

Annex to declaration of accreditation (scope of accreditation)  
Normative document: EN ISO/IEC 17025:2005  
Registration number: **L 063**

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

This annex is valid from: **19-12-2018** to **01-09-2020**

Replaces annex dated: **18-10-2017**

**Location(s) where activities are performed under accreditation**

**Head Office**

Voorerf 18  
4824 GN  
Breda  
The Netherlands

<b>Location</b>	<b>Abbreviation/ location code</b>
Voorerf 18 4824 GN Breda The Netherlands	BR
Schutterstraat 27B 6191 RZ Beek The Netherlands	BE
Zekeringstraat 33 1014 BV Amsterdam The Netherlands	AM
Jan Tinbergenstraat 128 7559 SP Hengelo The Netherlands	HE
On-site	O

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

J.A.W.M. de Haas  
Director of Operations

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No.	Material or product	Type of activity <sup>1</sup>	Internal reference number	Location
1	Metal and metal alloys	Tensile Test at (283 – 308) K	SOP 10-01 In accordance with EN 10002-1:2001, ASTM A370, ASTM E8, ASTM B 557, ISO 6892-1, ISO 9018, ISO 4136, EN 895:1995	BR, BE, AM, HE
2		Tensile Test at elevated temperature (293 -1173) K	SOP 10-02 In accordance with EN 10002-5:1992, ASTM E21, ISO 6892-2, ISO 783:1999	BR, AM, HE
3		Impact Test at temperatures between (76 - 493) K	SOP 10-03 In accordance with NEN-EN 10045-1:1990, ISO 148, ISO 9016, ASTM A370, ASTM E23, EN 875:1995	BR, BE, AM, HE
4		Hardness Test: Brinell	SOP 10-30 In accordance with ISO 6506, ASTM A370, ASTM E10	BR, BE, AM, HE
5		Hardness Test: Vickers Load between (49 – 294) N	SOP 10-31 In accordance with ISO 6507, ISO 9015, ASTM E92	BR, BE, AM, HE, O
6		Hardness Test: Rockwell B and C	SOP 10-32 In accordance with ISO 6508, ASTM A370 and ASTM E18	BR, BE,
		Hardness Test: Rockwell	SOP 10-32 In accordance with ISO 6508, ASTM A370 and ASTM E18, NASM1312-6	AM, HE
7	Bending Test	SOP 10-04 In accordance with NEN 3650, ISO 7438, ISO 5173, ISO 9606, ISO 15614, ISO 5177, ASTM A370, 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, BE,	

<sup>1</sup> 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.

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	Metal and metal alloys	Bending Test	SOP 10-04 In accordance with 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	AM, HE
8		Flattening Test	SOP 10-10 In accordance with ISO 8492, ASTM A370, ASTM A530	BR, AM, HE
9		Drift Expanding Test	SOP 10-11 In accordance with ISO 8493, ASTM A370, ASTM A450	BR
			SOP 10-11 In accordance with ISO 8493	AM, HE
10		Ring Expanding Test	SOP 10-12 In accordance with ISO 8495	BR, AM, HE
11		Ring Tensile Test	SOP 10-13 In accordance with ISO 8496	BR, AM, HE
12		Visual inspection of welds including macro-structure and weld geometry	SOP 60-01 In accordance with AD Merkblatt HP2/1, AD Merkblatt 5/3 en 5/2, TRD 201, 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 287-1, EN13445, EN 12732, BS 4515, NEN 3650, vd TÜV 1158, ISO 9606, ISO 5817, ISO 15614, ISO6520-1	BR, BE, O
			SOP 60-01 In accordance with ASME VIII and IX, EN 287-1; ISO 15614, ISO 9606	AM, HE

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No.	Material or product	Type of activity <sup>1</sup>	Internal reference number	Location
13	Metal and metal alloys	Break Test on welds	SOP 10-42 In accordance with API 1104, API 1107, ISO 9606, AD Merkblatt HP3 , EN 287-1, EN 13445	BR, BE
			SOP 10-42 In accordance with ASME VIII and IX, ISO 9606, EN 287-1	AM, HE
14		Fillet weld break Test	SOP 10-43 In accordance with 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, BE, O
			SOP 10-43 In accordance with ASME VIII and IX, EN 287-1, ISO 9606	AM, HE,
15		Shear Test	SOP 10-15 In accordance with DIN 50162, ASTM A263/264, ASTM A265	BR
			SOP 10-15 In accordance with DIN 50141, ISO 9018, ASME IX	AM, HE
16		Destructive testing of qualifying welds for weldmethod-qualification and welder-qualification	SOP 10-40 In accordance with 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, 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, EN 13445, EN 12732, ISO 15614, ISO 9606, ASME B31.1, ASME B31.3, NEN 3650	BR, BE
			SOP 10-40 In accordance with ASME VIII, IX, EN 287, ISO 15614, ISO 9606	AM, HE

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17	Metal and metal alloys	Salt Spray Test (mass up to 250 kg; size approx 1,75x1 m)	SOP 40-01 In accordance with ASTM B117, DIN 50021, ISO 10289, NEN 10068	BR
			SOP 40-01 In accordance with ASTM B 368, ASTM G 85, ISO 9227	AM
18		Inter-granular Corrosion Test Strauss-Test	SOP 40-10 In accordance with ASTM A262 practice E and ISO 3651-2, DIN 50914	BR, BE
			SOP 40-10 In accordance with ASTM A262 practice E and ISO 3651-2	AM, HE
19		Inter-granular Corrosion Test Streicher-Test	SOP 40-11 In accordance with ASTM A262 practice B, ASTM G28	BR, BE, AM, HE
20		Inter-granular Corrosion Test Huey-Test	SOP 40-12 In accordance with ASTM A262 practice C, ISO 3651-1	BR, BE, AM, HE
21		Inter-granular Corrosion Test: oxalic acid Test	SOP 40-13 In accordance with ASTM A262 practice A	BR, BE, AM, HE
22		Pitting-corrosion Test;	SOP 40-14 In accordance with ASTM G48, ASTM G46, ASTM A923	BR, BE, AM, HE
23		Semi-quantitative material analysis; X-ray fluorescence measurement (PMI)	SOP 20-01 In-house method	BR, BE, O
			SOP 20-01 In accordance with ASTM E 1476	HE
24		Hardness measurement on location with portable devices	SOP 10-33 In-house method	BR, BE, O
25		Ferrite Measurement: Inductive method	SOP 30-01 In-house method	BR, BE, AM, O
26		Ferrite Measurement: Manual Point Count	SOP 30-02 In accordance with ASTM E562	BR, BE, AM, HE

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27	Metal and metal alloys	Grain size determination	SOP 30-03 In accordance with ISO 643, ASTM E112, AFNOR NFA 04-102	BR, BE, AM, HE
28		Microstructure on location: microscopic and / or electron microscope research on replica's (magnification up to 1000x)	SOP 30-04 In-house method	BR, BE, AM, HE, O
29		Microstructures analysis (magnification up to 1000x)	SOP 30-05 In-house method	BR, BE
			SOP 30-05 In accordance with ASTM E 3, 45, 112, 247, 381, 384, 562, 883, 930, 1077, SAE J422, ISO 26146	AM, HE
30		Fracture analysis	SOP 30-07 In-house method	BR, BE, AM, HE, O
31		Creep analysis by microstructure	SOP 30-08 In accordance with Stoomwezen-Regels T0102V, vd TüV Merkblatt 451, VGB-TW507	BR, BE
			SOP 30-08 In accordance with Stoomwezen T 0102 and T 0204; VGB Rule TW507, ASTM E 1351, Merkblatt Dampfkessel 451 83/6 (8.83), ISO 3057	AM, HE, O
32		Micro Hardness measurement: Knoop, Vickers, load (0,049 – 29,4) N	SOP 10-34 In accordance with ISO 6507-1, ISO 9015, ASTM E384	BR, BE
			SOP 10-34 In accordance with ISO 6507-1, ASTM E 384, ISO 4545, ISO 4516	AM, HE
33		Coating thickness measurement: microscopic	SOP 50-02 In accordance with ISO 1463	BR, BE
34	Degree of purity Non-metallic inclusions	SOP 30-22 In accordance with DIN 50602, ASTM E45	BR, BE	

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35	Metal and metal alloys	Crack Tip Opening Displacement (CTOD-Test); temperature limits (76 – 296) K	SOP 10-18 In accordance with BS 7448 part 1-4, ASTM E1290, ASTM E1820, ASTM E339, ISO 12135, ISO 15653, API 1104, DNV-OS-F110	BR
36		Fracture mechanical test Single Edge Notched Bend (SENB) specimens temperature limits: 93K – 523K		
37		Aging Sensitivity Unalloyed Carbon steel	SOP 10-20 In accordance with DIN 17102 par.7.4.1.5, EN 10225	BR
38	Thermoplastics	Clad welding Bend Test	SOP 10-44 In accordance with DIN 17100 par.9.5.7, SEP 1390	BR, BE
39	Epoxyhars	Deformation Bend Test	SOP 80-01 In accordance with DVS 2203 Teil 1 + 5	BR
40	Metals and Synthetics	Pressure Test on Pedding-, Cushioning materials; (load up to 1200 kN)	SOP 80-02 In-house method	BR
41	Metals and metal alloys	Surface roughness (Ra, Rz value)	SOP 50-01 In accordance with NEN 3635	BR, O
42		Ferrite measurement: Magne-gage	SOP 30-30 In-house method	BR, AM
43		Chloride Tension Corrosion Test;	SOP 40-15 In accordance with ASTM G36	BR, BE
44	Metals and metal alloys and corrosion products	Chemical Composition; Optical Emission Spectrometry	SOP 20-02 In-house method	BR, AM, HE, O
45		Scanning Electron Microscopy (SEM)	SOP 30-40 In-house method	BR, BE, AM, HE
		Energy Dispersi X-Ray Analysis (EDX)	SOP 30-40 In-house method	BR, BE, AM, HE

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46	Metals and metal alloys	Single Edge Notched Tension Test (SENT-Test); (76 – 350) K  Fracture mechanical test Single Edge Notched Tensile (SENT) specimens temperature limits: 93K – 523K	SOP 10-19 In accordance with ISO 15653, BS 7448 part 1-4, BS 8571, DNV-OS-F101, DNV-RP-F108	BR

**Opinions & Interpretations**

47	Metal and metal alloys	Failure analysis, using the tests as given in this list	SOP 30-06 In-house method	BR, BE, AM, HE, O
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**Mechanical testing**

48	Metals	Flanging	SOP 10-14 In accordance with ISO 8494	AM, HE
49	Cladded material	Shear test	SOP 10-16 In accordance with DIN 50162, AD 2000-Merkblatt W8, ASTM A 264	AM, HE
50	Reinforced steel connections	Tensile testing	SOP 10-50 In accordance with NEN-EN 10002-1:2001, NEN-EN 10326, ISO 6892-1	AM
51		Bend testing	SOP 10-51 In accordance with ISO 7438, EN 10326	AM
52	Reinforced steel bars	Tensile testing	SOP 10-52 In accordance with NEN-6008	AM
53		Shear testing	SOP 10-53 In accordance with NEN-6008	AM
54		Shear stress measurements of welds	SOP 10-54 In accordance with NPR-2053	AM
55	Reinforced steel bars	Fatigue testing	SOP 10-55 and SOP 10-57 In accordance with EN 10080, NEN 6008	AM
56		Dimensional inspection	SOP 10-56 In accordance with NEN-6008, ISO 15630, EN 10080	AM



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57	Hoisting hook	Load test	SOP 10-80 In-house method	AM
<b>Metallographic Investigations</b>				
58	Metals	Image analysis	SOP 50-03 In house method	AM, HE
<b>Corrosion Testing</b>				
59	Metals	Hydrogen Induced Cracking test	SOP 40-20 In accordance with NACE TM-0284	AM
60		Sulfide induced Stress Corrosion test	SOP 40-21 In accordance with NACE TM-0177	AM
61	Coatings	Cathodic Disbondment Test	SOP 93-01 In accordance with ISO 21809-3	AM