

SYSTEMS FOR BOOTTOP AND TOPSIDE**3102**

an eight page issue

January 2010
revision of May 2008

Application areas: Boottop and Topside of the outside hull of vessels

Contains following specifications:

Specification 1: multi-purpose epoxy coating system	linked with 3101-spec. 1
Specification 2: multi-purpose epoxy coating system	linked with 3101-spec. 2
Specification 3: multi-purpose epoxy/polyurethane coating system	linked with 3101-spec. 1
Specification 4: multi-purpose epoxy/polyurethane coating system	linked with 3101-spec. 2
Specification 5: recoatable epoxy system	linked with 3101-spec. 1 or 2
Specification 6: high solids reinforced epoxy coating system	linked with 3101-spec. 3 or 4
Specification 7: high solids, glassflake reinforced epoxy coating system	linked with 3101-spec. 3 or 4
Specification 8: high solids epoxy mastic coating system	linked with 3101-spec. 5
Specification 9: solvent free abrasion resistant epoxy coating system	linked with 3101-spec. 6
Specification 10: chlorinated rubber/modified acrylic coating system	linked with 3101-spec. 7
Specification 11: alkyd coating system	

SURFACE PRETREATMENT

The quality of the surface pretreatment affects the performance of boottop and topside systems, particularly when for the boottop area cathodic protection is applied. Optimal results will only be obtained only obtained on substrates blast cleaned to ISO-Sa2½, which means that up to the deep loadline the shop primer should be removed. This is particularly important when (underfilm) corrosion has already started. Also the right blasting profile will be obtained.

ACCEPTANCE OF SHOP PRIMER

The quality and generic type of shop primer will determine the performance of the coating system. The types of shop primer acceptable are those which are equivalent to SigmaWeld 165 and SigmaWeld 199 - zinc silicate and approved by PPG Protective & Marine Coatings. In addition, the condition of the shop primer with regard to degradation and underfilm corrosion will determine the performance of the total system.

These remarks are of particular importance when cathodic protection is installed.

The general condition of the weathered shop primer may vary widely throughout the structure and in many instances it is difficult to assess the severity of breakdown.

Experience shows that reblasting of corroded shop primed steel to ISO-Sa2½ is the most satisfactory method of correcting corrosion defects and eliminating the detrimental effect of surface contamination.

Approved shop primers in good condition should be cleaned to remove contamination and/or zinc salts. If necessary sweep blasting according to SPSS-Ss or mechanical cleaning according to SPSS-Pt3 should be carried out.

Special attention should be taken for heat damaged areas, including areas alongside weldseams and backburns.

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SPECIFICATION 1	multi-purpose epoxy system for BOOTTOP and TOPSIDE	
pretreatment	steel; blast cleaned to ISO-Sa2½, blasting profile 40 - 70 µm steel with approved zinc silicate shop primer; sweep blasted to SPSS-Ss, or power tool cleaned to SPSS-Pt3	
paint system	SigmaPrime 700	125 µm
	SigmaCover 456	125 µm
notes	<ul style="list-style-type: none"> – if a durable topcoat is required for topsides, an extra coat of PSX 700 (gloss), SigmaDur 1800 (gloss), SigmaDur 550 (gloss) or SigmaDur 520 (semi gloss) can be applied – at temperatures below 5°C, SigmaPrime 700 can be replaced by SigmaPrime 700 LT 	
maintenance	should preferably be carried out to this specification	

SPECIFICATION 2	multi-purpose epoxy system for BOOTTOP and TOPSIDE	
pretreatment	steel; blast cleaned to ISO-Sa2½, blasting profile 40 - 70 µm steel with approved zinc silicate shop primer; sweep blasted to SPSS-Ss, or power tool cleaned to SPSS-Pt3	
paint system	SigmaPrime 200	125 µm
	SigmaCover 456	125 µm
notes	<ul style="list-style-type: none"> – if a durable topcoat is required for topsides, an extra coat of PSX 700 (gloss), SigmaDur 1800 (gloss), SigmaDur 550 (gloss) or SigmaDur 520 (semi gloss) can be applied – at temperatures below 5°C, SigmaPrime 200 can be replaced by SigmaPrime 200 LT 	
maintenance	should preferably be carried out to this specification	

SPECIFICATION 3	multi-purpose epoxy/polyurethane coating system for TOPSIDE	
pretreatment	steel; blast cleaned to ISO-Sa2½, blasting profile 40 - 70 µm steel with approved zinc silicate shop primer; sweep blasted to SPSS-Ss, or power tool cleaned to SPSS-Pt3	
paint system	SigmaPrime 700	150 µm
	SigmaDur 550	50 µm
	SigmaDur 550	50 µm
note	at temperatures below 5°C, SigmaPrime 700 can be replaced by SigmaPrime 700 LT	
maintenance	should preferably be carried out to this specification	

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SPECIFICATION 4	multi-purpose epoxy/polyurethane coating system for TOPSIDE	
pretreatment	steel; blast cleaned to ISO-Sa2½, blasting profile 40 - 70 µm steel with approved zinc silicate shop primer; sweep blasted to SPSS-Ss, or power tool cleaned to SPSS-Pt3	
paint system	SigmaPrime 200	150 µm
	SigmaDur 550	50 µm
	SigmaDur 550	50 µm
note	at temperatures below 5°C, SigmaPrime 200 can be replaced by SigmaPrime 200 LT	
maintenance	should preferably be carried out to this specification	

SPECIFICATION 5	recoatable epoxy system for TOPSIDE	
pretreatment	steel; blast cleaned to ISO-Sa2½, blasting profile 40 - 70 µm steel with approved zinc silicate shop primer; sweep blasted to SPSS-Ss, or power tool cleaned to SPSS-Pt3	
paint system	SigmaCover 435	125 µm
	SigmaCover 456	125 µm
notes	if a durable topcoat is required for topsides, an extra coat of PSX 700 (gloss), SigmaDur 1800 (gloss), SigmaDur 550 (gloss) or SigmaDur 520 (semi gloss) can be applied	
maintenance	should preferably be carried out to this specification	

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SPECIFICATION 6

high solids reinforced epoxy system for BOOTTOP and TOPSIDE with excellent resistance to mechanical impact, and abrasion

pretreatment

steel; blast cleaned to ISO-Sa2½, blasting profile 40 - 70 µm
steel with approved zinc silicate shop primer; sweep blasted to SPSS-Ss, or power tool cleaned to SPSS-Pt3

paint system

SigmaShield 220	125 µm
SigmaShield 420	125 µm
SigmaCover 456	75 µm

notes

- SigmaShield 220 can be replaced by SigmaPrime 200 or 700
- if a durable topcoat is required for topsides, SigmaCover 456 can be replaced by PSX 700 (gloss), SigmaDur 1800 (gloss), SigmaDur 550 (gloss) or SigmaDur 520 (semi gloss)
- at temperatures below 5°C, SigmaShield 220 and SigmaShield 420 can be replaced by the LT versions

maintenance

should preferably be carried according to this specification

pretreatment;

in case of hydrojetted to VIS WJ2/3 L or ISO Wa 2½ L SigmaCover 280 should be applied as first coat at a dft of 50 µm (for more info see sheet 1498)

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SPECIFICATION 7

high solids, glassflake reinforced epoxy system on top of in situ applied epoxy primer for BOOTTOP (and topside), with good resistance to heavy impact (fender areas - ice going vessels) can be finished with a recoatable epoxy coating

pretreatment	steel; blast cleaned to ISO-Sa2½, blasting profile 50 - 100 µm	
paint system	SigmaShield 220	100 µm
	SigmaShield 460	400 µm
notes	<ul style="list-style-type: none"> - if a holding primer is required, SigmaShield 220 can be replaced by SigmaCover 280 at a dft of 50 µm - if a recoatable epoxy coating is required as top coat, SigmaCover 456 at a dft of 75 µm can be applied on top of SigmaShield 460 - if a durable topcoat is required, an extra coat of PSX 700 (gloss) SigmaDur 1800 (gloss), SigmaDur 550 (gloss) or SigmaDur 520 (semi gloss) can be applied - at temperatures below 5°C, SigmaShield 220 and SigmaShield 460 can be replaced by the LT versions 	
maintenance	should preferably be carried according to this specification	

SPECIFICATION 8

high solids, epoxy mastic coating system for maintenance of BOOTTOP and TOPSIDE with good resistance to mechanical impact

pretreatment	steel; blast cleaned to ISO-Sa2½, blasting profile 40 - 70 µm steel with approved zinc silicate shop primer; sweep blasted to SPSS-Ss, or power tool cleaned to SPSS-Pt3	
paint system	SigmaCover 380	125 µm
	SigmaCover 630	125 µm
note	<ul style="list-style-type: none"> - SigmaCover 380 can be replaced by SigmaCover 630 aluminium - at temperatures below 5°C, SigmaCover 380 can be replaced by SigmaCover 380 LT - if a durable topcoat is required, an extra coat of PSX 700 (gloss), SigmaDur 1800 (gloss), SigmaDur 550 (gloss) or SigmaDur 520 (semi gloss) can be applied 	
maintenance	should preferably be carried out according to this specification	
pretreatment;	in case of hydrojetted to VIS WJ2 L or ISO Wa 2½ L SigmaCover 280 should be applied as first coat at a dft of 50 µm (for more info see sheet 1498)	

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SPECIFICATION 9	solvent free, abrasion resistant epoxy system for BOOTTOP and TOPSIDE, with excellent resistance to mechanical impact (e.g. for ice going and ice breaking vessels) and well designed cathodic protection	
pretreatment	steel; blast cleaned to ISO-Sa2½, blasting profile 50 - 100 µm	
paint system	SigmaShield 1200	400 µm
	SigmaCover 456	75 µm
note	<ul style="list-style-type: none"> – at temperatures below 5°C, SigmaShield 1200 can be replaced by SigmaShield 1200 LT – if a durable topcoat is required, SigmaCover 456 can be replaced by PSX 700 (gloss), SigmaDur 1800 (gloss), SigmaDur 550 (gloss) or SigmaDur 520 (semi gloss) 	
maintenance	should preferably be carried out to this specification	

SPECIFICATION 10	chlorinated rubber/modified acrylic system for maintenance of BOOTTOP and TOPSIDE	
pretreatment	steel; blast cleaned to ISO-Sa2½, blasting profile 40 - 70 µm steel with approved zinc silicate shop primer; sweep blasted to SPSS-Ss or power tool cleaned to SPSS-Pt3	
paint system	Sigma Vikote 18	75 µm
	Sigma Vikote 46	100 µm
	Sigma Vikote 56	35 µm
maintenance	should preferably be carried out to this specification	
Note	Sigma Vikote 46 and 56 have good overcoating and good drying characteristics also below 0°C, which simplifies maintenance	

SPECIFICATION 11	alkyd system for TOPSIDE, colours black, redbrown or green (4199)	
pretreatment	steel; blast cleaned to ISO-Sa2½, blasting profile 40 - 70 µm steel with approved zinc silicate shop primer; sweep blasted to SPSS-Ss or power tool cleaned to SPSS-Pt3	
paint system	Sigmarine 28	75 µm
	Sigmarine 28	75 µm
	Sigmarine 48	35 µm
	Sigmarine 48	35 µm
Note	Sigmarine 48 can be replaced by Sigma Vikote 56	
maintenance	should preferably be carried out to this specification	

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MAINTENANCE

As in normal dry-docking practice, fouling, loose paint and other contaminants should be removed by high pressure water cleaning (HPWC). The removal of an oil or grease belt can be achieved by scraping heavy deposits from the surface followed by high pressure water cleaning in combination with the use of suitable detergents.

This should be followed by a thorough fresh water wash and drying prior to blasting and/or repainting. It might, however, be necessary to blast clean such areas after this operation when oil has penetrated the underlying paint systems. Rusty spots should be pretreated by blast cleaning and touched up with the original anticorrosive system within the requirements given in the relevant specifications.

REFERENCES

PSX 700

Sigma Vikote 18

Sigma Vikote 46

Sigma Vikote 56

SigmaCover 280

SigmaCover 380

SigmaCover 380 LT

SigmaCover 435

SigmaCover 456

SigmaCover 630

SigmaDur 1800

SigmaDur 520

SigmaDur 550

SigmaPrime 200

SigmaPrime 200 LT

SigmaPrime 700

SigmaPrime 700 LT

Sigmarine 28

Sigmarine 48

SigmaShield 220

SigmaShield 220 LT

SigmaShield 420

SigmaShield 420 LT

SigmaShield 460

SigmaShield 460 LT

SigmaShield 1200

SigmaShield 1200 LT

SigmaWeld 165

SigmaWeld 199

Cleaning of steel and removal of rust

Hydrojetting

Prefabrication primers

see product data sheet 7318

see product data sheet 7350

see product data sheet 7355

see product data sheet 7417

see product data sheet 7979

see product data sheet 7980

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see product data sheet 7171

see product data sheet 7177

see information sheet 1490

see information sheet 1498

see system sheet 3015

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