Annex to declaration of accreditation (scope of accreditation)
Normative document: EN ISO/IEC 17025:2017
Registration number: **L 063**

of **Element Materials Technology Rotterdam. B.V.**
Laboratory

This annex is valid from: **01-05-2025** to **01-09-2028** Replaces annex dated: **20-06-2024**

Location(s) where activities are performed under accreditation

Head Office

Voorerf 18
4824 GN
Breda
The Netherlands

Location	Abbreviation/ location code
Voorerf 18 4824 GN Breda The Netherlands	BR
Zekeringstraat 33 1014 BV Amsterdam The Netherlands	AM
On-site	OS

No.	Material or product	Type of activity[1]	Internal reference number	Location
Sample preparation and sample selection				
a.		Aging Sensitivity Unalloyed Carbon steel	SOP 10-20 DIN 17102 par.7.4.1.5, EN 10225	BR

[1] If there is a referral to a code starting with NAW, NAP, EA or IAF, this concerns a scheme mentioned on the RvA-BR010-lijst.
If no date or version number is mentioned for a normative document, the accreditation concerns the most current version of the document or scheme.

This annex has been approved by the Board of the Dutch Accreditation Council, on its behalf,

J.A.W.M. de Haas

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No.	Material or product	Type of activity[1]	Internal reference number	Location
b.	Metals, metal alloys and weld connections	Destructive testing of qualifying welds for weldmethod-qualification and welder-qualification	SOP 10-40 AD Merkblatt HP2/1, AD Merkblatt 5/3, 5/2, BS 4515, Vd TüV 1158, TRD 201, Stoomwezen regels T0112, -T0101, -T0120, -T0205, -T0210, -T0215, ASME VIII, ASME IX, API 1104, API 1107, AWS D1.1, AWS D1.2, AWS D1.6, AWS D1.9, Lloyd's Reg. Rules, DNV-rules for M.O.U., EN 287, ISO 15614 (serie), ISO 9606 (serie), EN 13445, EN 12732, ASME B31.1, ASME B31.3, NEN 3650	BR, AM
c.		Microstructure on location: microscopic and / or electron microscope research on replica's (magnification up to 1000x)	SOP 30-04 In-house method	BR, AM, OS
d.	Coating	Immersion (water)	SOP 93-02 ISO 2812-2, ISO 12944-6, ISO 12944-9, ISO 20340, ISO 21809-2, ISO 21809-3, NACE SP0394, NACE TM0104, NACE TM0204, NACE TM0304, NACE TM0404, NORSOK M-501	AM
e.		Flexibility	SOP 93-03 ISO 1519, ISO 21809-1, ISO 21809-2, NACE SP0394, NACE TM0104, NACE TM0204, NACE TM0304, NACE TM0404	AM
f.		Porosity	SOP 93-04 ISO 21809-2, NACE SP0394	AM
g.		Interface Contamination	SOP 93-05 ISO 21809-2, NACE SP0394	AM
h.	Coating	Impact	SOP 93-07 ASTM D2794, ASTM G14, EN 12068, ISO 6272-1, ISO 6272-2, ISO 21809-1, ISO 21809-2, ISO 21809-3, NACE SP0394, NACE TM0304, NACE TM0404	AM
i.		Adhesion testing of Coatings	SOP 93-08 ASTM D3359, ASTM D4541, ASTM D5179, EN 12068, ISO 2409, ISO 4624, ISO 6272-1, ISO 12944-6, ISO 12944-9, NORSOK M-501, ISO 21809-1, ISO 21809-2, ISO 21809-3	AM

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j.		Thermal Aging / Cycling	SOP 93-09 NACE TM0304, NACE TM0404, EN 12068, ISO 12944-6, ISO 12944-9, ISO 21809-1, ISO 21809-3, NORSOK M-501	AM
k.		UV/ Condensation Exposure	SOP 93-12 ASTM D4587, ASTM D5894, ISO 11507, ISO 12944-6, ISO 12944-9, ISO 16474-1, ISO 16474-3, ISO 20340, NACE TM0404, NACE TM0304, NORSOK M-501	AM
l.		Condensation (Humidity)	SOP 93-17 ASTM D4585, ISO 6270-1, ISO 6270-2, ISO 12944- 6, ISO 12944- 9, NORSOK M-501, EN 12068, ISO 21809-1, ISO 21809-3	AM
		Mechanical testing		
1	Metals, metal alloys and weld connections	Tensile Test at ambient temperature 283 K – 308 K	SOP 10-01 EN 10002 1:2001, ASTM A370, ASTM E8, ASTM B 557, ISO 6892-1, ISO 9018, ISO 4136, EN 895:1995, EN 2002-001, ISO 22674, ISO TR 6892-5	BR, AM
2		Tensile Test at elevated temperature 293 K – 1173 K	SOP 10-02 EN 10002-5:1992, ASTM E21, ISO 6892-2, ISO 783:1999	BR, AM
3		Impact Test at temperatures between 76 K – 493 K	SOP 10-03 NEN-EN 10045-1:1990, ISO 148-1, ISO 9016, ASTM A370, ASTM E23, EN 875:1995	BR, AM
4	Metals, metal alloys and weld connections	Bending Test	SOP 10-04 NEN 3650, ISO 7438, ISO 5173, ISO 9017, ISO 9606, ISO 15614, ISO 5177, ASTM A370, ASTM A615, ASTM E190, ASTM E290, ASME IX, AWS D1.1, AWS D1.2, AWS D1.6, AWS D1.9, EN 287, EN 910, EN 12732, EN 13445	BR, AM
5		Flattening Test	SOP 10-10 ISO 8492, ASTM A370, ASTM A530	BR, AM
6		Drift Expanding Test	SOP 10-11 ISO 8493, ASTM A370, ASTM A450	BR, AM

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No.	Material or product	Type of activity[1]	Internal reference number	Location
7		Ring Expanding Test	SOP 10-12 ISO 8495	BR, AM
8		Ring Tensile Test	SOP 10-13 ISO 8496	BR, AM
9		Shear Test	SOP 10-15 DIN 50162, DIN 50141, ISO 9018, ASME IX, ASTM A263/264, ASTM A265	BR, AM
10	Cladded material	Shear Test	SOP 10-16 DIN 50162, AD 2000-Merkblatt W8, ASTM A 264	AM
11	Metals, metal alloys and weld connections	Single Edge Notched Bend (SENB) specimens	SOP 10-18 BS 7448 part 1-4, ASTM E1290, ASTM E1820, ASTM E399, ISO 12135, ISO 15653, API 1104, DNV-OS-F110	BR
12		Single Edge Notched Tensile (SENT) specimens	SOP 10-19 ISO 15653,BS 7448 part 1-4, BS 8571, DNV-OS-F101, DNV-RP-F108	BR
13		Pellini Drop Weight Test	SOP 10-21 ASTM E208	BR
14		Hardness Test; Brinell	SOP 10-30 ISO 6506-1, ASTM A370, ASTM E10	BR, AM
15	Metals, metal alloys and weld connections	Hardness Test; Vickers Load between 49 N – 294 N	SOP 10-31 ISO 6507-1, ISO 9015, ASTM E92	BR, AM, OS
16		Hardness Test; Rockwell	SOP 10-32 ISO 6508-1, ASTM A370, ASTM E18, NASM1312-6	BR, AM
17		Hardness measurement on location with portable devices	SOP 10-33 In-house method	BR, OS
18		Micro Hardness measurement: Knoop, Vickers, load (0,049 – 29,4) N	SOP 10-34 ISO 6507-1, ISO 9015, ISO 4545, ISO 4516, ASTM E384	BR, AM

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No.	Material or product	Type of activity[1]	Internal reference number	Location
19		Break Test on welds	SOP 10-42 API 1104, API 1107, ASME VIII, ASME IX, ISO 9606, AD Merkblatt HP3, EN 287, EN 13445	BR, AM
20		Fillet weld break Test	SOP 10-43 ASME VIII, ASME IX, API 1104, AWS D1.1, AWS D1.2, AWS D1.6, AWS D1.9, EN 287-1, Vd TüV 1158, ISO 9606	BR, AM, OS
21		Clad welding Bend Test	SOP 10-44 DIN 17100 par.9.5.7, SEP 1390	BR
22	Reinforced steel bars	Tensile testing	SOP 10-52 NEN-6008, BRL 0503, ISO 15835-1 en ISO 15835-2, ISO 15630-1, EN 10080	AM
23		Fatigue testing	SOP 10-55 and SOP 10-57 EN 10080, NEN 6008, BRL 0504 en BRL 0501, ISO 15630-1	AM
24	Hoisting hook	Load Test	SOP 10-80 In-house method	AM
		Chemical analysis		
25	Metals, metal alloys and weld connections	Semi-quantitative material analysis; X-ray fluorescence measurement (PMI)	SOP 20-01 ASTM E 1476	BR, AM, OS
26		Chemical Composition; Optical Emission Spectrometry	SOP 20-02 In-house method	BR, AM, OS
		Metallography		
27	Metals, metal alloys and weld connections	Ferrite Measurement: Inductive method	SOP 30-01 In-house method	BR, AM, OS
28		Ferrite Measurement: Manual Point Count	SOP 30-02 ASTM E562	BR, AM
29		Grain size determination	SOP 30-03 ISO 643, ASTM E112, AFNOR NFA 04-102	BR, AM

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No.	Material or product	Type of activity[1]	Internal reference number	Location
30		Microstructures analysis (magnification up to 1000x)	SOP 30-05 ASTM E 3, 45, 112, 247, 381, 384, 562, 883, 930, 1077, SAE J422, ISO 26146	BR, AM
31		Fracture analysis	SOP 30-07 In-house method	BR, AM, OS
32		Creep analysis by microstructure	SOP 30-08 Stoomwezen Regels T0102, -T0204, Vd TüV Merkblatt 451, ASTM E 1351, ISO 3057, VGB-TW507, VGB-S517	BR, AM, OS,
33		Degree of purity Non-metallic inclusions	SOP 30-22 DIN 50602, ASTM E45	BR,
34		Ferrite measurement: Magne-Gage	SOP 30-30 In-house method	BR, AM
35	Metals, metal alloys, weld connections and corrosion products	Scanning Electron Microscopy (SEM)	SOP 30-40 In-house method	BR, AM
36		Energy Dispersive X-Ray Analysis (EDX)	SOP 30-40 In-house method	BR, AM
		Corrosion testing		
37	Metals, metal alloys and weld connections	Salt Spray Test (mass up to 250 kg; size approximately 1.75 m x 1 m)	SOP 40-01 ASTM B117, ASTM B 368, ASTM G 85, DIN 50021, ISO 10289, ISO 9227, NEN 10068, ISO 12944-9	BR, AM
38		Inter-granular Corrosion Test Strauss-Test	SOP 40-10 ASTM A262 practice E, ISO 3651-2, DIN 50914	BR, AM
39		Inter-granular Corrosion Test Streicher-Test	SOP 40-11 ASTM A262 practice B, ASTM G28	BR, AM
40		Inter-granular Corrosion Test Huey-Test	SOP 40-12 ASTM A262 practice C, ISO 3651-1	BR, AM
41		Inter-granular Corrosion Test Oxalic acid Test	SOP 40-13 ASTM A262 practice A	BR, AM
42		Pitting-corrosion Test	SOP 40-14 ASTM G48, ASTM G46, ASTM A923	BR, AM

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43		Bolted CT Environmental Fracture Mechanics Testing	SOP 41-01 ASTM E1681	BR
44	Metals	Hydrogen Induced Cracking Test	SOP 40-20 NACE TM-0284	AM
45		Sulfide induced Stress Corrosion Test	SOP 40-21 NACE TM-0177	AM
		Physical properties		
46	Metals, metal alloys and weld connections	Surface roughness (Ra, Rz value)	SOP 50-01 NEN 3635	BR, OS
47		Coating thickness measurement: microscopic	SOP 50-02 ISO 1463	BR
48		Image analysis	SOP 50-03 In house method	AM
		Visual Testing		
49	Metals, metal alloys and weld connections	Visual inspection of welds including macro-structure and weld geometry	SOP 60-01 AD Merkblatt HP2/1, AD Merkblatt 5/3 en 5/2, TRD 201, ASME VIII, ASME IX, AWS D1.1, AWS D1.2, AWS D1.6, AWS D1.9, API 1104, API 1107, BS4515, ASME B31.1, ASME B31.3, EN 287, EN 970, EN 1321, EN13445, EN 12732, BS 4515, NEN 3650, Vd TüV 1158, ISO 9606 (series), ISO 5817, ISO 15614 (series), ISO6520-1, ISO 6520-2, ISO 10042, ISO 12932, ISO 13919-1, ISO 13919-2, ISO 17637, ISO 17639	BR, AM, OS
		Polymer testing		
50	Mammary Implants	Determation of fatigue resistance: Fatigue test	SOP 96-01 ISO 14607 section 7.2.2.2.1	AM
51		Determination of impact resistance: Impact test	SOP 96-02 ISO 14607 section 7.2.2.2.2	AM
52		Determination of shell integrity: Tensile test	SOP 96-03 ISO 14607 section 7.2.2.1	AM

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53		Determination of silicone gel cohesion: Viscosity determination	SOP 96-04 ISO 14607 section 7.2.3.3.2	AM
		Coating testing		
54	Coating	Salt Spray	SOP 40-01 ASTM B117, ASTM B368, ASTM D5894, ASTM G85, DIN 50021, ISO 9227, ISO 10289, ISO 12944-6, ISO 20340, NEN 10068-2-52, NORSOK M-501	AM
55		Cathodic Disbondment	SOP 93-01 ASTM G8, ASTM G42, ASTM G95, CSA Z245.20, CSA Z245.21, ISO 12944-6, ISO 12944-9, ISO 15711, ISO 20340, ISO 21809-1, ISO 21809-2, ISO 21809-3, NACE SP0394, NACE TM0104, NACE TM0204, NACE TM0304, NACE TM0404, NORSOK M-501, EN 12068	AM
56		Indentation test	SOP 93-06 EN 12068, ISO 21809-1, ISO 21809-3	AM
57		Holiday detection	SOP 93-10 ISO 21809-1, ISO 21809-3	AM
58		Coating Film Thickness	SOP 93-11 ASTM D7091, ISO 2808, ISO 19840	AM
59		Evaluation of Coating Defects	SOP 93-21 ASTM D610, ASTM D714, ASTM D5894, ISO 4628-2, ISO 4628-3, ISO 4628-4, ISO 4628-5, ISO 4628-6, ISO 12944- 6, ISO 12944-9, ISO 20340, NACE TM0104, NACE TM0204, NACE TM0304, NACE TM0404, NORSOK M-501, EN 12068, ISO 21809-1, ISO 21809-2, ISO 21809-3	AM
60		Differential Scanning Calorimetry	SOP 93-26 ASTM D3418, ISO 11357 (parts 1-7), ISO 21809-1, ISO 21809-2, ISO 21809-3	AM
		Opinions & Interpretations		
61	Metals, metal alloys and weld connections	Failure analysis, using the tests as given in this list	SOP 30-06 In-house method	BR, AM, OS

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