CORROSION PROTECTIVE COATINGS FOR STEEL STRUCTURES

PRACTICAL COATING SYSTEMS FOR ALL IMPORTANT APPLICATIONS ACCORDING TO ISO 12944:2018

BUILDING TRUST

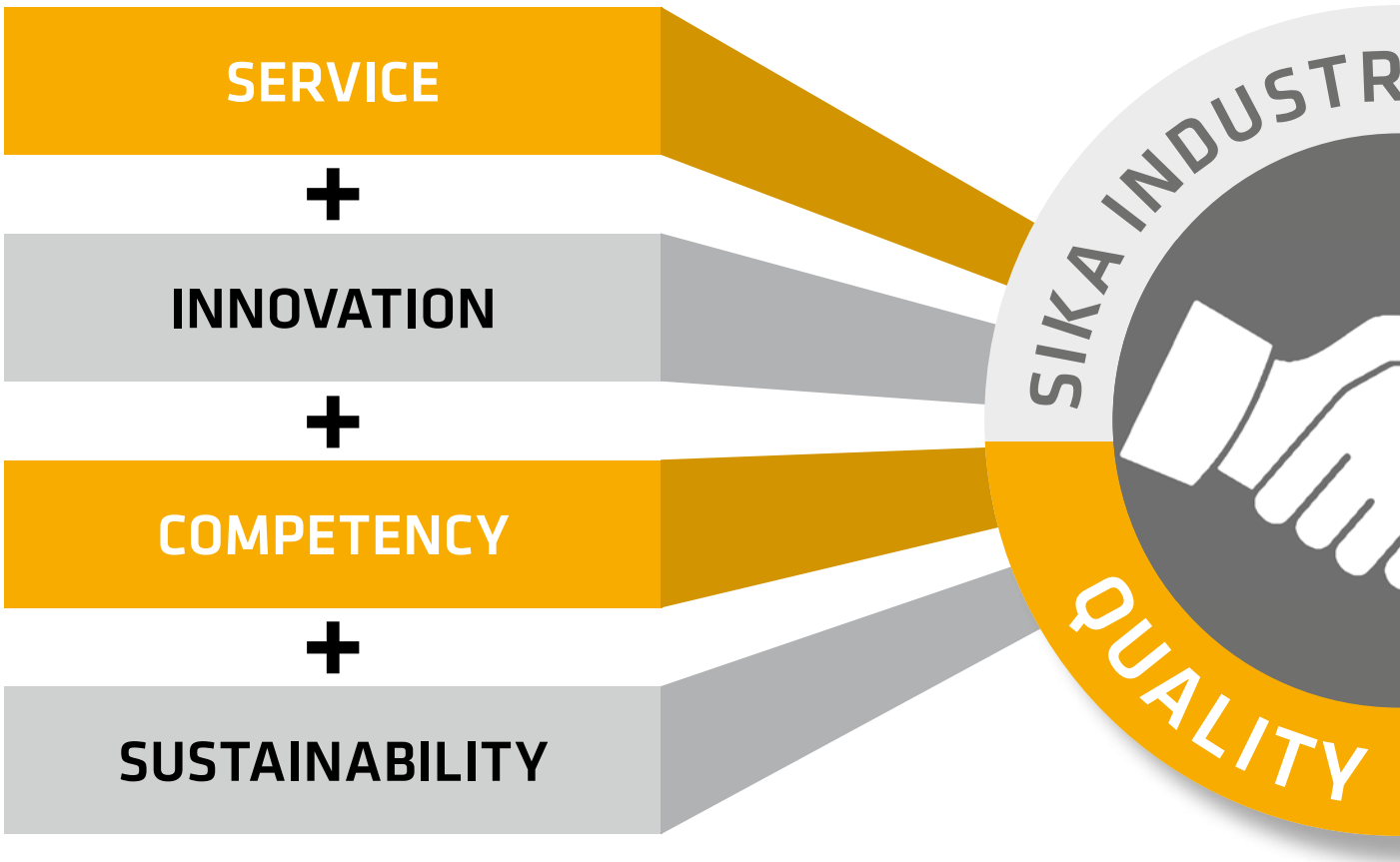
Insufficient corrosion protection of steel structures can have serious consequences. Lack of protection frequently leads to structural problems quite apart from the visual appearance of the structure. Appropriate protective coatings and sensible maintenance intervals ensure long-term protection of steel structures and can avoid cost-intensive total refurbishment or even decommissioning. Sika convinces with 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, steel constructor or responsible for creating tendering documents – when you need an individual corrosion protection solution. We accompany your project from object analysis to the selection of the right coating system up to the final project conclusion.

CONTENT

THE SIKA QUALITY PROMISE

THANKS TO ADVANCED technologies, special service and many years of experiences, Sika Induastrial Coatings is a reliable partner for corrosion protective coatings in steel constructions for many decades. Thanks to the most advanced technologies, special service and many years of experience. From the competent sales team to the specialists in product management and the development department to the production team, our experts contribute to Sika Industrial Coatings' promise of quality.

THE SIKA QUALITY PROMISE



OUR SERVICE – YOUR BENEFIT

PROFESSIONAL CONSULTING
for the choice of the optimal Sika coating system

ON SITE INSTRUCTIONS
during coating work on request

Execution of
SURFACE INSPECTION TEST
within the monitoring of reference areas

Consulting and sale by our experts, certified as
FROSIO COATING INSPECTORS LEVEL III


BOSCH
200m
50
200m
50

MORE 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 our 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.
This brochure is focussed on steel structures with the most important passages of the revised standard. In particular, we present the coating systems acc. part 5 of the revised standard.

Further information on Sika's competence in the field 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 is not easy. For this reason, we have presented our suggestions and products in clear tables.

We hope that our practice-oriented information will also become a welcome aid for you and make it easier for you to choose the right corrosion protection system. If you have any questions, we will be happy to advise you personally.

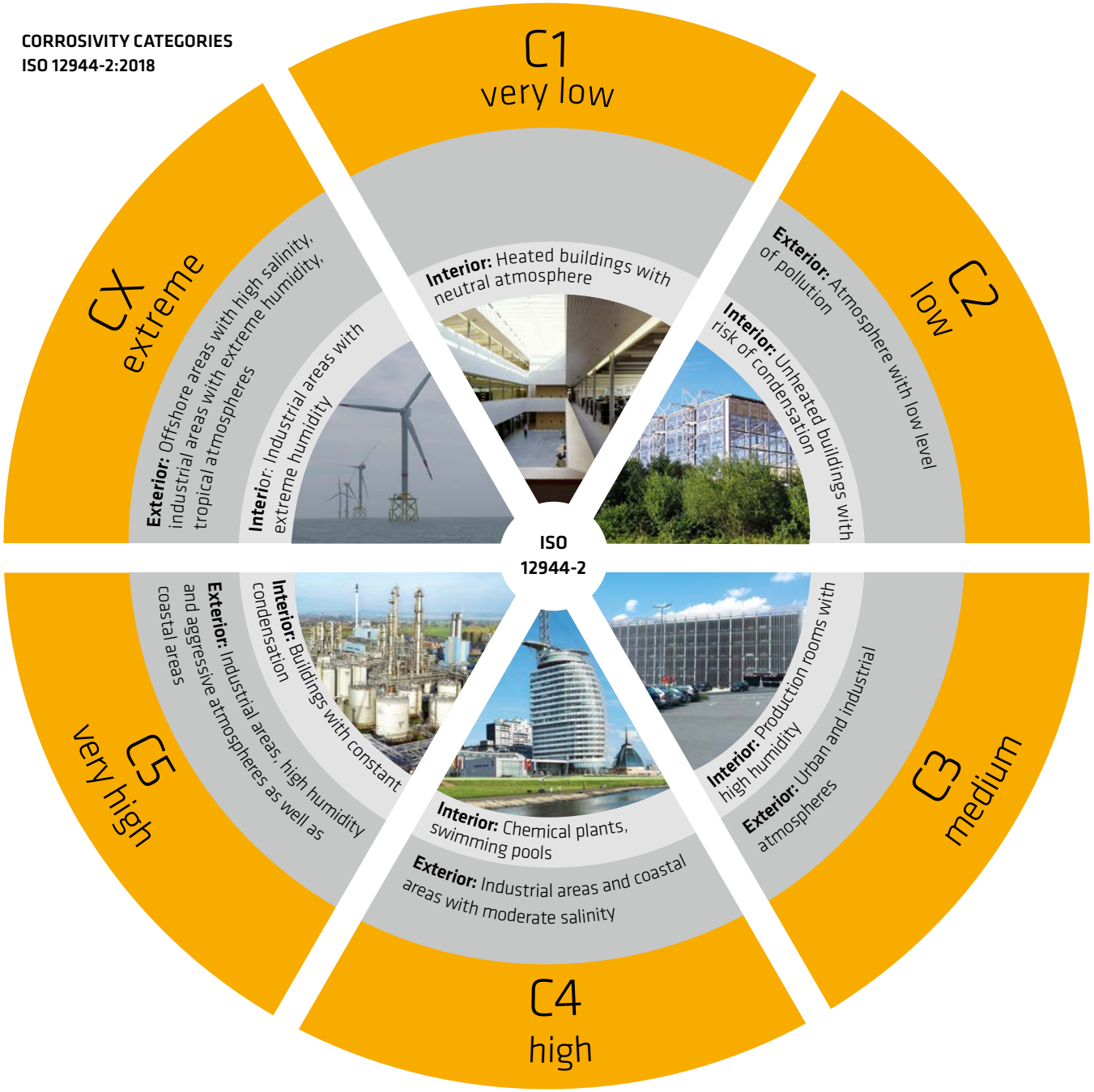
PERFECT RESULTS DUE TO INNOVATIVE AND PROVED COATING SYSTEMS

CORROSION PROTECTIVE COATINGS of steel structures are exposed to specific corrosion loads depending on the ambient conditions. These are defined in ISO 12944-1,-2:2018 depending on durability range and corrosivity category.

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

PROTECTIVE PERIODS – ISO 12944-1:2018

Durability range	Abbreviation (s)	Period of time
low	**L**	up to 7 years
medium	**M**	7 - 15 years
high	**H**	15 - 25 years
very high	**VH**	more than 25 years



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

PROTECTION OVER DECADES - FUNDAMENTAL IMPLEMENTATIONS OF ISO 12944-5:2018

IN ORDER TO OFFER a safe protection against corrosion, the diffusion barrier through coatings plays a essential role. For this reason, the previously freely selectable system dimension was redefined during the revision of the standard. With the revised standard, the proposed coating systems are no longer informative, now they are normative.

WHAT HAS CHANGED REGARDING TO...

...THE NUMBER OF COATS?

- 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.

...THE STEEL SUBSTRATE?

- The new requirements for coating systems differ in applications on steel (Sa 2 ½) and on hot-dip galvanized steel.
- According to the revised standard, metallic zinc layers are a part of the corrosion protection system and no longer part of the substrate.

...THE SYSTEM BUILDUP?*

- 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 12944-5:2018

Coating system			Corrosivity categories							
			C2		C3		C4		C5	
Type of primer	Type of the following layer	Dura-bility range	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	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
AY	AY	L	-	-	-	-	1	160	-	-
		M	-	-	1	160	2	200	-	-
		H	1	160	2	200	2	260	-	-
		VH	2	200	2	260	-	-	-	-

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 ATMOSPHERIC CONDITIONS UP TO C3

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

Primer		Top coat		Total system	
Product name	**NDFT [µm]**	**Product name**	**NDFT [µm]**	**Number of coats**	**NDFT [µm]**
		SikaCor® PUR Color NEW*[3]	120	1	120
Sika® CorroTop NEW	80	**Sika® CorroTop NEW**	80	2	160
SikaCor® Steel Protect VHS Rapid	80	**Sika® CorroTop NEW**	80	2	160
SikaCor® Aktivprimer Rapid	80	**Sika® CorroTop NEW**	80	2	160
		SikaCor® EP Color	100	1	100
		SikaCor® Steel Protect VHS Rapid	120	1	120
SikaCor® Steel Protect VHS Rapid	120	**SikaCor® Steel Protect VHS Rapid**	80	2	200
		SikaCor® PUR Color NEW*[3]	180	1	180
SikaCor® ZP Primer	100	**SikaCor® PUR Color NEW*[3]**	80	2	180
SikaCor® Steel Protect VHS Rapid	80	**SikaCor®-6630 High Solid*[6]**	120	2	200
SikaCor®-6630 High Solid*[6]	100	**SikaCor®-6630 High Solid*[6]**	100	2	200
SikaCor® EP Color	100	**SikaCor® EP Color**	80	2	180
SikaCor® EP Color	100	**SikaCor® PUR Color NEW*[3]**	80	2	180
Sika Poxicolor® Primer HE NEW	100	**SikaCor® EG-5*[5]**	80	2	180

*[1]alternatively SikaCor® EG Phosphat Rapid/Plus *[2]alternatively SikaCor® EG-1 Rapid/Plus *[3]alternatively SikaCor® PUR Color Plus *[4]alternatively SikaCor® Zinc R Rapid
*[5]alternatively SikaCor® EG-4, Sika® Permacor®-2330 oder Sika® Permacor®-2230 VHS *[6]alternatively SikaCor®-6630 Plus *[7]alternatively SikaCor®-6630 Primer Plus

Corrosivity category							
C2				C3			
low	medium	high	very high	low	medium	high	very high

TABLE 1b
SELECTION OF COATING SYSTEMS ON STEEL FOR ATMOSPHERIC CONDITIONS UP TO C5

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

Primer		Intermediate coat		Top coat	
Product name	**NDFT [µm]**	**Product name**	**NDFT [µm]**	**Product name**	**NDFT [µm]**
SikaCor®-6630 High Solid*6	80	**SikaCor®-6630 High Solid*6**	100	**SikaCor®-6630 High Solid*6**	100
Sika® Permacor®-2204 VHS	160			**SikaCor® EG-5*5**	80
Sika Poxicolor® Rapid	120			**SikaCor® EG-120**	120
SikaCor®-2440 MF	190			**SikaCor® EG-5*5**	50
Sika® Permacor®-2204 VHS	220			**SikaCor® EG-5*5**	80
SikaCor® EG Phosphat*1	100	**SikaCor® EG-1*2**	120	**SikaCor® EG-5*5**	80
SikaCor® ZP Primer	100	**SikaCor® ZP-1**	120	**SikaCor® EG-5*5**	80
SikaCor® Zinc R*4	80	**SikaCor® EG-1*2**	100	**SikaCor® EG-5*5**	80
SikaCor® Zinc R*4	80	**SikaCor® ZP-1**	100	**SikaCor® EG-5*5**	80
Sika Poxicolor® Primer HE NEW	100	**SikaCor® EG-1 VHS**	120	**SikaCor® EG-5*5**	80
SikaCor® Zinc R*4	80	**SikaCor® EG-1 VHS**	100	**SikaCor® EG-5*5**	80
SikaCor® Zinc R*4	60	**SikaCor®-2440 MF**	120	**SikaCor® EG-5*5**	80
SikaCor® Zinc R*4	80	**Sika Poxicolor®**	120	**Sika Poxicolor®**	120
Sika® Permacor®-2311 Rapid	80	**Sika® Permacor®-2215 EG VHS**	160	**Sika® Permacor®-2230 VHS**	80
SikaCor® Zinc R*4	80	**SikaCor® EG-1 VHS**	160	**SikaCor® EG-5*5**	80
SikaCor® Zinc R*4	80	**SikaCor® EG-1*2**	2 x 80	**SikaCor® EG-5*5**	80
Sika® Permacor®-2204 VHS	140	**Sika® Permacor®-2204 VHS**	140	**SikaCor® EG-5*5**	80

*1alternatively SikaCor® EG Phosphat Rapid/Plus *2alternatively SikaCor® EG-1 Rapid/Plus *3alternatively SikaCor® PUR Color Plus *4alternatively SikaCor®Zinc R Rapid
*5alternatively SikaCor® EG-4, Sika® Permacor®-2330 oder Sika® Permacor®-2230 VHS *6alternatively SikaCor®-6630 Plus *7alternatively SikaCor®-6630 Primer Plus

Total system		Corrosivity category															
		C2				C3				C4				C5			
Number of coats	NDFT [µm]	low	medium	high	very high	low	medium	high	very high	low	medium	high	very high	low	medium	high	very high
	280																
2	240																
2	240																
2	240																
2	300																
3	300																
3	300																
3	260																
3	260																
3	300																
3	260																
3	260																
3	320																
3	320																
3	320																
4	320																
3	360																

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 12944-5:2018. SURFACE PREPARATION: HOT-DIP GALVANIZED ACCORDING TO ISO 1461 / ISO 14713

Primer		Intermediate coat		Top coat	
Product name	**NDFT [µm]**	**Product name**	**NDFT [µm]**	**Product name**	**NDFT [µm]**
SikaCor® EG-1*[2]	80				
SikaCor®-6630 High Solid*[6]	80			**SikaCor®-6630 High Solid*[6]**	80
SikaCor® EG-1 VHS	120				
				SikaCor® EG-120	120
SikaCor®-6630 High Solid*[6]	100			**SikaCor®-6630 High Solid*[6]**	100
SikaCor® EG-1*[2]	80			**SikaCor® EG-5*[5]**	80
Sika Poxicolor® Rapid	100			**SikaCor® EG-120**	100
SikaCor® EG-1*[2]	120			**SikaCor® EG-5*[5]**	80
SikaCor® EG-1 VHS	140			**SikaCor® EG-5*[5]**	60
Sika Poxicolor®	120			**Sika Poxicolor®**	120
Sika Poxicolor® Rapid	120			**SikaCor® EG-120**	120
SikaCor® EG-1 VHS	160			**SikaCor® EG-5*[5]**	80
SikaCor® EG-1*[2]	80	**SikaCor® EG-1*[2]**	80	**SikaCor® EG-5*[5]**	80

*[1]alternatively SikaCor® EG Phosphat Rapid/Plus *[2]alternatively SikaCor® EG-1 Rapid/Plus *[3]alternatively SikaCor® PUR Color Plus *[4]alternatively SikaCor® Zinc R Rapid
*[5]alternatively SikaCor® EG-4, Sika® Permacor®-2330 oder Sika® Permacor®-2230 VHS *[6]alternatively SikaCor®-6630 Plus *[7]alternatively SikaCor®-6630 Primer Plus

Total system		Corrosivity category															
		C2				C3				C4				C5			
Number of coats	NDFT [µm]	low	medium	high	very high	low	medium	high	very high	low	medium	high	very high	low	medium	high	very high
1	80																
2	160																
1	120																
1	120																
2	200																
2	160																
2	200																
2	200																
2	200																
2	240																
2	240																
2	240																
3	240																

TABLE 3
SELECTION OF COATING SYSTEMS FOR REFURBISHMENT OF OLD COATINGS

COATING SYSTEMS FOR CORROSION PROTECTION OF STEEL STRUCTURES IN VARIOUS ATMOSPHERIC CONDITIONS ACCORDING TO ISO 12944-5:2018.

Partial surface preparation	Primer		Intermediate coat		Top coat	
	Product name	NDFT [µm]	Product name	NDFT [µm]	Product name	NDFT [µm]
P St 2/P St 3	SikaCor® Aktivprimer Rapid	80	SikaCor®-6630 High Solid*6	80	SikaCor®-6630 High Solid*6	80
P St 2/P St 3	SikaCor®-6630 Primer*7	80	SikaCor®-6630 High Solid*6	80	SikaCor®-6630 High Solid*6	80
P St 2/P St 3	Sika Poxicolor® Primer HE NEW	120			SikaCor® EG-120	120
P St 2/P St 3	Sika Poxicolor® Primer HE NEW	80	SikaCor® EG-1 VHS	80	SikaCor® EG-4 oder EG-5	80
P Ma	Sika Poxicolor® Primer HE NEW	120			Sika Poxicolor®	120
P Ma	Sika Poxicolor® Primer HE NEW	100	SikaCor® EG-1 VHS	100		
P Ma	Sika Poxicolor® Primer HE NEW	100			SikaCor® EG-4 oder EG-5	80
P Sa 2½	SikaCor® EG Phosphat*1	100	SikaCor® EG-1*2	120		
P Sa 2½	SikaCor® EG Phosphat*1	100			SikaCor® EG-4 oder EG-5	80

*1alternatively SikaCor® EG Phosphat Rapid/Plus *2alternatively SikaCor® EG-1 Rapid/Plus *3alternatively SikaCor® PUR Color Plus *4alternatively SikaCor® Zinc R Rapid
*5alternatively SikaCor® EG-4, Sika® Permacor®-2330 oder Sika® Permacor®-2230 VHS *6alternatively SikaCor®-6630 Plus *7alternatively SikaCor®-6630 Primer Plus

Total system		Corrosivity category															
		C2				C3				C4				C5			
Number of coats	NDFT [µm]	low	medium	high	very high	low	medium	high	very high	low	medium	high	very high	low	medium	high	very high
3	240	■	■	■	■	■	■	■									
3	240	■	■	■	■	■	■	■									
2	240	■	■	■	■	■	■	■	■	■	■	■					
3	240	■	■	■	■	■	■	■	■	■	■	■					
2	240	■	■	■	■	■	■	■	■	■	■	■					
2	200	■	■	■	■	■	■	■	■	■	■	■					
2	180	■	■	■	■	■	■	■	■	■	■	■					
2	220	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
2	180	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	

TABLE 4
PRODUCT FEATURES OF OUR PRIMERS

Primer	Density [kg/l]	Volume solids Vol. [%]	Volume solids Wt [%]	Dry film thickness [µm]	Theor. mat. consumption [kg/m²]	Min. application temperature	Waiting time until overcoating[1] at 10°C	Waiting time until overcoating[1] at 20°C
SikaCor®-2440 MF 2-pack micaceous iron oxid free, low VOC epoxy primer and intermediate coat	1.45	67	81	80-160	0.173 - 0.346	+ 5°C	10 h	4.5 h
SikaCor®-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 h	24 h
SikaCor®-6630 Primer Plus 1-pack oxidative drying primer for manually de-rusted surfaces and well adhering old coatings systems acc. to TL/TP-KOR-Stahlbauten, Blatt 93	1.4	66	80	80	0.168	+ 5°C	48 h	24 h
SikaCor® 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 h	24 h
SikaCor® EG Phosphat 2-pack high-solid epoxy zinc phosphate primer, acc. to TL/TP-KOR-Stahlbauten, Blatt 87, suitable as welding primer	1.6	62	80	80-120	0.205 - 0.310	+ 5°C	7 h	3.5 h
SikaCor® EG Phosphat Plus 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 h	3.5 h
SikaCor® EG Phosphat Rapid 2-pack high-solid epoxy zinc phosphate primer, acc. to TL/TP-KOR-Stahlbauten, Blatt 97	1.6	57	79	80	0.225	- 10°C	4 h	1.5 h
SikaCor® Zinc R 2-pack low-solvent epoxy zinc-rich primer, acc. to TL/TP-KOR-Stahlbauten, Blatt 87, suitable as welding primer and for SLV joints	2.8	67	89	60-80	0.250 - 0.335	+ 5°C	3 h	2.5 h
SikaCor® Zinc R Rapid 2-pack low-solvent epoxy zinc-rich primer, acc. to TL/TP-KOR-Stahlbauten, Blatt 97, suitable as welding primer and for SLV joints	2.8	63	88	60-80	0.265 - 0.355	- 10°C	1 h	0.5 h
SikaCor® ZP Primer 2-pack fast-curing polyurethane primer with zinc phosphate	1.5	62	78	80	0.195	0°C[3]	3 h	2 h
Sika® Permacor®-2311 Rapid 2-pack low-solvent epoxy zinc-rich primer	2.5	59	85	60-80	0.254 - 0.339	- 10°C	4 h	2 h
Sika® Permacor®-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 h	6 h
Sika Poxicolor® Primer HE NEW 2-pack low-solvent, surface-tolerant epoxy primer	1.4	67	80	80-100	0.152 - 0.190	+ 5°C	10 h	6 h
Sika Poxicolor® 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	- 10°C	9 h	6 h

[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 SikaCor® PUR Accelerator

Suitable intermediate and top coats														
SikaCor®-6630 High Solid / EG	SikaCor®-6630 Plus / EG Plus	Sika® CorroTop NEW / EG	SikaCor® EG System / Plus	SikaCor® EG-120	SikaCor® EG-1 VHS	SikaCor® EG System Rapid	SikaCor® ZP-1	SikaCor® EG-1 / Plus / Rapid	SikaCor® EG-4 / EG-5	SikaCor® EG-5 Clearcoat	SikaCor® PUR Color NEW / Plus	Sika® Permacor®-2230 VHS	Sika® Permacor®-2215 EG VHS	Sika® Permacor®-2330
								●	●				●	
●	●													
	●		●											
●	●	●												
				●	●		●	●	●	●		●		●
			●	●	●		●	●	●	●		●		●
				●	●	●	●	●	●	●		●		●
			●	●	●		●	●						
				●	●	●	●	●						
				●			●		●		●			●
													●	
								●				●		●
				●	●		●	●	●	●	●	●		●
				●	●				●	●	●	●		●

TABLE 5
PRODUCT FEATURES OF OUR INTERMEDIATE COATS

Intermediate coat	Density [kg/l]	Volume solids Vol. [%]	Volume solids Wt [%]	Dry film thickness [µm]	Theor. mat. consumption [kg/m²]	Min. application temperature	Waiting time until overcoating[1] at 10°C	Waiting time until overcoating[1] at 20°C
SikaCor® EG-1 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	1.6	60	77	80-120	0.215 - 0.320	+ 5°C	10 h	6 h
SikaCor® 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	70	83	80-120	0.170 - 0.250	+ 5°C	8 h	4 h
SikaCor® EG-1 Rapid 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	1.6	56	77	80-120	0.230 - 0.350	- 10°C	5 h	3 h
SikaCor® 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 h	5 h
Sika® Permacor®-2215 EG VHS 2-pack very high solid, micaceous iron oxide epoxy intermediate coat	1.9	72	87	80-160	0.211 - 0.422	+ 5°C	11 h	5 h
Sika® Permacor®-2706 EG 2-pack micaceous iron oxide epoxy intermediate coat for primed steel or directly on galvanised steel	1.4	45	66	40	0.125	+ 10°C	24 h	16 h
SikaCor® 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]	0°C[3]	2 h	1,5 h

[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 SikaCor® PUR Accelerator

Suitable coatings systems										
SikaCor® EG System / Plus	SikaCor® EG-120	SikaCor® EG-1 VHS	SikaCor® EG-System Rapid	SikaCor® EG-1 / Plus / Rapid	SikaCor® EG-4 / EG-5	Sika® Permacor®-2230 VHS	Sika® Permacor®-2215 EG VHS	Sika® Permacor®-2330	Sika® Permacor®-2707	
●	●		●	●	●	●		●		
●	●			●	●	●		●		
	●		●	●	●	●		●		
	●			●	●	●		●		
					●	●	●	●		
		●		●	●	●		●	●	
					●	●		●		

TABLE 6
PRODUCT FEATURES OF OUR TOP COATS

Top coats	Density [kg/l]	Volume solids Vol. [%]	Volume solids Wt [%]	Dry film thick-ness [µm]	Theor. mat. consumption [kg/m²]
SikaCor®-6630 High Solid 1-pack oxidative drying high-build coating in RAL or DB colour shades[4]	1.4 1.5[2]	62 61[2]	77 77[2]	80 -160	0.180 - 0.360 0.195 - 0.390[2]
SikaCor®-6630 Plus 1-pack oxidative drying high-build coating in RAL or DB colour shades[4], acc. to TL/TP-KOR-Stahlbauten, Blatt 93	1.3 1.4[2]	64 63[2]	77 77[2]	80 - 160	0.165 - 0.340 0.180 - 0.360[2]
SikaCor® EG-4 2-pack acrylic polyurethane top coat containing micaceous iron oxide pigments (MIO) in DB colour shades[4], acc. to TL/TP-KOR-Stahlbauten, Blatt 87	1.4	55	70	60 - 100	0.153 - 0.256
SikaCor® EG-5 2-pack acrylic polyurethane top coat in RAL colour shades, acc. to TL/TP-KOR-Stahl-bauten, Blatt 87	1.3	61	74	60 - 100	0.130 - 0.217
SikaCor® EG-120 2-pack very high solid polyurethane top coat in RAL and DB colour shades[4]; for the application on primers or direct to metal (steel, galvanized steel or aluminium)	1.3 1.6[2]	70 70[2]	80 83[2]	60 - 120	0.149 - 0.223 0.183 - 0.274[2]
SikaCor® EP Color 2-pack primer and top coat based on epoxy resin with anti-corrosion pigments in RAL colour shades	1.6	62	80	80	0.205
SikaCor® PUR Color NEW 2-pack primer and top coat based on polyurethane with anti-corrosion pigments, in silk-matt RAL colour shades	1.4	56	73	80 - 180	0.200 - 0.450
SikaCor® 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
SikaCor® Steel Protect VHS Rapid 1-pack synthetic resin-based primer and top coat	1.55	65	81	60 - 160	0.143 - 0.380
Sika® CorroTop NEW/EG 1-pack alkyd resin top coat with smooth, glossy surface in RAL and DB colour shades[4]	1.3	56	73	60 - 120	0.140 - 0.280 0.150 - 0.300[2]
Sika® Permacor®-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
Sika® Permacor®-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
Sika 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

[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 SikaCor® PUR Accelerator [4] Metallic MIO colour shades acc. DB standard

Min. application temperature	Waiting time between overcoating[1]		Suitable primer in terms of refurbishment						
	at 10°C	at 20°C	SikaCor® Aktivprimer Rapid	SikaCor®-6630 High Solid / Plus	SikaCor®-6630 Primer / Plus	Sika® CorroTop NEW / EG	Sika Poxicolor® Primer HE NEW	SikaCor EG Phosphat (Sa 2½)	
+ 5°C	36 h	24 h	●	●	●		●		
+ 5°C	36 h	24 h	●	●	●		●		
+ 5°C	16 h 12 h[3]	12 h 4 h[3]					●	●	
+ 5°C	18 h 13 h[3]	14 h 5 h[3]					●	●	
+ 5°C	20 h	11 h					●	●	
+ 5°C	7 h	3,5					●	●	
+ 5°C	6 h - 9 h 3 h - 4 h	4 h - 6 h 2 h - 3 h					●	●	
+ 5°C	6 h - 9 h	4 h - 6 h					●	●	
+ 5°C	12 h	5 h					●		
+ 5°C	24 h	12 h	●	●	●	●	●		
+ 5°C	14 h	5 h					●		
+ 5°C	18 h	8 h					●	●	
+ 5°C	12 h	6 h					●		

OUR COMPETENCE

THE BUSINESS UNIT INDUSTRIAL COATINGS of Sika Deutschland GmbH 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

- port 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

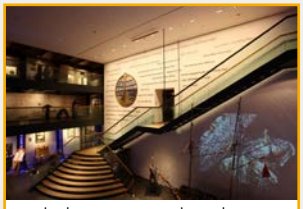
- power stations
- pipelines
- wind energy
- mast coatings

FIRE PROTECTION

FOR STEEL

- solvent-free systems
- water-based systems
- solvent-based systems

FOR WOOD AND CONCRETE



- timber construction elements
- concrete

Innovative products combined with high economic efficiency are the contribution to social responsibility as well as ecological and social awareness. The use of modern, high-quality coating materials with a low VOC content, optimum processing properties and a long durability is the claim that Sika Deutschland GmbH fulfills in a wide variety of applications areas.

GLOBAL BUT LOCAL PARTNERSHIP

WITH OVER 100 LOCAL SUBSIDIARIES and the aim to make global technology meet local expertise, Sika transfers know-how locally on a global basis to guarantee local support in selection, validation and application of our products on job sites around the world.

Find your local Sika subsidiary on **www.sika.com** and contact them for any requieres.

WORLDWIDE SYSTEM SOLUTIONS FOR CONSTRUCTION AND INDUSTRY

ROOFING

CONCRETE

WATERPROOFING

CORROSION AND FIRE PROTECTION

SEALING & BONDING

FLOORING

REFURBISHMENT

INTERIOR FINISHING

INDUSTRY

As a subsidiary of the globally operative Sika AG, Baar/Switzerland, Sika Deutschland GmbH is one of the leading suppliers of building chemical product systems as well as sealants and adhesives for industrial manufacturing.

IC / STB / HD / 02_19 / 1.000

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