

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.

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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.

OUR SERVICE -YOUR BENEFIT

PROFESSIONAL CONSULTING

for the choice of the optimal Sika coating system



THE SIKA QUALITY PROMISE

ON SITE INSTRUCTIONS

during coating work on request

Execution of SURFACE INSPECTION TEST

within the monitoring of reference areas

FROSIO COATING INSPECTORS LEVEL III



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.

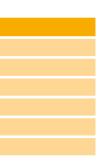
This brochure is focussed on steel structures with the most important passages of the revised standard. In particular, we present the coating systems acc. part 5 of the revised standard.

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

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.

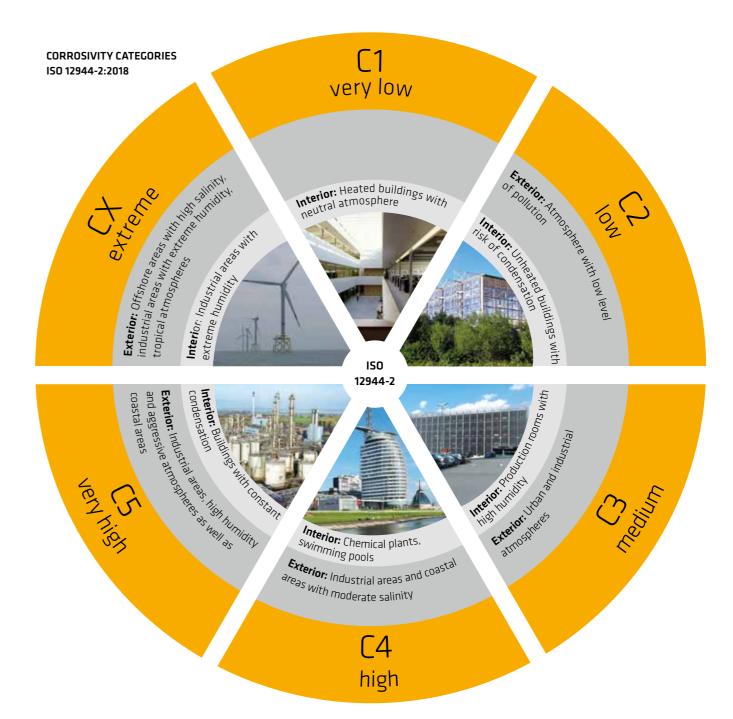
We hope that our practice-oriented information will also become a welcome aid for you and make it easier for you to choose the right corrosion protection system. If you have any questions, we will be happy to advise you personally.



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.





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.

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	м	7 - 15 years
high	н	15 - 25 years
very high	VH	more than 25 years

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 = Nominal dry film thickness) 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

Type of	Type of the	Dura-	C	2 Total coating	C	3 Total coating	C	4 Total coating	C	5 Total coating
primer	following layer	bility range	Number of coats	thick- ness [µm]						
Blasted stee	l substrate									
		L	-	-	-	-	1	60	2	160
Zinc Rich Primer		м	-	-	1	60	2	160	2	200
(ESI, EP, PUR)	EP, PUR, AY	н	1	60	2	160	2	200	3	260
		VH	2	160	2	200	3	260	3	320
		L	-	-	-	-	1	120	2	180
ESI, EP,		М	-	-	1	120	2	180	2	240
PUR	EP, PUR, AY	Н	1	120	2	180	2	240	2	300
		VH	2	180	2	240	2	300	3	360
		L	-	-	1	100	1	160	-	-
AK, AY	AK, AY	М	1	100	1	160	2	200	-	-
AK, AY	ΑΝ, ΑΥ	н	1	160	2	200	2	260	-	-
		νн	2	200	2	260	-	-	-	-
lot-dip galv	anized steel									
		L	-	-	-	-	1	60	2	160
	EP, PUR,	м	-	-	1	60	2	160	2	200
EP, PUR	AY	н	1	60	2	160	2	200	3	260
		VH	2	160	2	200	3	260	3	320
		L	-	-	-	-	1	160	-	-
A)/		м	-	-	1	160	2	200	-	-
AY	AY	н	1	160	2	200	2	260	-	-
	Ī	VH	2	200	2	260	-	-	-	-

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 s	system			Co	orrosivit	y catego	ry		
							C	2	um mu	3			
Product name	NDFT [µm]	Product name	NDFT [µm]	Number of coats	NDFT [µm]	low	medium	high	very high	low	medium	high	very high
		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								

*salternatively SikaCor® EG-4, Sika® Permacor®-2330 oder Sika® Permacor®-2230 VHS *6alternatively SikaCor®-6630 Plus *7alternatively SikaCor®-6630 Primer Plus

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 21/2 (ISO 12944-4:2018)

Primer		Intermediate coat		Top coat		Total s	ystem							Co	orrosivit	y catego	ry						
									C	2			C	3			C	4			C	5	
Product name	NDFT [µm]	Product name	NDFT [µm]	Product name	NDFT [µm]	Number of coats	NDFT [µm]	Mol	medium	high	very high	low	medium	high	very high	Mol	medium	high	very high	low	medium	high	very high
SikaCor®-6630 High Solid*6	80	SikaCor®-6630 High Solid*6	100	SikaCor®-6630 High Solid*	100		280																
Sika® Permacor®-2204 VHS	160			SikaCor® EG-5*5	80	2	240																
Sika Poxicolor® Rapid	120			SikaCor® EG-120	120	2	240																
SikaCor®-2440 MF	190			SikaCor® EG-5*s	50	2	240																
Sika® Permacor®-2204 VHS	220			SikaCor® EG-5*5	80	2	300																
SikaCor® EG Phosphat*1	100	SikaCor [®] EG-1* ²	120	SikaCor® EG-5*5	80	З	300																
SikaCor® ZP Primer	100	SikaCor® ZP-1	120	SikaCor® EG-5*s	80	3	300																
SikaCor® Zinc R*4	80	SikaCor® EG-1*²	100	SikaCor® EG-5*5	80	З	260																
SikaCor [®] Zinc R*4	80	SikaCor® ZP-1	100	SikaCor® EG-5*5	80	З	260																
Sika Poxicolor® Primer HE NEW	100	SikaCor® EG-1 VHS	120	SikaCor® EG-5*5	80	з	300																
SikaCor [®] Zinc R ^{*4}	80	SikaCor® EG-1 VHS	100	SikaCor® EG-5*5	80	З	260																
SikaCor [®] Zinc R ^{*4}	60	SikaCor®-2440 MF	120	SikaCor® EG-5*5	80	З	260																
SikaCor® Zinc R*4	80	Sika Poxicolor®	120	Sika Poxicolor®	120	3	320																
Sika® Permacor®-2311 Rapid	80	Sika® Permacor®-2215 EG VHS	160	Sika® Permacor®-2230 VHS	80	З	320																
SikaCor® Zinc R*4	80	SikaCor® EG-1 VHS	160	SikaCor® EG-5* ^s	80	3	320																
SikaCor® Zinc R*4	80	SikaCor® EG-1*2	2 x 80	SikaCor® EG-5*5	80	4	320																
Sika® Permacor®-2204 VHS	140	Sika® Permacor®-2204 VHS	140	SikaCor® EG-5*5	80	3	360																

**alternatively SikaCor® EC-4, Sika® Permacor®-2330 oder Sika® Permacor®-2230 VHS *falternatively SikaCor®-6630 Plus *7alternatively SikaCor®-6630 Primer Plus

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		Intermed	iate coat	Top coat		Total s	ystem							Co	orrosivit	y catego	ry						
									C	2			C	3			C	4			C 9	5	
Product name	NDFT [µm]	Product name	NDFT [µm]	Product name	NDFT [µm]	Number of coats	NDFT [µm]	low	medium	high	very high	low	medium	high	very high	wol	medium	high	very high	low	medium	high	very high
SikaCor® EG-1*²	80					1	80																
SikaCor®-6630 High Solid*6	80			SikaCor®-6630 High Solid*6	80	2	160																
SikaCor® EG-1 VHS	120					1	120																
				SikaCor® EG-120	120	1	120																
SikaCor®-6630 High Solid*6	100			SikaCor®-6630 High Solid*6	100	2	200																
SikaCor® EG-1*²	80			SikaCor® EG-5*5	80	2	160																
Sika Poxicolor® Rapid	100			SikaCor® EG-120	100	2	200																
SikaCor® EG-1*²	120			SikaCor® EG-5*⁵	80	2	200																
SikaCor® EG-1 VHS	140			SikaCor® EG-5*⁵	60	2	200																
Sika Poxicolor®	120			Sika Poxicolor®	120	2	240																
Sika Poxicolor® Rapid	120			SikaCor® EG-120	120	2	240																
SikaCor® EG-1 VHS	160			SikaCor® EG-5*s	80	2	240																
SikaCor® EG-1*²	80	SikaCor [®] EG-1* ²	80	SikaCor® EG-5*5	80	З	240																
*'alternatively SikaCor® EG Phosphat Rapid/f *5alternatively SikaCor® EG-4, Sika® Permaco	Plus *²alternatively Sika r®-2330 oder Sika® Perr	Cor® EG-1 Rapid/Plus *³alt nacor®-2230 VHS *⁵altern	ernatively SikaCor® PU atively SikaCor®-6630 I	R Color Plus *falternatively SikaCor® Zinc R Plus *7alternatively SikaCor®-6630 Primer P	Rapid Us	-																	

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.

	Primer		Intermediate coat		Top coat		Total sys	tem							Co	orrosivit	y catego	ory						
Partial surface										C	2			C	3			C	4			C	5	
preparation	Product name	NDFT [µm]	Product name	NDFT [µm]	Product name	NDFT [µm]	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
P St 2/P St 3	SikaCor® Aktivprimer Rapid	80	SikaCor®-6630 High Solid*6	80	SikaCor®-6630 High Solid*6	80	з	240																
P St 2/P St 3	SikaCor®-6630 Primer* ⁷	80	SikaCor®-6630 High Solid*6	80	SikaCor®-6630 High Solid*6	80	3	240																
P St 2/P St 3	Sika Poxicolor® Primer HE NEW	120			SikaCor® EG-120	120	2	240																
P St 2/P St 3	Sika Poxicolor® Primer HE NEW	80	SikaCor® EG-1 VHS	80	SikaCor® EG-4 oder EG-5	80	3	240																
P Ma	Sika Poxicolor® Primer HE NEW	120			Sika Poxicolor®	120	2	240																
P Ma	Sika Poxicolor® Primer HE NEW	100	SikaCor® EG-1 VHS	100			2	200																
P Ma	Sika Poxicolor® Primer HE NEW	100			SikaCor® EG-4 oder EG-5	80	2	180																
P Sa 2½	SikaCor® EC Phosphat*1	100	SikaCor® EG-1*²	120			2	220																
P Sa 2½	SikaCor® EG Phosphat*1	100			SikaCor® EG-4 oder EG-5	80	2	180																
	© EG Phosphat Rapid/Plus *²alternatively Si ® EG-4, Sika® Permacor®-2330 oder Sika® P																							

TABLE 4 PRODUCT FEATURES OF OUR PRIMERS

	Density		ume lids	Dry film	Theor. mat. con-	Min.		ng time over-							Sui	table in	itermed	liate an	d top co	oats
		50	lias	thick- ness	sumption	application tempera- ture		over- ting ¹⁾				ind HEL	PIUS	5	IUS			oid		apid
Primer	[kg/l]	Vol. [%]		[µm]	[kg/m²]	ture	at 10°C	at 20°C	ÿ	320° 56	So High St	ind the states	ophen to	et system is	AD EL	WHS SIN	avstern p2	alor the	I PIUS IPIUS	A HE'S
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	1h	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 $^{3)}$ Accelerated with SikaCor® PUR Accelerator	a based on mi	caceous	iron oxi	de colours																

20 Industrial Coatings

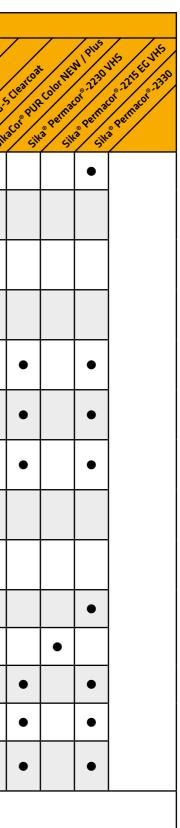


TABLE 5 PRODUCT FEATURES OF OUR INTERMEDIATE COATS

Density			Dry film	Theor.	Min.							Suital	ble coat	ings syst				
	SO	lids	thick- ness							m put	./		mRap	d IS Ra	id sis	22004	5 22586	UH5 2330
[kg/l]			[µm]	[kg/m²]		at 10°C	at 20°C	SIL	COT ELS	ster civ	a cor Ecil	and the states	ator Eli	PIL ELA	a Permace	Permac	Permace Bernace Silver	a Permace
1.6	60	77	80-120	0.215 - 0.320	+ 5°C	10 h	6 h	•	•		•	•	•	•		•		
1.5	70	83	80-120	0.170 - 0.250	+ 5°C	8 h	4 h	•	•			•	•	•		•		
1.6	56	77	80-120	0.230 - 0.350	- 10°C	5 h	3 h		•		•	•	•	•		•		
1.8	78	90	80-160	0.185 - 0.370	+ 5°C	13 h	5 h		•			•	•	•		•		
1.9	72	87	80-160	0.211 - 0.422	+ 5°C	11 h	5 h						•	•	•	•		
1.4	45	66	40	0.125	+ 10°C	24 h	16 h			•		•	•	•		•	•	
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						•	•		•		
	[kg/l] 1.6 1.5 1.6 1.7 1.8 1.9 1.4 1.6	Image: Constraint of the sector of	Karl Solids [kg/I] Vol. [%] Wt [%] 1.6 60 77 1.5 70 83 1.6 56 77 1.6 56 77 1.6 70 83 1.6 56 77 1.8 78 90 1.9 72 87 1.6 45 66 1.6 60 77	solids thickness [kg/l] Vol. $[\%]$ Wt $[\%]$ [µm] 1.6 60 77 80-120 1.5 70 83 80-120 1.6 56 77 80-120 1.6 56 77 80-120 1.6 56 77 80-120 1.6 78 90 80-160 1.9 72 87 80-160 1.1.4 45 66 40	solids thick-ness mat. con-sumption [kg/I] Vol. [%] VM [µm] [kg/m²] 1.6 60 77 80-120 $0.215 - 0.320^{-1}$ 1.1.5 70 83 80-120 $0.215 - 0.320^{-1}$ 1.1.5 70 83 80-120 $0.230 - 0.320^{-1}$ 1.1.6 56 77 80-120 $0.230 - 0.350^{-1}$ 1.1.8 78 90 80-160 $0.185 - 0.350^{-1}$ 1.1.9 72 87 80-160 $0.185 - 0.370^{-1}$ 1.1.9 72 87 80-160 $0.185 - 0.370^{-1}$ 1.1.9 72 87 80-160 $0.211 - 0.422^{-1}$ 1.1.6 65 66 40 0.125^{-1} 1.1.6 65 77 80-120 $0.211 - 0.422^{-1}$ 1.1.6 65 66 40 0.125^{-1} 1.1.6 65_{320}^{-1} 77_{792}^{-1} $80-120$ $0.215 - 0.320^{-1}$	Image: Solid series Thick-ness sumption sumption sumption temperature [kg/I] $Vol.$ Wt $[\mum]$ [kg/m²] Image: Solid series 1.6 60 77 80-120 $0.215 - 0.320$ $+ 5^{\circ}C$ 1.5 70 83 80-120 $0.230 - 0.250^{\circ}$ $+ 5^{\circ}C$ 1.6 56 77 80-120 $0.230 - 0.250^{\circ}$ $-10^{\circ}C$ 1.6 56 77 80-120 $0.230 - 0.250^{\circ}$ $-10^{\circ}C$ 1.7 78 90 80-120 $0.230 - 0.250^{\circ}$ $-10^{\circ}C$ 1.8 78 90 80-120 $0.230 - 0.250^{\circ}$ $-10^{\circ}C$ 1.9 72 87 80-160 $0.185 - 0.320^{\circ}$ $-10^{\circ}C$ 1.9 72 87 80-160 $0.211 - 0.422^{\circ}$ $+ 5^{\circ}C$ 1.16 45 66 40 $0.125 - 0.320^{\circ}$ $0^{\circ}C^{3}$ 1.16 $63^{\circ}23^{\circ}$ 77°_{7923} $80-120^{\circ}$ $0.215 - 0.320^{\circ}$ $0^{\circ}C^{3}$	Image: Solids thick-ness mat. con-sumption application temperature until coarting [kg/I] Vol. [%] Wt [%] [µm] [kg/m²] Image: Solids at not coarting [kg/I] Vol. [%] Wt [%] [µm] [kg/m²] Image: Solids at not coarting 1.6 60 77 80-120 $0.215 - 0.320$ $+ 5^{\circ}C$ 10 h 1.5 70 83 80-120 $0.230 - 0.250^{\circ}$ $+ 5^{\circ}C$ 8 h 1.6 56 77 80-120 0.230° $-10^{\circ}C$ 5 h 1.6 56 77 80-120 0.230° $-10^{\circ}C$ 5 h 1.18 78 90 80-160 0.230° $-10^{\circ}C$ 1 h 1.9 72 87 80-160 0.211° $+5^{\circ}C$ 11 h 1.9 72 87 80-160 0.211° $+5^{\circ}C$ 14 h 1.16 $66^{\circ}_{0.3^{\circ}}$ $77^{\circ}_{79^{\circ}_{90}$ 80^{-120} $0.215^{\circ}_{0.$	Image: Solids Solids Imak: consistmption application temperature unti-ver-coating [kg/I] Vol. W1 [μ [kg/m2] Imak: consistmption at coating at coa	solids thick-ness mat. con-sumption application temperature until overcotting ¹ [kg/I] Vol. Wt [µm] [kg/m ²] Image: Constraint true at at at constraint true at at constraint true 1.6 60 77 80-120 $0.215 - 0.320$ $+5^{\circ}$ C 10 h 6h • 1.5 70 83 80-120 $0.215 - 0.320$ $+5^{\circ}$ C 10 h 6h • 1.6 56 77 80-120 $0.230 - 0.250 - 0.250$ $+5^{\circ}$ C 8h 4h • 1.6 56 77 80-120 $0.230 - 0.250 - 0.250$ -10° C 5h 3h • 1.6 56 77 80-120 $0.230 - 0.250 - 0.350$ -10° C 5h 3h • 1.8 78 90 80-160 $0.185 - 0.370$ $+5^{\circ}$ C 13h 5h • 1.9 72 87 80-160 $0.211 - 0.422$ $+5^{\circ}$ C 11h 5h • 1.16 66 40 $0.125 - 0.320$ 0° C ³ 2h 1	solids thick-ness mat. consumption application temperature until overcouting ¹¹ [kg/I] Vol. Wt [µm] [kg/m ²] h^{10} a^{t}_{co} <td>solids thick-ness mat. consumption application temperature until overcotting¹¹ thick-ness mat. consumption application temperature att coating¹¹ att</td> <td>Image: Solid series thick-ness mat. consumption application turner turne until vertocation series [kg/I] Vol. [V] Vol. [V] [µ] [kg/m2] $kg/m2$ <t< td=""><td>Image: Solid series Image: Solid series</td><td>Image: Solid series series</td><td>solids thick-ness mat. con- sumption application ture until ver- costing? 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displace until ver- costing? <thutil ver-<br="">costing? until ver- costing?</thutil></td><td>solids thick-ness mat. con-sumption application tempera- ture until over- cating¹ at solids at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid</td><td>solids thick ness mat. con- sumption application ture unil ver- ture at arc at core at core</td><td>solids solids thick ness mat. con- sumption application ture unti- coalign at coalign <t< td=""></t<></td></t<>	Image: Solid series Image: Solid series	Image: Solid series	solids thick-ness mat. con- sumption application ture until ver- costing? displace until ver- costing? until ver- costing? <thutil ver-<br="">costing? until ver- costing?</thutil>	solids thick-ness mat. con-sumption application tempera- ture until over- cating ¹ at solids at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid at solid	solids thick ness mat. con- sumption application ture unil ver- ture at arc at core at core	solids solids thick ness mat. con- sumption application ture unti- coalign at coalign at coalign <t< td=""></t<>

 $^{1)}$ The drying times depend on the film thickness and refer to 80 - 100 μ m dry film thickness $^{2)}$ Data based on micaceous iron oxide colours $^{3)}$ Accelerated with SikaCor® PUR Accelerator



TABLE 6 PRODUCT FEATURES OF OUR TOP COATS

Top coats	Density	Volum	e solids	Dry film thick-ness	Theor. mat. consumption	Min. applica-	Waitin betv	ig time veen		Suitable	e primer	in term	s of refu	rbishment
					consumption	tion tem- perature	overco				arRat	and Solid	PIUS PI	AN IEU DE
	[kg/l]	Vol. [%]	Wt [%]	[µm]	[kg/m²]		at 10°C	at 20°C	SI	alor Anthing	acon 6530	High Solid	Primer Pi ScoroTop	NEW LEL Prime Posicion Prime Shees 1/1
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⁾	+ 5°C	36 h	24 h	•	•	•		•	
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⁾	+ 5°C	36 h	24 h	•	•	•		•	
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	+ 5°C	16 h 12 h ³⁾	12 h 4 h ³⁾					•	•
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	+ 5°C	18 h 13 h ³⁾	14 h 5 h ³⁾					•	•
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⁾	+ 5°C	20 h	11 h					•	•
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	+ 5°C	7 h	3,5					•	•
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	+ 5°C	6 h - 9 h 3 h - 4 h	4 h - 6 h 2 h - 3 h					•	•
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	+ 5°C	6 h - 9 h	4h-6h					•	•
SikaCor® 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 h	5 h					•	
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⁾	+ 5°C	24 h	12 h	•	•	•	•	•	
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	+ 5°C	14 h	5 h					•	
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	+ 5°C	18 h	8 h					•	•
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	+ 5°C	12 h	6 h					•	
$^{\circ}$ The drying times depend on the film thickness and refer to 80 - 100 µm dry film thickness $^{2)}$ Data ba	sed on mica	aceous iron oxi	de colours											

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



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APPLICATION AREAS

CORROSION PROTECTION

TRAFFIC CONSTRUCTION STEEL STRUCTURES



motorway bridge / road bridge

railway bridge

walkwav

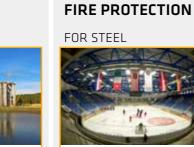
suspension bridge

port facilities

 centers for culture and events airnorts railway stations



 waterways port facilities flood protection steel sheet piles



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





mineral oil industry

 plants in atmospheric conditions refineries

CHEMISTRY AND

INDUSTRY





power stations pipelines wind energy mast coatings

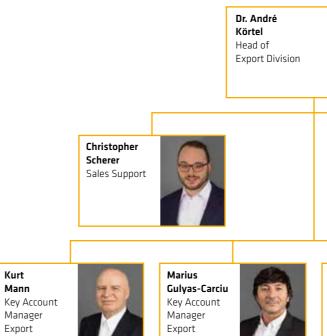


timber construction elements concrete

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.

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