

# TEKNODUR 0050 / 0090 POLYURETHANE SYSTEMS

# K29

9 5.3.2013

	L	M	H
C2	O		
C3			Zn
C4	O	Zn	Zn
C5	Zn	Zn	Zn

Coating systems for steel and zinc surfaces that will be exposed to atmospheric corrosion. The systems consist of chemically curing, solvent-borne two pack epoxy and polyurethane reactive paints. Semigloss TEKNODUR 0050 or gloss TEKNODUR 0090 weather-resistant polyurethane paint can be used for the topcoat.

## STEEL SURFACES:

Teknos Coating System Symbol	K29a	K29b	K29c	K29d	K29e	K29f
EN ISO 12944-5 (2007) symbol / corrosivity category / durability range	A2.06/C2/M A3.07/C3/L	A2.07/C2/H A3.08/C3/M	A3.09/C3/H	A4.08/C4/M	A4.09/C4/H	A5.02/C5-I/H A5M.02/C5-M/H
EN ISO 12944-5 (1998) symbol / corrosivity category / durability range	S2.15/C2/M S3.16/C3/L	S2.16/C2H S3.17/C3/M	S3.18/C3/H S4.12/C4/M S7.02/C5-M/L	S3.19/C3/H S4.13/C4/M	S4.14/C4/H S6.03/C5-I/H	S4.15/C4/H S6.04/C4-I/H S7.04/C5-M/H
The coating system structure:	EPPUR120/2- FeSa 2½	EPPUR160/3- FeSa 2½	EPPUR200/3- FeSa 2½	EPPUR240/4- FeSa 2½	EPPUR280/4- FeSa 2½	EPPUR320/4- FeSa 2½
INERTA PRIMER 5 Epoxy Primer	1 x 80 µm	1 x 80 µm	1 x 80 µm	1 x 80 µm	1 x 80 µm	1 x 80 µm
INERTA PRIMER 5 Epoxy Primer	-	1 x 40 µm	1 x 80 µm	2 x 60 µm	2 x 80 µm	2 x 100 µm
TEKNODUR 0050 or TEKNODUR 0090 Polyurethane Paint	1 x 40 µm	1 x 40 µm	1 x 40 µm	1 x 40 µm	1 x 40 µm	1 x 40 µm
Total film thickness	120 µm	160 µm	200 µm	240 µm	280 µm	320 µm
Coating system VOC, g/m <sup>2</sup> with TEKNODUR 0050	90	130	160	190	220	250

## ZINC SURFACES:

Teknos Coating System Symbol	K29g	K29h	K29i	K29j
EN ISO 12944-5 (2007) symbol / corrosivity category / durability range	A7.10/C3/H A7.10/C4/M A7.10/C5-I/L A7.10/C5-M/L	A7.11/C4/H A7.11/C5-I/M A7.11/C5-M/M	A7.12/C4/H A7.12/C5-I/M A7.12/C5-M/M	A7.13/C4/H A7.13/C5-I/H A7.13/C5-M/H
EN ISO 12944-5 (1998) symbol / corrosivity category / durability range	S9.10/C3/H S9.10/C4/M S9.10/C5-I/L S9.10/C5-M/L	S9.11/C4/H S9.11/C5-L S9.11/C5-M/M	S9.12/C4/H S9.12/C5-I/M S9.12/C5-M/H	S9.13/C4/H S9.13/C5-I/M S9.13/C5-M/H
The coating system structure:	EPPUR120/2- ZnSaS	EPPUR160/3- ZnSaS	EPPUR240/4- ZnSaS	EPPUR320/4- ZnSaS
INERTA PRIMER 5 Epoxy Primer	1 x 80 µm	1 x 80 µm	1 x 80 µm	1 x 80 µm
INERTA PRIMER 5 Epoxy Primer	-	1 x 40 µm	2 x 60 µm	2 x 100 µm
TEKNODUR 0050 or TEKNODUR 0090 Polyurethane Paint	1 x 40 µm	1 x 40 µm	1 x 40 µm	1 x 40 µm
Total film thickness	120 µm	160 µm	240 µm	320 µm
Coating system VOC, g/m <sup>2</sup> with TEKNODUR 0050	90	130	190	250

Example of the coating system's marking: K29a - EN ISO 12944-5/ A2.06(EPPUR120/2-FeSa 2½).

**USAGE**

Structural steel exposed to atmospheric corrosion, whenever good gloss and colour retention is essential.

Teknos symbol	Typical use
<b>Steel surfaces:</b>	
K29a	Protection for steel surfaces in corrosivity categories C2 and C3.
K29b	Protection for steel surfaces in corrosivity categories C2 and C3.
K29c	Protection for steel surfaces in corrosivity categories C3 and C4.
K29d	Protection for steel surfaces in corrosivity categories C3 and C4.
K29e	Protection for steel surfaces in corrosivity category C4.
K29f	Protection for steel surfaces in corrosivity categories C4 and C5.
<b>Zinc surfaces:</b>	
K29g	Protection for hot-dip-galvanized surfaces in corrosivity categories C3, C4 and C5.
K29h	Protection for hot-dip-galvanized surfaces in corrosivity categories C3, C4 and C5.
K29i	Protection for hot-dip-galvanized surfaces in corrosivity categories C3, C4 and C5.
K29j	Protection for hot-dip-galvanized surfaces in corrosivity categories C3, C4 and C5.

**Surface preparation**

Remove from the surfaces any contaminants that might be detrimental to surface preparation and painting. Remove also water-soluble salts by using appropriate methods. The surfaces are prepared according to the different materials as follows:

**Steel surfaces:** Remove mill scale and rust by blast cleaning to preparation grade Sa 2½ (standard ISO 8501-1). Roughening the surface of thin-plate improves the adhesion of the paint to the substrate.

**Zinc surfaces:** Hot-dip-galvanized steel structures that are exposed to atmospheric corrosion can be painted if the surfaces are sweep blast-cleaned (SaS) till matt all over. Suitable cleaning agents are, e.g. aluminium oxide and natural sand. It is not recommended to paint galvanized objects that are subjected to immersion strain. It is recommended that new zinc-coated thin-plate structures are treated with sweep blast-cleaning (SaS). Surfaces that have been weathered to matt can be treated also with PELTI-PESU Cleaning Agent.

The place and time of the preparation are to be chosen so that the prepared surface will not get dirty or damp before the subsequent treatment.

Additional instructive information for surface preparation can be found in standards EN ISO 12944-4 and ISO 8501-2.

**Prefabrication Primer**

The coating systems are compatible with KORRO E Epoxy Prefabrication Primer, KORRO SE Zinc Epoxy Prefabrication Primer and KORRO SS Zinc Silicate Prefabrication Primer.

**Continues**

**Application** Stir the components of the paints thoroughly before use. Mix base and hardener with each other in the proportions given on the paint labels and stir the mixture thoroughly. Mix only an amount sufficient to be used within the pot life of the mixture.

The temperature of the air and the surface as well as the relative air humidity during the application and drying period must conform to the figures given in the table. Higher temperatures speed up the drying process. The surface must be dry and free from dust.

The technical data of the paints are given in the table below and in the data sheets of the products.

**Maintenance** **Touch-up:** Surfaces with rust grades Ri 1 to Ri 3 can be repaired by touching up. Remove flaking paint and rust from damaged areas by scraping and blast-cleaning. Extend the preparation over the edges of damages into the intact coating. If required, feather the edges of prepared areas. Touch up the prepared patches with the paints of the system to the original film thickness.

**Complete renewal:** Surfaces with rust grade Ri 4 are to be repainted completely, as the coating has lost its protective power. Blast-clean the whole surface to grade Sa 2½ and paint from priming to top coat as for new work.

#### Technical Data

Paint	INERTA PRIMER 5		TEKNODUR 0050 or TEKNODUR 0090	
Data Sheet No.	87		TEKNODUR 0050: 682 TEKNODUR 0090: 683	
Paint Type	epoxy primer		polyurethane top coat	
Colours	red, yellow, grey and white		Teknomix tinting	
Finish	matt		TEKNODUR 0050: semigloss TEKNODUR 0090: gloss	
Thinner	TEKNOSOLV 9506		TEKNOSOLV 9521 or TEKNOSOLV 6220	
Methods of application	airless spray		airless spray	
Airless spray nozzle	0.013 - 0.018"		TEKNODUR 0050: 0.011 - 0.013" TEKNODUR 0090: 0.011 - 0.013"	
Application conditions				
- min. temperature	°C	+10	+5	
- max. relative humidity	%	80	80	
Safety markings	See Safety Data Sheet		See Safety Data Sheet	
Volume solids	%	55 ±2%	TEKNODUR 0050: 56 ±2 (ISO 3233:1988) TEKNODUR 0090: 50 ±2 (ISO 3233:1988)	
Total mass of solids	g/l	about 1000	TEKNODUR 0050: about 870 TEKNODUR 0090: about 730	
Volatile organic compound (VOC)	g/l	about 430	TEKNODUR 0050: about 430 TEKNODUR 0090: about 460	
Recommended film thickness			TEKNODUR 0050:	
- wet	µm	73 - 180	71	
- dry	µm	40 - 100	40	
			TEKNODUR 0090:	
			80	
			40	
Theoretical spreading rate	m <sup>2</sup> /l	13.7 - 5.5	TEKNODUR 0050: 14.0 TEKNODUR 0090: 12.5	
Drying time at +23°C / 50% RH		(dry film 60 µm)	(dry film 40 µm)	
- dust free, (ISO 9117-3:2010)		after 1 h	after 1 h	
- touch dry, (DIN 53150:1995)		after 3 h	after 6 h	
Overcoatable, 50% RH		by itself:	by itself:	
		min.	max.*	min.
				max.*
	+5°C			after 20 h
	+10°C	after 12 h	after 6 months	-
	+23°C	after 4 h	after 6 months	after 12 h
		with TEKNODUR 0050 or TEKNODUR 0090:		-
		min.	max.*	
	+10°C	after 12 h	after 7 d	
	+23°C	after 4 h	after 3 d	

\*Maximum overcoating interval without roughening.