

## Performance Test Data Overview

TEST	PAINT SYSTEM	INDICATOR/RESULT	COMMENTS	LABORATORY
NORSOK M-501 System 1	MCU-ALUPRIME 100 micron DFT MCU-MIOMASTIC 125 micron DFT MCU-TOPCOAT 75 micron DFT	Meets the requirements of Norsok M-501, System 1, no tidal or splash zones	Pass	COT bv The Netherlands
NORSOK M-501 System 1	MCU-MIOZINC 100 micron DFT MCU-MIOMASTIC 125 micron DFT MCU-MIOTOPCOAT 75 micron DFT	Meets the requirements of Norsok M-501, System 1, no tidal or splash zones	Pass	COT bv The Netherlands
NORSOK M-501 System 3	MCU-ALUPRIME 50 micron DFT MCU-FERROGUARD 250 micron DFT MCU-FERROGUARD 250 micron DFT	< 6 mm disbonding Pass	Cathodic Disbonding Test requirement < 10 mm disbonding	COT bv The Netherlands
NORSOK M-501 System 2	MCU-ALUPRIME 50 micron DFT MCU-ALUPRIME 50 micron DFT MCU-TOPCOAT 60 - 75 micron DFT	Cyclic exposure test < 3 mm Pass Initial Adhesion 16,4 MPa Pass Adhesion and overcoatibility after cyclic test Pass	Requirements: Cycle exposure test Max. 3,0 mm creep Initial adhesion at least 5 Mpa Adhesion after cyclic test <50% loss of adhesion Overcoatibility after cyclic test < 50 % loss of adhesion	COT bv The Netherlands
NORSOK M-501 System 1	MCU-MIOZINC 75 micron DFT MCU-MIOMASTIC 75 micron DFT MCU-TOPCOAT 60-75 micron DFT	Cyclic exposure test < 3 mm Pass Initial Adhesion 11,6 MPa Pass Adhesion and overcoatibility after cyclic test not loss Pass	Requirements: Cycle exposure test Max. 3,0 mm creep Initial adhesion at least 5 Mpa Adhesion after cyclic test <50% loss of adhesion Overcoatibility after cyclic test < 50 % loss of adhesion	COT bv The Netherlands
ISO 12944-6 C5-I/H and C5-M/H	MCU-MIOZINC 140 micron DFT MCU-TOPCOAT 80 micron DFT	Meets the requirements of ISO 12944-6 for atmospheres C5-I/H and C5-M/H	Pass	ZAG Slovenia
ISO 12944-6 C4/C5-M	MCU-ALUPRIME 50 micron DFT MCU-ALUPRIME 75 micron DFT MCU-TOPCOAT 60-75 micron DFT	Meets the requirements of ISO 12944-6 C4/C5-M	Pass	COT bv The Netherlands
ISO 12944-6 C4/C5-M	MCU-MIOZINC 75 micron DFT MCU-ALUPRIME 50 micron DFT MCU-MIOTOPCOAT 75 micron DFT	Meets the requirements of ISO 12944-6 C4/C5-M	Pass	COT bv The Netherlands
ISO 20340 Ageing ISO 4624 Adhesion	MCU-MIOZINC 100 micron DFT MCU-MIOMASTIC 125 micron DFT MCU-MIOTOPCOAT 75 micron DFT	Corrosion at scribe 2,9 mm; adhesion 12,6 MPa	According to various tests of Shell DEP 70.48.11.30, code FC1-n/M. Atmospheric zone -35 °C up to 120 °C; New and Maintenance	COT bv The Netherlands
ISO 6272-1 Impact (deformation) resistance	MCU-MIOZINC 100 micron DFT MCU-MIOMASTIC 125 micron DFT MCU-MIOTOPCOAT 75 micron DFT	5 x passes	According to various tests of Shell DEP 70.48.11.30, code FC1-n/M. Atmospheric zone -35 °C up to 120 °C; New and Maintenance	COT bv The Netherlands

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ASTM B117 Salt Spray (fog)	MCU-ZINC 3-4 mils DFT MCU-FERROGUARD 4-6 mils DFT MCU-FERROGUARD 4-6 mils DFT	20,680 hours exposure PASSES	Pass	B & P LABORATORIES, Inc. USA
ASTM B117 Salt Spray (fog)	MCU-MIOZINC 4 mils DFT MCU-MIOTOPCOAT 4 mils DFT	5,000 hours exposure PASSES	Pass	CHEMCOLOR Inc. Slovenia
ASTM B117 Salt Spray (fog)	MCU-MIOZINC 6 mils DFT MCU-MIOTOPCOAT 4 mils DFT	7,080 hours exposure PASSES	Pass	CHEMCOLOR Inc. Slovenia
ASTM D522 Mandrel Bend Test	MCU-ALUPRIME 6 mils DFT	38%		CHEMCOLOR Inc. Slovenia
ASTM D522 Mandrel Bend Test	MCU-MIOZINC 4 mils DFT	28%		CHEMCOLOR Inc. Slovenia
ASTM D522 Mandrel Bend Test	MCU-FERROGUARD 4 mils DFT	39%		CHEMCOLOR Inc. Slovenia
ASTM D522 Mandrel Bend Test	MCU-MIOTOPCOAT 3 mils DFT	31%		CHEMCOLOR Inc. Slovenia
ASTM D610 Evaluating degree of rusting on painted steel surfaces	MCU-ZINC 100 micron DFT MCU-ZINC 100 micron DFT MCU-MIOTOPCOAT 100 micron DFT	None	According to Aramco specification 09-SAMSS-087, cycle test, 1500 hours, requirement: 9 or better	COT bv The Netherlands
ASTM D610 Evaluating degree of rusting on painted steel surfaces	MCU-ZINC + 2 % MCU-QUICKCURE 200 micron DFT MCU-MIOTOPCOAT 100 micron DFT	None	According to Aramco specification 09-SAMSS-087, cycle test, 1500 hours, requirement: 9 or better	COT bv The Netherlands
ASTM D660 Evaluating degree of checking exterior paints	MCU-ZINC 100 micron DFT MCU-ZINC 100 micron DFT MCU-MIOTOPCOAT 100 micron DFT	No checking	According to Aramco specification 09-SAMSS-087, cycle test, 1500 hours, requirement: no checking	COT bv The Netherlands
ASTM D660 Evaluating degree of checking exterior paints	MCU-ZINC + 2 % MCU-QUICKCURE 200 micron DFT MCU-MIOTOPCOAT 100 micron DFT	No checking	According to Aramco specification 09-SAMSS-087, cycle test, 1500 hours, requirement: no checking	COT bv The Netherlands
ASTM D661 Evaluating degree of cracking of exterior paints	MCU-ZINC 100 micron DFT MCU-ZINC 100 micron DFT MCU-MIOTOPCOAT 100 micron DFT	No cracking	According to Aramco specification 09-SAMSS-087, cycle test, 1500 hours, requirement: no cracking	COT bv The Netherlands
ASTM D661 Evaluating degree of cracking of exterior paints	MCU-ZINC + 2 % MCU-QUICKCURE 200 micron DFT MCU-MIOTOPCOAT 100 micron DFT	No cracking	According to Aramco specification 09-SAMSS-087, cycle test, 1500 hours, requirement: no cracking	COT bv The Netherlands
ASTM D714 Evaluating degree of blistering paints	MCU-ZINC 100 micron DFT MCU-ZINC 100 micron DFT MCU-MIOTOPCOAT 100 micron DFT	No blistering	According to Aramco specification 09-SAMSS-087, cycle test, 1500 hours, requirement: no blistering	COT bv The Netherlands
ASTM D714 Evaluating degree of blistering paints	MCU-ZINC + 2 % MCU-QUICKCURE 200 micron DFT MCU-MIOTOPCOAT 100 micron DFT	No blistering	According to Aramco specification 09-SAMSS-087, cycle test, 1500 hours, requirement: no blistering	COT bv The Netherlands

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ASTM D1654 Evaluation of painted or coated specimens subjected to corrosive environments	MCU-ZINC 100 micron DFT MCU-ZINC 100 micron DFT MCU-MIOTOPCOAT 100 micron DFT	Corrosion from the scribe (mm): 9 -10	According to Aramco specification 09-SAMSS-087, cycle test, 1500 hours, requirement: 9 or better	COT bv The Netherlands
ASTM D4060 Abrasion resistance by taber abrasion	MCU-ZINC MCU-FERROGUARD	Weight loss: 3,10 miligrams	Taber abrasion apparatus for 1,000 revolutions with two CS-17 orbit wheels each with a 1,000 gram load	B&P LABORATORIES, Inc. USA
ASTM D1654 Evaluation of painted or coated specimens subjected to corrosive environments	MCU-ZINC + 2 % MCU-QUICKCURE 200 micron DFT MCU-MIOTOPCOAT 100 micron DFT	Corrosion from the scribe (mm): 9 -10	According to Aramco specification 09-SAMSS-087, cycle test, 1500 hours, requirement: 9 or better	COT bv The Netherlands
ASTM G151 UV Ageing	MCU-MIOZINC 140 micron DFT MCU-TOPCOAT 70 micron DFT	$\Delta E < 0,9$ after 3,000 hours exposure	According to GAMESA specification for "Tubular Steel Tower Protection Coating System"	Chemcolor Inc. Slovenia
ASTM G151 UV Ageing	MCU-MIOZINC 140 micron DFT MCU-SHIELDCOAT 70 micron DFT	$\Delta E < 0,9$ after 3,000 hours exposure	According to GAMESA specification for "Tubular Steel Tower Protection Coating System"	Chemcolor Inc. Slovenia
ISO 4624 Overcoatability-drying and adhesion (Shell DEP 2.2.11.5)	MCU-MIOZINC 100 micron DFT MCU-MIOMASTIC 125 micron DFT MCU-MIOTOPCOAT 75 micron DFT	Good, 12,9 MPa	According to various tests of Shell DEP 70.48.11.30, code FC1-n/M. Atmospheric zone -35 °C up to 120 °C; New and Maintenance	COT bv The Netherlands
Analysis of materials intended for contact with drinking water	MCU-MASTIC (NS)	Complies with: Art. 13 of Act Regulating the Sanitary Suitability of Foodstuff, Products and Materials Coming into Contact with Foodstuffs (OJRS, no. 52/2000, 42/2002, 47/2004). Art. 33 of Rules on Drinking Water, OJRS No. 19/2004, 35/2004, 26/2006, 92/2006, 25/2009.	Approved	National laboratory of health, Environment and Foodstuffs Centre of Environment and Health Slovenia
ANSI/NSF Standard 61 - 1997a Drinking water system components - Health effects	MCU-MIOZINC MCU-MASTIC (NS)	Classified for use in contact with potable water	Approved	Underwriters Laboratories Inc. USA