIONS
SURFACE PREPARATION: ULTRA HIGH-PRESSURE WATER JETTING ACCORDING TO ISO 8501-4: 2021

Surface preparation	Primer		Intermediate coat		Top coat		Total system		Corrosivity category															
	Product name	NDFT (µm)	Product name	NDFT (µm)	Product name	NDFT (µm)	Number of coats	NDFT (µm)	C2				C3				C4				C5			
									low	medium	high	very high	low	medium	high	very high	low	medium	high	very high	low	medium	high	very high
Wa 2; Flash rust M	Macropoxy® Primer HE N	100	Macropoxy® EG-1 Plus	80	Acrolon® EG-5/ Acrolon® 2330	80	3	260																

TABLE 6
PRODUCT FEATURES OF OUR PRIMERS

Primer	Density (kg/l)	Volume solids		Dry film thickness (µm)	Theoretical consumption (kg/m²)	Minimum application temperature	Waiting time until overcoating ⁽¹⁾		Suitable intermediate and top coats												
		Vol. (%)	Wt (%)				at 10°C	at 20°C	Kem-Kromik™ 6630 High Solid/EG	Kem-Kromik™ Steel Protect VHS Rapid	Kem-Kromik™ CorroTop / EG	Macropoxy® EG-1 VHS / EG	Acrolon® ZP-1	Macropoxy® EG-1 Plus/Rapid Plus	Acrolon® EG-4 / EG-5	Acrolon® EG-5 Clearcoat	Acrolon® PUR Color Plus	Acrolon® 2230 VHS	Acrolon® EG-120	Acrolon® 2330	Macropoxy® Poixcolor
Kem-Kromik™ 6630 Primer 1-pack oxidative drying primer for manually de-rusted surfaces and well adhering old coatings systems	1.5	62	79	80	0.195	+ 5°C	48 hrs	24 hrs	●	●											
Kem-Kromik™ Aktivprimer Rapid 1-pack primer for manually de-rusted surfaces, on galvanised, stainless steel and aluminium	1.6	60	78	80	0.215	+ 5°C	48 hrs	24 hrs	●	●	●										
Macropoxy® EG Phosphate N 2-pack high-solid epoxy zinc phosphate primer, acc. to TL/TP-KOR-Stahlbauten, Blatt 87	1.6	62	80	80-120	0.205-0.310	+ 5°C	7 hrs	3.5 hrs				●	●	●	●	●		●	●	●	
Macropoxy® EG Phosphate Rapid 2-pack high-solid epoxy zinc phosphate primer, acc. to TL/TP-KOR-Stahlbauten, Blatt 97	1.6	57	79	80	0.225	0°C	4 hrs	1.5 hrs				●	●	●	●	●		●	●	●	
Zinc Clad® R Plus 2-pack low-solvent epoxy zinc-rich primer, acc. to TL/TP-KOR-Stahlbauten, Blatt 87, suitable as welding primer and for SLV joints	2.3	71	89	60-80	0.194-0.259	+ 5°C	2.5 hrs	2 hrs				●	●	●				●			●
Zinc Clad® R Rapid Plus 2-pack low-solvent epoxy zinc-rich primer, acc. to TL/TP-KOR-Stahlbauten, Blatt 97	2.3	69	88	60-80	0.200-0.267	0°C	0.75 hrs	0.5 hrs				●	●	●				●			
Acrolon® ZP Primer 2-pack fast-curing polyurethane primer with zinc phosphate	1.5	62	78	80	0.195	0°C ⁽³⁾	3 hrs	2 hrs					●		●		●		●	●	
Zinc Clad® 2204 VHS Very low-solvent 2-pack epoxy zinc dust primer with micaceous iron oxide	2.05	77	89	80-200	0.210-0.525	+ 10°C	12 hrs	6 hrs						●			●		●		
Macropoxy® Primer HE N 2-pack low-solvent, surface-tolerant epoxy primer	1.5	71	83	80-100	0.169-0.211	+ 5°C	10 hrs	6 hrs				●	●	●	●	●	●	●	●		
Macropoxy® 450 Rapid 2-pack fast-curing epoxy resin primer and intermediate coat with zinc phosphate for steel or galvanised steel	1.6	68	83	80-120	0.210-0.280	0°C	9 hrs	6 hrs				●		●	●	●	●	●	●	●	●

⁽¹⁾ The drying times depend on the film thickness and refer to 80 – 100 µm dry film thickness

TABLE 7

PRODUCT FEATURES OF OUR INTERMEDIATE COATS

Intermediate coat	Density (kg/l)	Volume solids		Dry film thickness (µm)	Theoretical consumption (kg/m²)	Minimum application temperature	Waiting time until overcoating ⁽¹⁾		Suitable coatings systems					
		Vol. (%)	Wt (%)				at 10°C	at 20°C	Macropoxy® EG-1 VHS / EG-1 VHS N	Macropoxy® EG-1 Plus/Rapid Plus	Acrolon® EG-4 / EG-5	Acrolon® 2230 VHS	Acrolon® EG-120	Acrolon® 2330
Macropoxy® EG-1 Plus 2-pack low-solvent, micaceous iron oxide epoxy intermediate coat for primed steel or directly on galvanised steel, acc. to TL/TP-KOR-Stahlbauten, Blatt 87	1.5 1.4 ⁽²⁾	69 70 ⁽²⁾	81 81 ⁽²⁾	80-160 80-200 ⁽²⁾	0.174-0.348 0.160-0.400 ⁽²⁾	+ 5°C	8 hrs	4 hrs	•	•	•	•	•	•
Macropoxy® EG-1 Rapid Plus 2-pack low-solvent, micaceous iron oxide epoxy intermediate coat for primed steel or directly on galvanised steel, acc. to TL/TP-KOR-Stahlbauten, Blatt 97	1.5 1.4 ⁽²⁾	66 70 ⁽²⁾	80 81 ⁽²⁾	80-160	0.182-0.363 0.160-0.320 ⁽²⁾	0°C	5 hrs	2.5 hrs	•	•	•	•	•	•
Macropoxy® EG-1 VHS 2-pack very high solid, micaceous iron oxide epoxy intermediate coat for primed steel or directly on galvanised steel, acc. to TL/TP-KOR-Stahlbauten, Blatt 94	1.8	78	90	80-160	0.185-0.370	+ 5°C	13 hrs	5 hrs	•	•	•	•	•	•
Macropoxy® EG-1 VHS N 2-pack very high solid, micaceous iron oxide epoxy intermediate coat for primed steel or directly on galvanised steel, acc. to TL/TP-KOR-Stahlbauten, Blatt 94	1.7	77	88	80-120	0.177-0.265	+ 5°C	7 hrs	10 hrs	•	•	•	•	•	•
Acrolon® ZP-1 2-pack polyurethane micaceous iron oxide intermediate coat for primed steel according to TL/TP-KOR-Stahlbauten, Blatt 87/97	1.6 1.5 ⁽²⁾	60 63 ⁽²⁾	77 79 ⁽²⁾	80-120	0.215-0.320 0.190-0.290 ⁽²⁾	+ 5°C	3.5 hrs	3 hrs		•	•		•	

⁽¹⁾ The drying times depend on the film thickness and refer to 80 - 100 µm dry film thickness

⁽²⁾ Data based on micaceous iron oxide free color shades

TABLE 8
PRODUCT FEATURES
OF OUR TOP COATS

Top coats	Density	Volume solids		Dry film thickness	Theoretical consumption	Minimum application temperature	Waiting time between overcoating ⁽¹⁾		Suitable primer in terms of refurbishment				
	(kg/l)	Vol. (%)	Wt (%)	(µm)	(kg/m²)		at 10°C	at 20°C	Kem-Kromik™ Aktivprimer Rapid Kem-Kromik™ 6630 High Solid/EG Kem-Kromik™ 6630 Primer Macropoxy® Primer HE N Macropoxy® EG Phosphate (Sa 2½)				
Kem-Kromik™ 6630 High Solid 1-pack oxidative drying high-build coating in RAL or DB colour shades	1.4 1.5 ⁽²⁾	62 61 ⁽²⁾	77 77 ⁽²⁾	80 - 160	0.180-0.360 0.195-0.390 ⁽²⁾	+ 5°C	36 hrs	24 hrs	●	●	●	●	
Acrolon® EG-4 2-pack acrylic polyurethane top coat containing micaceous iron oxide pigments (MIO) in DB colour shades4), acc. to TL/TP-KOR-Stahlbauten, Blatt 87	1.4	55	70	60 - 100	0.153-0.256	+ 5°C	16 hrs 12 hrs ⁽³⁾	12 hrs 4 hrs ⁽³⁾				●	●
Acrolon® EG-5 2-pack acrylic polyurethane top coat in RAL colour shades, acc. to TL/TP-KORStahlbauten, Blatt 87	1.3	61	74	60 - 100	0.130-0.217	+ 5°C	18 hrs 13 hrs ⁽³⁾	14 hrs 5 hrs ⁽³⁾				●	●
Acrolon® EG-120 2-pack very high solid polyurethane top coat in RAL and DB colour shades	1.3 1.6 ⁽²⁾	70 70 ⁽²⁾	80 83 ⁽²⁾	60 - 120	0.149-0.223 0.183-0.274 ⁽²⁾	+ 5°C	20 hrs	11 hrs				●	●
Macropoxy® EP Color 2-pack primer and top coat in RAL colour shades	1.6	62	80	80	0.205	+ 5°C	7 hrs	3.5 hrs				●	●
Acrolon® PUR Color Plus 2-pack primer and top coat based on polyurethane with anti-corrosion pigments, in silk-att RAL colour shades	1.2	66	74	80 - 180	0.144-0.324	+ 5°C	6-9 hrs	4-5 hrs				●	●
Kem-Kromik™ Steel Protect VHS Rapid 1-pack synthetic resin-based primer and top coat	1.55	65	81	60 - 160	0.143-0.380	+ 5°C	12 hrs	5 hrs	●	●	●	●	
Kem-Kromik™ CorroTop/EG 1-pack alkyd resin top coat with smooth, glossy surface in RAL and DB colour shades	1.3	56	73	60 - 120	0.140-0.280 0.150-0.300 ⁽²⁾	+ 5°C	24 hrs	12 hrs	●	●	●	●	
Acrolon® 2230 VHS 2-pack very high solid, acrylic polyurethane top coat in RAL colour shades with high weather and colour stability	1.4	70	82	60 - 100	0.120-0.200	+ 5°C	14 hrs	5 hrs				●	
Acrolon® 2330 2-pack acrylic polyurethane top coat in RAL colour shades with increased weathering and colour stability	1.3	56	69	50 - 80	0.115-0.185	+ 5°C	18 hrs	8 hrs				●	●
Macropoxy® Poxicolor Very low-solvent, micaceous iron oxide free, 2-pack primer, intermediate and top coat based on epoxy resin combination binders, acc. to TL/TP-KOR-Stahlbauten, Blatt 81	1.6	76	87	80 - 120	0.196-0.250	+ 5°C	12 hrs	6 hrs				●	

⁽¹⁾ The drying times depend on the film thickness and refer to 80 - 100 µm dry film thickness

⁽²⁾ Data based on micaceous iron oxide colours

⁽³⁾ Accelerated with Acrolon® PUR Accelerator

SHERWIN-WILLIAMS PROTECTIVE & MARINE

Sherwin-Williams Protective & Marine develops, produces and sells high-quality coatings for corrosion and fire protection. We can look back on a long and successful story with numerous innovations.

APPLICATION AREAS

CORROSION PROTECTION

TRAFFIC CONSTRUCTION



- Motorway bridge / road bridge
- Railway bridge
- Suspension bridge
- Walkway

STEEL STRUCTURES



- Sport facilities
- Centers for culture and events
- Airports
- Railway stations

HYDRAULIC STEEL STRUCTURES



- Waterways
- Port facilities
- Flood protection
- Steel sheet piles

TANK PROTECTION



- Tanks
- Silos and vessels
- Pipeworks
- Secondary containment

CHEMISTRY AND INDUSTRY



- Mineral oil industry
- Plants in atmospheric conditions
- Refineries

POWER SUPPLY



- Power stations
- Pipelines
- Wind energy
- Mast coatings

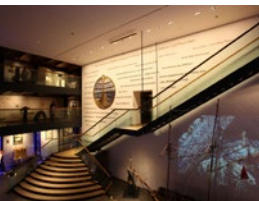
FIRE PROTECTION

FOR STEEL



- Solvent-free systems
- Water-based systems
- Solvent-based systems

FOR WOOD AND CONCRETE



- Water-based products for interior use

DO YOU HAVE QUESTIONS OR WOULD YOU LIKE TO ORDER?

Don't hesitate to contact your local costumer service team:

 **Germany:**
+49 7042 109 4000
pm.kundenservice@sherwin.com

 **Hungary:**
+48 882 817 420
cs.pm@sherwin.com

 **Italy:**
+39 051 770 612
cspm.italy@sherwin.com

 **Poland:**
+48 886 342 873
cs.pm@sherwin.com

 **Romania:**
+40 256 420 320
sales.balkan@sherwin.com

 **Spain:**
+34 96 121 89 80
pedidos.valencia@sherwin.com

 **Switzerland:**
+41 44 936 77 77
cspmbubikon@sherwin.com

 **Sweden:**
+46 381 26104
cspm.sweden@sherwin.com

 **United Kingdom:**
+44 1204 556420
sales.uk@sherwin.com

For any other European country please contact:

International (Europe)
+49 7042 109 4400
pm.customerservice@sherwin.com

Innovative products combined with high economic efficiency contribute to social responsibility and ecological and social awareness. The use of modern, high-quality coating materials with a low VOC content, optimum processing properties, and long durability is the guarantee that Sherwin-Williams Protective & Marine fulfils in a wide variety of application areas.

CORROSION PROTECTIVE COATINGS FOR STEEL STRUCTURES

**PRACTICAL COATING SYSTEMS
FOR ALL IMPORTANT APPLICATIONS
ACCORDING TO ISO 12944-5:2020**

THE SHERWIN-WILLIAMS DIFFERENCE

Sherwin-Williams Protective & Marine delivers world-class industry subject matter expertise, unparalleled technical and specification service, and unmatched regional commercial team support to our customers around the globe. Our broad portfolio of high-performance coatings and systems - including protective liquid and powder, fire protection and resinous flooring - excel at combating corrosion and help customers achieve smarter, time-tested asset protection. We serve a wide array of markets across our rapidly growing international distribution footprint, including Bridge & Highway, Energy, High Value Infrastructure, Manufacturing & Processing, Marine, Rail, Power and Water & Wastewater.

SHERWIN-WILLIAMS®

protectiveeu.sherwin-williams.com

United Kingdom: +44 1204 556420
sales.uk@sherwin.com

Romania: +40 256 420 320
sales.balkan@sherwin.com

Sweden: +46 381 26104
cspm.sweden@sherwin.com

Switzerland: +41 44 936 77 77
cspmbubikon@sherwin.com

Italy: +39 051 770 612
cspm.italy@sherwin.com

Germany: +49 7042 109 4000
pm.kundenservice@sherwin.com

Spain: +34 96 121 89 80
pedidos.valencia@sherwin.com

Hungary: +48 882 817 420
cs.pm@sherwin.com

Poland: +48 886 342 873
cs.pm@sherwin.com

Other countries (English): +49 7042 109 4400
pm.customerservice@sherwin.com