ROSEN Test Facility

Schedule of Testing and Standards

Chemical Tests

Materials/Products tested	Type of test/Propertiesmeasured/ Range ofmeasurement	Standard specifications/ Equipment/Techniques used
Carbon and low alloy steels	C, Si, Mn, P, S, Cr, Mo, Ni, Al, Cu, Nb, Ti, V, Sn, Ca, B, W	ASTM A751 Spark-OES
High alloy steel, Nickel alloys	C, Si, Mn, P, S, Cr, Mo, Ni, Al, Co, Cu, Nb, Ti, Fe, B, V, W, N	
Copper Alloys, Aluminium	Cu, Al	
Cast Iron	C, Si	
Carbon and low alloy steels	C, Si, Mn, P, S, Cr, Mo, Ni, Al, Cu, Nb, Ti, V, Sn, Ca, B, W	Documented In-House Method using ICP-OES
High alloy steel, Nickel alloys	C, Si, Mn, P, S, Cr, Mo, Ni, Al, Co, Cu, Nb, Ti, Fe, B, V, W, N	
Copper Alloys, Aluminium	Cu, Al	
Cast Iron	C, Si	
Metals, alloys and metal product	Phase Identification	Documented in-house procedures using X-ray diffraction (XRD)
Carbon and low alloy steels, high alloy steel, cast irons	C, S	Documented in-house procedures using Infrared absorption

Corrosion Tests

Materials/Products tested	Type of test/Propertiesmeasured/ Range ofmeasurement	Standard specifications/ Equipment/Techniques used
Stainless steels	Susceptibility to Intergranular attack	ASTM A262 Practice E & C
	Susceptibility to Intergranular Corrosion	ASTM G28 Method A
	Pitting Corrosion resistance	ASTM G48 Method A
Metals, alloys and metal products	Salt spray corrosion tests	ASTM B117 ISO 9227
	Electrochemical tests	By agreement
	Heat treatment and high temperaure oxidation tests	By agreement, up to 1150°C

Mechanical Tests

Materials/Products tested	Type of test/Propertiesmeasured/ Range ofmeasurement	Standard specifications/ Equipment/Techniques used
Metals, alloys and metal products	**Hardness:**	
	Vickers or Knoop – Micro (HV 0.3 to HV 1)	ASTM E384 ASTM E92 BS EN ISO 6507-1
	*Vickers Macro (HV 5, HV10 and HV30)	*ASTM E92 *BS EN ISO 6507-1
	Tensile:	
	Forces from 2kN to 150 kN	ASTM C633 BS EN ISO 6892-1 ASTM A370 ASTM E8/E8M ASTM B557M-15

Metallurgical Tests

Materials/Products tested	Type of test/Propertiesmeasured/ Range ofmeasurement	Standard specifications/ Equipment/Techniques used
Steels	Metallographic sample preparation	ASTM E3
	Average Grain size	ASTM E112 BS EN ISO 643 ASTM E1181 ASTM E930
	Assessing the degree of banding or orientation in microstructures	ASTM E1268
	Volume fraction	ASTM E562
	Determining area percentage of porosity in thermal sprayed coatings	ASTM E2109
	Inclusion Rating	ASTM E45 Methods A & D ASTM E2283
	Examination of decarburised layer	ASTM E1077
	Examination of surface treatments	ISO 18203
	Dry Sand Rubber Wheel abrasion test	ASTM G65
Weldments	Hardness test on arc welded joints	BS EN ISO 9015-1
	Macroscopic and microscopic examination of welds	BS EN ISO 17639
Coatings and Paints	**Pipeline Coatings Performance Testing**	**ISO 21809 1-11**
	Offshore Coating Performance Testing	**ISO 12944 1-9**
	NORSOK M501 Coatings Performance Testing	**CSDS 1A,1B,1D,2A,2B,2C,3A,3B,3G4B,6A-F,7A-F,8,10A,10B**
	Coating Test Panel/Specimen Preparation & Examination	**ISO 1513, ISO 1514**
	Abrasive Blast Cleaning	
	Surface Cleanliness (Salt Contamination)	ISO 8502-6; ISO 8502-9
	Surface Profile	ISO 8503-1; ISO 8503-2
	Coating Application	Brush, Roller, Spray
	LV/HV holiday Detection	ISO 29601; ISO 12944-9
	Determination of Coating Thickness	
	Wet film thickness (comb, wheel, dial gauges)	ISO 2808 - Method 1A-C, ASTM D4414, ASTM D1212, ISO 463, ISO 13102
	Wet film thickness (gravametric/mass method)	ISO 2808, ISO 3892
	Dry film thickness (Microscopical method)	ISO 2808 & ISO 1463

Materials/Products tested	Type of test/Propertiesmeasured/ Range ofmeasurement	Standard specifications/ Equipment/Techniques used
	Dry film thickness (magnetic, eddy current & ultrasonic methods)	ISO 2808, ISO 2178, ISO 2360
	Mechanical / Physical Properties	
	Flexibility / Bend test (cylindrical)	ISO 1519
	Flexibility / Bend test (conical)	ISO 6860
	Adhesion (Pull Off) Test	ASTM D4541 ISO 4624
	Adhesion (x-cut) Test	ISO 21809
	Impact Resistance	ASTM G14:04(2018), ISO 6272, ISO 21809, ISO 14577
	Indentation Resistance (all temperatures)	ISO 218091, ASTM G17
	Peel Strength	ISO 21809, ASTM D903
	Lap Shear Resistance	ISO 21809
	Elongation to Break & Elastic Modulus	ISO 21809, ISO 527-2, ISO 527-3, ISO 188
	Bursting Strength	ISO 21809-3. ISO 3303-1, ISO 188
	Compresive Strength	ASTM D695
	Hardeness (Shore 0,A,D)	ISO 7619-1, ISO 48-4, ASTM D2240
	Taber abrasion test	ASTM D4060
	Cohesive bond strength testing	ASTM C633
	Specific Electrical Insulation Resistance (all temps)	ISO 21809, ASTM D257
	Determination of Gloss	ISO 2813
	Drip Resistance	ISO 21809-3
	Corrosion Tests	
	Cycling Ageing Resistance	ISO 12944
	Artificial Ageing & Thermal Cycling	ISO 19277 (CUI-3 category), AMPP TM0404
	Thermal Age Resistance	ISO 21809-3, ISO 527-2, ISO 527-3, ISO 188
	High temperature static heat test or Thermal stability test (hot air ageing) (all temps & duration)	ISO 19277, ISO 188
	Exposure of Coatings to Accelerated Weathering	ASTM G154 BS EN ISO 16474-3
	Resistance to Fluorescent UV Exposure	ISO 16473-3
	Cathodic Disbonding (all temmperature)	ISO 12944-9, ISO 21809-3, ASTM G8, NACE TM0115, ASTM G42:11
	Holiday Detection	ASTM D5162 BS EN 10289 T/SP/CW/6

Materials/Products tested	Type of test/Propertiesmeasured/ Range ofmeasurement	Standard specifications/ Equipment/Techniques used
	Water Immersion/Sea Water Immersion (all temperature)	ISO 2812-2, ISO 10289-3, ISO 10290
	Water Resistance and Humidity	ASTM D2247, ASTM D870, ISO 6270 1-3
	Water Absorption	ISO 62
	Salt Spray Testing	ASTM B117 BS EN ISO 9227 ASTM D2240
	Porosity, Interface and Cross-Sectional	CSA-Z245.20-06

ROSEN(UK) Ltd.Rosen Test Facility
Brunswick Industrial Estate
Newcastle upon Tyne
NE13 7BA , United Kingdom
Website: https://testing.rosen-group.com/
Service marked * are acrredited to ISO/IEC 17025 by UKAS.

Primary Contact: Steve Parry
Phone: +44-191-7203-216
E-Mail: sparry@rosen-group.com

Secondary Contact: Ian Laing
Phone: +44-191-7203-157
E-Mail: ilaing@rosen-group.com

Revision 01 - October 2025

ROSEN Swiss AG
Obere Spichermatt 14 · 6370 Stans · Switzerland

Phone: +41-41-618-0300
info@rosen-group.com
www.rosen-group.com

ROSEN_Group_Test_Facility_Schedule_1.1