



REPORT

Testing of MCU-Miozinc, MCU-Aluprime and MCU-Miotopcoat according to various items of ISO 12944 C5-M

Haarlem, 17th January 2002
RB/MH

Principal : MC Technology Belgium BVBA
Zandstraat 147
9120 Haasdonk
Belgium

Order number : 28.575

Report number : LB-02-037-RAP

Copy Right This report contains 6 numbered pages and is property of COT BV (Netherlands). No part of this report may be copied, distributed, inserted in any text document, or reproduced in any other way or published, without written permission of COT BV (Netherlands). This report is not transferable to any person or body, serves only to take cognizable and gives in no way the rights on this report, neither can lay a claim to any in this report discussed product or method. Use of information from this report is not permitted without written permission of COT BV. When not agreed in the by COT BV provided order confirmation, our Rules of Service are applicable.



COT BV
Zijlweg 340-342
2015 CP HAARLEM
Postbus 98
2050 AB Overveen
Tel.: 023-5319544

Adviesdienst Zuid
Havenweg 20A
Postbus 308
5140 AH Waalwijk
Tel.: 0416-652205
Fax: 0416-34733

Adviesdienst Oost
Ondernemercentrum Esrein
Steenbakkersweg 25
Postbus 243
7550 AE HENGELO



CONTENTS

1. INTRODUCTION	3
2. GENERAL DATA.....	3
3. SUSTRATE	3
4. PAINT APPLICATION AND CURING.....	3
5. RESULTS	4
6. CONCLUSIONS.....	6



1. INTRODUCTION

By order of MC Technology Belgium BVBA at Haasdonk, Centrum voor Onderzoek en Technisch advies (COT BV) has carried out tests according to the Norsok Standard M-501, Rev 4.

2. GENERAL DATA

Sample	Colour	Batch number	COT sample number
MCU-Miozinc	Grey	--	10-04-01/224
MCU-Aluprime	Grey	104.11	10-04-01/226
MCU-Topcoat	White	106.98	10-04-01/220

3. SUSTRATE

Mild steel panels, dimensions 100 x 150 x 5 mm, blast cleaned to surface preparation grade Sa 2½ with titanium cast-steel alloy grit, size 0.4 - 1.1 mm.

Roughness:

Ra : 9 - 13 micrometers

Rz : 55 - 65 micrometers

Rmax : 70 - 75 micrometers

4. PAINT APPLICATION AND CURING

The coatings have been sprayed according to the recommendations of the manufacturer.

After 3 weeks curing at $23 \pm 2^\circ\text{C}$ and $50 \pm 5\%$ R.H. the dry film thickness of the paint system have been measured on each panel, after which the tests have been started.

Remark: after application there is microblistering perceived in the topcoat. The blisters do not reach penetrate the topcoat. The microblistering is not taken in account with further assessments.

Paintsystem

Required durability: C5-M

	Generic type	Trade name	NDFT (μm)
1 st coat	Moisture Cured Polyurea	MCU-Miozinc	75
2 nd coat	Moisture Cured Polyurea	MCU-Aluprime	50
3 rd coat	Moisture Cured Polyurea	MCU-Miotopcoat	75
			Total: 200

5. RESULTS

Panelcode: A = reference panels SS = Salt Spray
 C = Condensation test CH = Chemical Resistance

Tests	Panel			Requirements
	Panel A1			
Measured DFT (µm)	161 ± 6			
Assesment before tests: ISO 4624 (adhesion DFT >250 µm in MPa) ISO 2409 (adhesion DFT ≤ 250 µm)	6.1 ± 1 class 0 (3mm)			≥5 MPa or no adhesion break to substrate class 0-1
	Panel C3.1	Panel C3.2	Panel C3.3	
Measured DFT (µm)	237 ± 23	270 ± 24	242 ± 38	
Test 1: ISO 6270 Exposure time: 720 h Assessment after testing: ISO 4628-2 (blistering) ISO 4828-3 (rusting) ISO 4628-4 (cracking) ISO 4628-5 (flaking) ISO 4624 (adhesion DFT > 250 µm in MPa) ISO 2409 (adhesion DFT ≤ 250 µm)	0 (SD) Ri 0 0 0 -- Class 0 (3mm)	0 (SD) Ri 0 0 0 -- Class 0 (3mm)	0 (SD) Ri 0 0 0 -- Class 0 (3mm)	0 (SD) Ri 0 0 0 ≥ 5 MPa or no adhesion break to substrate Class 0-1

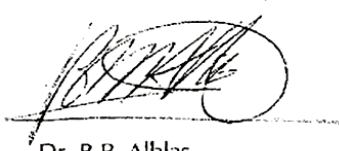


Tests	Panel			Requirements
	Panel SS3.1	Panel SS3.2	Panel SS3.3	
Measured DFT (µm)	255 ± 10	254 ± 11	254 ± 12	
Test 2: ISO 7253 Exposure time: 1440 h Assessment after testing: ISO 4628-2 (blistering) ISO 4828-3 (rusting) ISO 4628-4 (cracking) ISO 4628-5 (flaking) ISO 4624 (adhesion DFT > 250 µm in MPa) ISO 2409 (adhesion DFT ≤ 250 µm) Annex A (corrosion of substrate from scratch in mm)	0 (SD) Ri 0 0 0 Class 0 (3mm) 0.37	0 (SD) Ri 0 0 0 Class 0 (3mm) 0.58	0 (SD) Ri 0 0 0 Class 0 (3mm) 0.66	0 (SD) Ri 0 0 0 ≥ 5 MPa or no adhesion break to substrate Class 0-1 ≥ 1 mm
	Panel CH4	Panel CH5	Panel CH6	
Measured DFT (µm)	216 ± 24	223 ± 18	241 ± 23	
Test 3: ISO 2812 Miniral Spirits 18 % aromatics Exposure time: 168 h Assessment after testing: ISO 4628-2 (blistering) ISO 4828-3 (rusting) ISO 4628-4 (cracking) ISO 4628-5 (flaking) ISO 4624 (adhesion DFT > 250 µm in MPa) ISO 2409 (adhesion DFT ≤ 250 µm)	0 (SD) Ri 0 0 0 -- Class 0 (3mm)	0 (SD) Ri 0 0 0 -- Class 0 (3mm)	0 (SD) Ri 0 0 0 -- Class 0 (3mm)	0 (SD) Ri 0 0 0 ≥ 5 MPa or no adhesion break to substrate Class 0-1

6. CONCLUSIONS


The system consisting of MCU-Miozinc, MCU-Aluprime, MCU-Topcoat meets the requirements of ISO 12944 C4 C5-M

CENTRUM VOOR ONDERZOEK
EN TECHNISCH ADVIES (COT)



Dr. B.P. Alblas
Manager Laboratory

b/c



R. Brakenhoff
Paint Inspector