

TEKNODUR 0050 / 0090 POLYURETHANE SYSTEMS

K40

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 top coat.

STEEL SURFACES:

Teknos Coating System Symbol	K40a	K40b	K40c	K40d	K40e	K40f
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/C2/H S3.17/C3/M	S3.18/C3/H S4.12/C4/L 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/C5-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
TEKNOPLAST 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
TEKNOPLAST 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 Top Coat	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 ² -TEKNODUR 0050 Polyurethane Top Coat	100	130	160	200	230	260

ZINC SURFACES:

Teknos Coating System Symbol	K40g	K40h	K40i	K40j
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-I/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
TEKNOPLAST PRIMER 5 Epoxy Primer	1 x 80 µm	1 x 80 µm	1 x 80 µm	1 x 80 µm
TEKNOPLAST PRIMER 5 Epoxy Primer	-	1 x 40 µm	2 x 60 µm	2 x 100 µm
TEKNODUR 0050 or TEKNODUR 0090 Polyurethane Top Coat	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 ² - TEKNODUR 0050 Polyurethane Top Coat	100	130	200	260

Example of the coating system's marking: K40a - 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
Steel surfaces:	
K40a	Protection for steel surfaces in corrosivity categories C2 and C3.
K40b	Protection for steel surfaces in corrosivity categories C2 and C3.
K40c	Protection for steel surfaces in corrosivity category C3.
K40d	Protection for steel surfaces in corrosivity categories C3 and C4.
K40e	Protection for steel surfaces in corrosivity category C4.
K40f	Protection for steel surfaces in corrosivity categories C4 and C5.
Zinc surfaces:	
K40g	Protection for hot-dip-galvanized surfaces in corrosivity categories C3, C4 and C5.
K40h	Protection for hot-dip-galvanized surfaces in corrosivity categories C3, C4 and C5.
K40i	Protection for hot-dip-galvanized surfaces in corrosivity categories C3, C4 and C5.
K40j	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 and KORRO SE Zinc Epoxy 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		TEKNOPLAST PRIMER 5	TEKNODUR 0050 or TEKNODUR 0090
Data Sheet	No.	918	TEKNODUR 0050: 682 TEKNODUR 0090: 683
Paint Type		epoxy primer	polyurethane top coat
Colours		red, white, yellow and grey	Teknomix tinting
Finish		semi-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 - 0.019"	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	%	53 ±2	TEKNODUR 0050: 56 ±2 (ISO 3233:1988) TEKNODUR 0090: 50 ±2 (ISO 3233:1988)
Total mass of solids	g/l	about 900	TEKNODUR 0050: about 870 TEKNODUR 0090: about 730
Volatile organic compound (VOC)	g/l	about 440	TEKNODUR 0050: about 430 TEKNODUR 0090: about 460
Recommended film thickness			TEKNODUR 0050:
- wet	µm	75 - 188	71
- dry	µm	40 - 100	40
			TEKNODUR 0090:
			80
			40
Theoretical spreading rate	m ² /l	13.2 - 5.3	TEKNODUR 0050: 14.0 TEKNODUR 0090: 12.5
Drying time at +23 °C / 50% RH - dust free, (ISO 9117-3:2010) - touch dry, (DIN 53150:1995) Overcoatable, 50% RH		(dry film 60 µm) after 1 h after 4 h by itself:	(dry film 40 µm) after 1 h after 6 h by itself:
		min.	max.*
		-	-
		after 6 h	after 6 months
		after 2 h	after 6 months
		after 12 h	-
		with TEKNODUR 0050 or TEKNODUR 0090:	-
		min.	max.*
		after 12 h	after 7 d
		after 4 h	after 3 d

* Maximum overcoating interval without roughening .