



# Notes-To-File

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 REF.NO : PMD2/16/010  
 DATE : 25th April 2016  
 SUBJECT : **MCU Coating Application**

This note to file is written as interim approval for MCU Coating system prior to SES 47.1 revision scheduled to be completed in year 2016.

## Approval

MCU Coating system is already inside the TAMAP listing for Coating system FC2M. Additional DEP testing requirement<sup>1</sup> for system FC1-N/M are the Cathodic disbonding and Sea water immersion. The proposed coating system completed the 4200hrs seawater immersion test<sup>2</sup>, and pass without any blister or flaking. Cathodic disbondment test were conducted as per ASTM G8 and G95.

## Case For Change

Key benefits of applying MCU Coatings are the tolerance to a wider range of humidity in application environment which proves to be of challenges especially for maintenance painting works at offshore platform. Based on case study conducted for F06 foam deck maintenance painting, the product will required almost half of the duration required should we were to use existing coating system 5A<sup>3</sup>.

## Proposed Coating System

Following are the proposed MCU Coating system as alternative to the current SES 47.1 Rev 8.

Clause 6.4.1: Carbon Steel and Low Alloy Steels Maximum Op Temperature < 120°C

Type of painting work	System Code	Coating Systems		DFT (µm)
<b>Non- Insulated systems in Atmospheric Zone</b>				
Minimum Surface Preparation: Blast Cleaning to ISO- 8501-1, Sa 2½				
New and Maintenance Painting	Equivalent to 1A	Primer	Moisture Cured Zinc	100
		Midcoat	High Solids Moisture Cured Intermediate	125
		Topcoat	Moisture Cured Polyurethane	75
		<b>Total NDFT</b>		<b>300</b>
Minimum Surface Preparation: Power tool cleaning to ISO 8501-1, St 3				

<sup>1</sup> DEP 30.48.00.31 : Protective Coatings For Onshore And Offshore Facilities (Feb 2015)

<sup>2</sup> ISO 20340 : Paints and varnishes – Performance requirements for protective paint systems for offshore and related structures (Sub ISO 2812-2)

<sup>3</sup> SES 47.1 Rev 8 : Coating system for Offshore Platform Decks

Maintenance Painting	Equivalent to 1B	Primer	Moisture Cured Zinc	100
		Midcoat	High Solids Moisture Cured Intermediate	125
		Topcoat	Moisture Cured Polyurethane	75
			<b>Total NDFT</b>	<b>300</b>
<b>Alternative Coating System for sweating pipe work</b>				
Minimum Surface Preparation: Wet abrasive blasting to SSPC-SP 10/NACE No.2, WAB-10				
Maintenance Painting	Equivalent to 1C	Primer	Moisture Cured Zinc	100
		Midcoat	High Solids Moisture Cured Intermediate	125
		Topcoat	Moisture Cured Polyurethane	75
			<b>Total NDFT</b>	<b>300</b>

Clause 6.4.3: Steel Structures / Members (Primary and secondary including boat landing and caissons) in All Zones (Splash, Spray and Atmospheric Zones); Risers above Splash Zone, piping equipments in Spray Zone

Type of painting work	System Code	Coating Systems		DFT (µm)
Minimum Surface Preparation: Power tool cleaning to ISO 8501-1, St 3				
Maintenance Painting	Equivalent to 4A	Primer	Moisture Cured Zinc	100
		Midcoat	High Solids Moisture Cured Intermediate	125
		Topcoat	Moisture Cured Polyurethane	75
		Quick Cure Accelerator (5% of volume)		
			<b>Total NDFT</b>	<b>300</b>

Clause 6.4.4: Offshore Platform Decks

Type of painting work	System Code	Coating Systems		DFT (µm)
Minimum Surface Preparation: Power tool cleaning to ISO 8501-1, St 3				
Maintenance Painting	Equivalent to 5A	Primer	Moisture Cured Zinc	100
		Midcoat	High Solids Moisture Cured Intermediate	125
		Topcoat	Moisture Cured Polyurethane	75
		Antiskid Aluminium Oxide 20-30 mesh		
			<b>Total NDFT</b>	<b>300</b>

### Way Forward


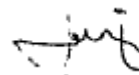

MCU coating is tested as per required in DEP via both test done by COT<sup>4</sup> and IIT<sup>5</sup>, prior to inclusion inside the TAMAP list. MCU Coating is favourable to be used as alternatives to the current coating system due to the tolerance towards surface preparation and moisture control which were 2 of the most related issues we currently have in our facilities offshore.

### Conclusion

In this assessment, it is agreed that the proposed coating system are allowed to be applied as alternatives to current painting system spelt in SES 47.1 Rev 8.

<sup>4</sup> Testing of system MCU according to various test of Shell DEP 70.48.11.30, Haarlem February 8th 2013, LAB13-0071-REP (Attachment ii)

<sup>5</sup> Testing of MXU coating system for External Buried Pipe Coating, AST M G8 & G95, Prof A.S Khanna, September 10th 2012, IN/ASK-21/12-13

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Attachment:-

- i) Coating zone classification



Coating Zone  
Classification.jpg

- ii) Lab test result for test as per DEP



REF S 4 MCU  
REFERENCE - SHELL

- iii) Miozinc TDS



P 2. MCU - MIO  
ZINC - TDS.I

- iv) Miomastic TDS



P 7. MCU - MIO  
MASTIC - TDS.

- v) Miotopcoat TDS



P 5. MCU - MIO  
TOP COAT - TDS.I

- vi) MCU Quickcure



P 8. MCU - QUICK  
CURE ACCELERATOR

- vii) Test report covering Cathodic Disbonding under ASTM Standards



India-Test-IIT Test  
Report for UG Piping