

# TEKNODUR 0050 / 0090 POLYURETHANE SYSTEMS

# K55

8 9.7.2013

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

Coating systems for steel surfaces that will be exposed to atmospheric corrosion. The systems consist of chemically curing, solvent-borne two pack epoxy and polyurethane reactive paints. The primer used on steel is TEKNOZINC 80 SE Zinc Rich Epoxy Paint, which protects the steel cathodically like zincing. Semigloss TEKNODUR 0050 or gloss TEKNODUR 0090 weather-resistant polyurethane paints can be used for the top coat.

Teknos Coating System Symbol	K55d	K55a	K55b	K55e	K55c
EN ISO 12944-5 (2007) symbol / corrosivity category/ durability range	A3.11/C3/H A4.13/C4/L	A4.14/C4/M	A4.15/C4/H A5I.04/C5-I/M A5M.05/C5-M/M	-	A5I.02/C5-I/H A5M.02/C5-M/H
EN ISO 12944-5 (1998) symbol / corrosivity category/ durability range	S3.21/C3/H S4.19/C4/L S6.05/C5-I/M	S3.22/C3/H S4.20/C4/M	S4.21/C4/H	S4.22/C4/H	S4.23/C4/H S7.09/C5-M/H
The coating system structure:	EPZn(R)EP PUR160/3- FeSa 2½	EPZn(R)EPPUR2 00/3- FeSa 2½	EPZn(R)EP PUR240/4- FeSa 2½	EPZn(R)EP PUR280/4- FeSa 2½	EPZn(R)EPPUR3 20/4- FeSa 2½
TEKNOZINC 80 SE Zinc Rich Epoxy Paint	1 x 40 µm	1 x 40 µm	1 x 40 µm	1 x 40 µm	1 x 40 µm
TEKNOPLAST PRIMER 7 Epoxy Primer	1 x 80 µm	1 x 120 µm	2 x 80 µm	2 x 100 µm	2 x 120 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
Total film thickness	160 µm	200 µm	240 µm	280 µm	320 µm
Coating system VOC, g/m <sup>2</sup> with TEKNODUR 0050 Top Coat	101	120	130	152	170

Example of the coating system's marking: K55a - EN ISO 12944-5/ A4.14(EPZn(R)EPPUR200/3-FeSa 2½).

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

Teknos symbol	Typical use
K55a	Protection for steel surfaces in corrosivity categories C3 and C4.
K55b	Protection for steel surfaces in corrosivity categories C4 and C5.
K55c	Steel surfaces outdoors in severe corrosivity, corrosivity category C5.
K55d	Protection for steel surfaces in corrosivity categories C3 and C4.
K55e	Protection for steel surfaces in corrosivity category C4.

**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).

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 SE Zinc Epoxy Prefabrication Primer and KORRO SS Zinc Silicate Prefabrication Primer.

**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 damaged parts 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.

**NOTE!** TEKNOZINC 80 SE is to be applied to bare steel only, not over an old paint coat.

**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		TEKNOZINC 80 SE	TEKNOPLAST PRIMER 7	TEKNODUR 0050 or TEKNODUR 0090	
Data Sheet	no.	940	956	TEKNODUR 0050: 682 TEKNODUR 0090: 683	
Paint Type		zinc rich epoxy paint	epoxy primer	polyurethane top coat	
Colours		bluish grey	grey, red and white	Teknomix tinting	
Finish		matt	semi-matt	TEKNODUR 0050: semigloss TEKNODUR 0090: gloss	
Thinner		TEKNOSOLV 9506	TEKNOSOLV 9506	TEKNOSOLV 9521, TEKNOSOLV 6220	
Methods of application		airless spray	airless spray	brush	
Airless spray nozzle		0.018 - 0.021" (turn-nozzle)	0.013 - 0.019"	TEKNODUR 0050: 0.011 - 0.013" TEKNODUR 0090: 0.011 - 0.013"	
Application conditions					
- min. temperature	°C	+10	+10	+5	
- max. relative humidity	%	80	80	80	
Safety markings		See Safety Data Sheet	See Safety Data Sheet	See Safety Data Sheet	
Volume solids	%	50 ±2	70 ±2 (ISO 3233:1988)	TEKNODUR 0050: 56 ±2 (ISO 3233:1988) TEKNODUR 0090: 50 ±2 (ISO 3233:1988)	
Volatile organic compound (VOC)	g/l	abt. 450	abt. 300	TEKNODUR 0050: 430 TEKNODUR 0090: 460	
Total mass of solids	g/l	abt. 1900	abt. 1200	TEKNODUR 0050: 870 TEKNODUR 0090: 730	
Recommended film thickness				TEKNODUR 0050:	
- wet	µm	80	114 - 214	71	
- dry	µm	40	80 - 150	40	
				TEKNODUR 0090:	
				80	
				40	
Theoretical spreading rate	m <sup>2</sup> /l	12.5	8.8 - 4.7	TEKNODUR 0050: 14.0 TEKNODUR 0090: 12.5	
Drying time at +23°C / 50% RH		(dry film 40 µm)	(dry film 80 µm)	(dry film 40 µm)	
- dust free, (ISO 9117-3:2010)		after 5 min	after 1 h	after 1 h	
- touch dry, (DIN 53150:1995)		after 30 min	after 4 h	after 6 h	
Overcoatable, 50% RH		by itself or TEKNOPLAST PRIMER 7:	by itself, TEKNODUR 0050 or TEKNODUR 0090	by itself:	
		min.	max.*	min.	max.*
	+5°C	-	-	after 20 h	-
	+10°C	after 6 h	after 3 months	after 12 h	after 7 d
	+23°C	after 1 h	after 3 months	after 4 h	after 3 d

\* Maximum overcoating interval without roughening.