



COT bv
Independent advice,
research and
management for
construction and
industry



REPORT

Testing of system ZINGA / ALUFER N
according to ISO 12944-6 C5-I High

Haarlem, October 26th, 2011

Civil projects
Corrosionprotection
Laboratory

Jan Tademaweg 40
2031 CV Haarlem
P.O. Box 2113
2002 CC Haarlem
The Netherlands
T +31 23-5319544
F +31 23-5277229
E info@cot-nl.com
I www.cot-nl.com

Client : Zingametall bvba
Industriepark – Rozenstraat 4
B – 9810 Eke (België)
Contact person: Mr F. Peirsegaele

Project number : 20110504

Report number : LAB11-0858-REP

Handled by : Mr. N. Blokker

Copy Right This report contains 5 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 cognisable 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.



CONTENTS

1	INTRODUCTION.....	3
1.1	Order.....	3
1.2	General information.....	3
2	PAINT APPLICATION.....	3
3	RESULTS.....	4
3.1	Assessment before Artificial Ageing tests.....	4
3.2	Assessment after Water Condensation test.....	4
3.3	Assessment after Neutral Salt Spray test.....	4
3.4	Assessment after Chemical Resistance test.....	5
4	CONCLUSION.....	5



1 INTRODUCTION

1.1 Order

By order of Zingametall bvba in Eke, Belgium, the Centrum voor Onderzoek en Technisch Advies (COT bv) in Haarlem, The Netherlands, has tested the system Zinga / Alufer N according to ISO 12944-6 C5-I High.

The order for the test has been given in the test order ZM-RE-ONT-01-A (31/08/04) of July 4th 2011.

1.2 General information

COT sample number	Samples	Received
13-07-11/0427	30 Coated steel test panels, with system Zinga / Alufer N	12 July 2011

2 PAINT APPLICATION

The coating system has been applied at Zingametall bvba on steel panels.

Specified Dry Film Thickness : Zinga : 60 µm
Alufer N : 80 µm

Required durability : ISO 12944-6 C5-I High

Start Water Condensation test on August 9th 2011, end test on September 8th 2011.
Start Neutral Salt Spray test on August 11th 2011, end test on October 10th 2011.
Start Chemical Resistance tests on October 13th 2011, end test on October 20th 2011.

3 RESULTS

3.1 Assessment before Artificial Ageing tests

Cross-cut test ISO 2409	Panel 1	Panel 2	Panel 3	Requirements
Min. - max. DFT (μm)	168 - 202	127 - 167	139 - 159	
Average DFT (μm)	189 \pm 13	145 \pm 12	151 \pm 6	
Adhesion (classification)	0	0	0	Classification 0 or 1

3.2 Assessment after Water Condensation test

720 hours ISO 6270	Panel 16	Panel 17	Panel 18	Requirements
Min. - max. DFT (μm)	133 - 161	131 - 163	117 - 161	
Average DFT (μm)	149 \pm 8	149 \pm 11	138 \pm 14	
ISO 4628-2 (blistering)	0(S0)	0(S0)	0(S0)	0(S0)
ISO 4628-3 (rusting)	Ri 0	Ri 0	Ri 0	Ri 0
ISO 4628-4 (cracking)	0(S0)	0(S0)	0(S0)	0(S0)
ISO 4628-5 (flaking)	0(S0)	0(S0)	0(S0)	0(S0)
ISO 2409 (adhesion) (classification)	0	0	0	Classification 0 or 1

3.3 Assessment after Neutral Salt Spray test

1440 hours ISO 9227 NSS	Panel 19	Panel 20	Panel 21	Requirements
Min. - max. DFT (μm)	127 - 169	117 - 141	127 - 159	
Average DFT (μm)	144 \pm 14	129 \pm 7	140 \pm 9	
ISO 4628-2 (blistering)	0(S0)	0(S0)	0(S0)	0(S0)
ISO 4628-3 (rusting)	Ri 0	Ri 0	Ri 0	Ri 0
ISO 4628-4 (cracking)	0(S0)	0(S0)	0(S0)	0(S0)
ISO 4628-5 (flaking)	0(S0)	0(S0)	0(S0)	0(S0)
Annex A (corrosion of the substrate from the scribe)	0 mm	0 mm	0 mm	Not exceed 1 mm
ISO 2409 (adhesion) (classification)	0	0	0	Classification 0 or 1

3.4 Assessment after Chemical Resistance test

168 hours in 10 % H₂SO₄ ISO 2812-1	Panel 25	Panel 26	Panel 27	Requirements
Min. – max. DFT (µm)	129 – 157	125 – 165	125 – 169	
Average DFT (µm)	147 ± 9	149 ± 13	140 ± 17	
ISO 4628-2 (blistering)	0(S0)	0(S0)	0(S0)	0(S0)
ISO 2409 (adhesion) (classification)	0	0	0	Classification 0 or 1

168 hours in 10 % NaOH ISO 2812-1	Panel 22	Panel 23	Panel 24	Requirements
Min. – max. DFT (µm)	137 – 157	141 – 175	136 – 177	
Average DFT (µm)	147 ± 6	153 ± 13	161 ± 14	
ISO 4628-2 (blistering)	0(S0)	0(S0)	0(S0)	0(S0)
ISO 2409 (adhesion) (classification)	0	0	0	Classification 0 or 1

168 hours in Mineral Spirit ISO 2812-1	Panel 28	Panel 29	Panel 30	Requirements
Min. – max. DFT (µm)	129 – 147	127 – 163	131 – 169	
Average DFT (µm)	141 ± 6	147 ± 11	154 ± 14	
ISO 4628-2 (blistering)	0(S0)	0(S0)	0(S0)	0(S0)
ISO 2409 (adhesion) (classification)	0	0	0	Classification 0 or 1

4 CONCLUSION

The system Zinga / Alufer N, dry film thickness 60/80 µm, (COT sample number 13-07-11/0427) meets the requirements of ISO 12944-6 C5-I High.

CENTRUM VOOR ONDERZOEK
 EN TECHNISCH ADVIES (COT bv)



N. Blokker
 Laboratory Technician



Dr. B.P. Alblas
 Manager Laboratory