

NORSOK M-501

Teknos' Coating System Guide



Ultimate corrosion protection

Teknos' NORSOK M-501 approved coating systems

We offer a versatile range of NORSOK M-501 approved coating systems for our customers to choose.

NORSOK M-501 – Surface preparation and protective coating

NORSOK M-501 standard gives the requirements for the selection of coating materials, surface preparation, application procedures and inspection for protective coatings to be applied during the construction and installation of offshore installations and associated facilities.

In this brochure, you will find Teknos' NORSOK M-501 approved coating systems for

- Structural steel
- Exteriors of equipment, vessels, piping and valves
- Flare booms and crane booms
- Insulated surfaces of tanks, vessels, piping
- Internal surface of carbon steel tanks
- Carbon and stainless steel in the splash zone
- Carbon steel surfaces exposed to operating temperature > 120 °C.
- Submerged carbon and stainless steel ≤ 50 °C
- Structural steel with operating temperature ≤ 80 °C in internal, fully dry and well ventilated areas.
- Bulk supplied carbon steel valves with operating temperatures up to 150 °C

Teknos' NORSOK M-501 approved coating systems ensure

- Optimal corrosion protection
- Easy maintenance and application
- Evaluated and documented health, safety and environmental impacts

Should you need any further information or assistance, our local technical support teams are happy to help you!

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Our NORSOK M-501 approved coating systems

COATING SYSTEM NO. 1

Carbon steel with maximum operating temperature <120°C.

Structural steel, exteriors of equipment, vessels, piping and valves (not insulated)

Pre-qualification required

Surface preparation:		Cleanliness: ISO 8501-1 Sa 2½ Roughness: ISO 8503 Grade Medium G (50µm-85µm, Ry5)	
Coating System		DFT (µm)	Test Certificate
1.1	TEKNOZINC 90 SE TEKNODUR COMBI 3560 TEKNODUR COMBI 3560	60 110 110	Report no. P702682-short SP, Sweden NORSOK M-501 rev. 5
	Total	280	
1.2	TEKNOZINC 3485 SE INERTA MASTIC MIOX INERTA MASTIC MIOX TEKNODUR AQUA 3390-09	60 110 110 40	Report no. VTT-S-09873-09 VTT, Finland NORSOK M-501 rev. 5
	Total	320	
1.3	TEKNOZINC 3485 SE INERTA MASTIC MIOX INERTA MASTIC MIOX TEKNOCRYL 2K 2540-05	60 110 110 40	Report no. P9902304-203/08 Short SP, Sweden NORSOK M-501 rev. 5 Tested and certified as free from di-isocyanates. (IFKAN No: 9252617)
	Total	320	
1.4	TEKNOZINC SS TEKNOPLAST PRIMER 7 TEKNOPLAST PRIMER 7 TEKNOCRYL AQUA COMBI 2780	60 40 140 40	Report no. P902304-170 Short SP, Sweden NORSOK M-501 rev. 5
	Total	280	
1.5	TEKNOZINC 90 SE TEKNOMASTIC 80 PRIMER TEKNODUR 0050	60 160 60	Certificate: ILAK, 6-9-15/1 Germany
	Total	280	
1.6	TEKNOZINC 80 SE TEKNOPLAST PRIMER 7 MIOX TEKNOPLAST PRIMER 7 TEKNODUR 0050	60 80 80 60	Certificate: ILAK, 6-9-15/2 Germany
	Total	280	

COATING SYSTEM NO. 2

Coating system no. 2A shall be used for all carbon steel surfaces exposed to operating temperature > 120 °C.

Coating system no. 2A or system no. 2B shall be used for the below carbon steel objects – All insulated surfaces of tanks, vessels, piping. – Flare booms and crane booms.

Underside of bottom deck included piping, jacket above splash zone lifeboat stations are optional areas (to be decided in each project).

Surface preparation:		Cleanliness: ISO 8501-1 Sa 2½ Roughness: ISO 8503 Grade Medium G (50µm-85µm, Ry5)	
Coating System		DFT (µm)	Test Certificate
2A.1	TEKNOPLAST PRIMER 3 (Diluted 20 vol-% with TEKNOSOLV 9506)*	Sealer	Sealer for thermally Sprayed Aluminium. Service temperature below 120°C.
	Total		
2A-2	TEKNOHEAT 500 RAL-9006 (Siliconaluminium)	Sealer	Sealer for thermally Sprayed Aluminium. Service temperature above 120°C.
	Total		
2A-3	INERTA 300	150 150	Alternative to Thermal Sprayed Aluminium. For insulated surfaces at service temperatures below 120°C.
	Total	300	
2B-1	TEKNOPLAST PRIMER 3 (Diluted 20 vol-% with TEKNOSOLV 9506)*	25	NOTE 2. Intermediate coat and top coat must be pre-qualified as part of system No.1. Applied on top of 100 µm Thermal Sprayed Zinc and alloys of Zinc. Not recommended for use under Insulation.
	TEKNOPLAST PRIMER 7 TEKNOCRYL 2K 2540-05**	125 75	
	Total	225	
2B-2	TEKNOPLAST PRIMER 3 (Diluted 20 vol-% with TEKNOSOLV 9506)*	25	NOTE 2. Intermediate coat and top coat must be pre-qualified as part of system No.1. Applied on top of 100 µm Thermal Sprayed Zinc and alloys of Zinc. Not recommended for use under Insulation.
	INERTA MASTIC MIOX TEKNOCRYL 2K 2540-05**	125 75	
	Total	225	

* TEKNOPLAST PRIMER 3 may be replaced with TEKNOPLAST PRIMER 5

** TEKNOCRYL 2K 2540-05 may be replaced with TEKNOCRYL AQUA COMBI 2780 or TEKNODUR COMBI 3560 in Coating system 2B-1 & 2. When an isocyanate-free product is required, TEKNOCRYL 2K 2540-05 or TEKNOCRYL AQUA COMBI 2780 should be used.

COATING SYSTEM NO. 3 (System no. 3B shall be pre-qualified)

Internal surface of carbon steel tanks

3A. Potable water tanks

Surface preparation:		Cleanliness: ISO 8501-1 Sa 2½ Roughness: ISO 8503 Grade Medium G (50µm-85µm, Ry5)	
Coating System		DFT (µm)	Remarks
3A	INERTA 200	300 300	Report no. ELI0231 and ELI0232 by the Technical Research Centre of Finland.
	Total	600	

All products used internally in potable water tanks and fresh water tanks shall be approved for such use by end users' governing requirements/local authorities.

3B. Ballast tanks

Surface preparation:		Cleanliness: ISO 8501-1 Sa 2½ Roughness: ISO 8503 Grade Medium G (50µm-85µm, Ry5)	
Coating System 3B		Remarks	
3B	TEKNOMASTIC 80 PRIMER TEKNOMASTIC 80 PRIMER TEKNOMASTIC 80 PRIMER	200 200 200	Report no. 11-17-14/1 by ILAK.
	Total	600*	

* Approved according to NORSOK M-501 Edition 6.

3C. Tanks for stabilised crude, disel and condensate

Surface preparation:		Cleanliness: ISO 8501-1 Sa 2½ Roughness: ISO 8503 Grade Medium G (50µm-85µm, Ry5)	
Coating System		DFT (µm)	Remarks
3C	INERTA 270 INERTA 270	150 150	Please consult your Teknos representative for further advice regarding service temperatures or alternative coating systems
	Total	300	

3D. Process vessels < 0,3 MPa < 75 °C

Pre-qualification not required

Surface preparation:		Cleanliness: ISO 8501-1 Sa 2½ Roughness: ISO 8503 Grade Medium G (50µm-85µm, Ry5)	
Coating System		DFT (µm)	Remarks
3D-1	INERTA 280	400	Please consult your Teknos representative for further advice regarding service temperatures or alternative coating systems
	Total	400	

3G. Vessels for storage of methanol, mono ethyl glycol etc.

Pre-qualification not required

Surface preparation:		Cleanliness: ISO 8501-1 Sa 2½ Roughness: ISO 8503 Grade Medium G (50µm-85µm, Ry5)	
Coating System 3B		Remarks	
3G	TEKNOZINC SS	80	
	Total	80	

COATING SYSTEM NO. 6

Other metals

Surface preparation:		System no. 6A: Sweep blasting with non-metallic and chloride free grit to obtain anchor profile of approximately 25 µm to 85 µm. System no. 6B: Cleaning with alkaline detergent followed by hosing with fresh water System no. 6C: Sweep blasting with non-metallic and chloride free grit to obtain anchor profile of approximately 25 µm to 85 µm.	
Coating System		DFT (µm)	Remarks
6A/B	TEKNOPLAST PRIMER 3* TEKNOPLAST PRIMER 7 MIOX** TEKNOCRYL 2K 2540-05***	50 125 50	Un-insulated stainless steel when painting is required. Aluminium when painting is required.
	Total	225	
6C	INERTA 300 INERTA 300	125 125	Insulated stainless steel piping and vessels at temperatures < 150°C
	Total	250	

* TEKNOPLAST PRIMER 3 may be replaced with TEKNOPLAST PRIMER 5

** TEKNOPLAST PRIMER 7 MIOX may be replaced with INERTA MASTIC MIOX.

*** TEKNOCRYL 2K 2540-05 may be replaced with TEKNODUR AQUA 3390-09, TEKNOCRYL AQUA COMBI 2780 or TEKNODUR COMBI 3560.
When an isocyanate-free product is required, TEKNOCRYL 2K 2540-05 or TEKNOCRYL AQUA COMBI 2780 should be used.

Coating System no. 7

7A Carbon and stainless steel in the splash zone
 7B Submerged carbon and stainless steel ≤ 50 °C
 7C Submerged, temperature above 50 C

Pre-qualification not required

Surface preparation:		Cleanliness: ISO 8501-1 Sa 2½ Roughness: ISO 8503 Grade Medium G (50µm-85µm, Ry5)	
Coating System		DFT (µm)	Remarks
7A	TEKNOMASTIC 80 PRIMER	200 200 200	Certificate: ILAK-11-17-14/1 ILAK, Germany NORSOK M-501 Edition 6
	Total	600	
7B	TEKNOMASTIC 80 PRIMER TEKNOMASTIC 80 PRIMER	175 175	Certificate: ILAK-11-17-14/2 ILAK, Germany NORSOK M-501 Edition 6
	Total	350	

COATING SYSTEM NO. 8

Structural steel with operating temperature ≤ 80 °C in internal, fully dry and well ventilated areas.

Surface preparation:		Cleanliness: ISO 8501-1 Sa 2½	
Coating System		DFT (µm)	Remarks
8A	TEKNOMASTIC 80 PRIMER	150	Please consult your Teknos representative for further advice regarding service temperatures or alternative coating systems
	Total	150	
8B	TEKNOZINC 80 SE TEKNOPLAST PRIMER 5	60 25	Tie coat: TEKNOPLAST PRIMER 5 (diluted 20 vol-% with TEKNOSOLV 9506)
	Total	85	

COATING SYSTEM NO. 9

Bulk supplied carbon steel valves with operating temperatures up to 150 °C.

Pre-qualification not required

Surface preparation:		Cleanliness: ISO 8501-1 Sa 2½ Roughness: ISO 8503 Grade Medium G (50µm-85µm, Ry5)	
Coating System		DFT (µm)	Remarks
9	INERTA 300 INERTA 300	150 150	2 coats epoxy phenolic
	Total	300	
9	TEKNOZINC SS TEKNOPLAST PRIMER 3 (diluted 20 vol-% with TEKNOSOLV 9506)	75 25	zinc silicate epoxy tie coat
	Total	100	

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The Teknos Group

Teknos is one of Europe's leading suppliers of industrial coatings with a strong position in retail and architectural coatings.

Teknos has its own production in seven countries: Finland, Sweden, Denmark, Germany, Poland, Russia and China. In addition, Teknos has sales companies in 16 countries and exports to more than 20 countries via a well-established network of dealers.

Teknos employs around 1 200 staff. Teknos was established in 1948 and is one of Finland's largest family-owned businesses.

● Group companies

● Network of dealers

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