



# CERTIFICATE OF ACCREDITATION

**No. S-060**

The Slovak National Accreditation Service based on the decision  
Nr. 62/2010/025/2 dated September 3, 2010 certifies that

**SES INSPEKT, Ltd.**  
**Testing Laboratory**  
Továrenská 210, 935 28 Tlmače  
IČO: 31438491

is competent to carry out mechanical, metallographic and chemical tests of metal materials, chemical tests of solid fuels and non-destructive tests of metal materials, i.e. X-ray, ultrasonic, magnetic particles and dye penetrant tests within the accreditation scope delineated in the Annex to this Certificate.

*The laboratory gives evidence of competence to perform testing impartially and trustworthily by meeting the requirements of the **ISO/IEC 17025:2005** Standard.*

**Mr. Jozef Valentík** – the Head of Testing Laboratory, acts on behalf of the accredited laboratory and is responsible for the correctness of test reports.

Accreditation issued on September 3, 2010 and valid until September 3, 2014

Bratislava September 3, 2010



Jozef Obernauer  
Director

The Annex is an integral part of the certificate.

## THE SCOPE OF ACCREDITATION

The name of accredited subject: **SES INSPEKT, s.r.o.**  
**Testing Laboratory**  
 Tovarenska 210  
 935 28 Tlmace  
 Slovak Republic

Laboratory - **Type 1** (Laboratory is not allowed to modify the accredited methods).

Item	Object		Method applied		Other specification (range, uncertainty, purpose, modification / validation, opinions / interpretations, etc.)		
	Object / Matrix / Environment	Property / Parameter / Indicator / Analyte	Principle / Kind / Type	Identification	Range	Extended uncertainty $U$ $k=2$	
1.	iron based materials – sample of round cross-section	base material ultimate strength $R_m$ yield point $R_e, R_{p0.2}$ ductility A contraction Z	tensile test	STN EN 10 164 EN 10002-5 STN EN ISO 6892-1 ASTM – A370-89 ASTM – E92	(100-1000)MPa	EU 40	Instron
					1% 3,5% 2,5% 3,5%	– 1,5% for $R_{p0.2}$ – –	
					(5-90)% (5-90)%	– –	
	iron based materials – sample of axb cross-section	base material ultimate strength $R_m$ yield point $R_e$ ductility A		STN EN 13 445-4 STN EN ISO 15 614 EN 876, EN 895 EN 12952-5,6 AD HP 2/1 ASME CODE I.-IX.	(100-1000)MPa	EU 40	EU 100
					1% 3% 2%	2,5% – –	
					(100-1000)MPa (5-90)%	– –	
iron based materials (segment of tube)	base material ultimate strength $R_m$ yield point $R_e, R_{p0.2}$ ductility A		(100-1000)MPa	EU 40	Instron		
			1% 3% 3%	– 2% for $R_{p0.2}$ –			
			(5-90)%	–			
iron based materials – sample of round cross-section	butt welds ultimate strength $R_m$ yield point $R_e, R_{p0.2}$ ductility A contraction Z		(100-1000)MPa	EU 40	Instron		
			1% 3,5% 2,5% 3,5%	– 1,5% for $R_{p0.2}$ – –			
			(5-90)%	–			
iron based materials – sample of axb cross-section	butt welds ultimate strength $R_m$ yield point $R_e$ ductility A		(100-1000)MPa	EU 40	EU 100		
			1% 3% 2%	2,5% – –			
			(5-90)%	–			
iron based materials (segment of tube)	butt welds ultimate strength $R_m$ yield point $R_e, R_{p0.2}$ ductility A		(100-1000)MPa	EU 40	Instron		
			1% 3% 3%	– 2% for $R_{p0.2}$ –			
			(5-90)%	–			
2.	iron based materials	hardness base material	hardness test - Brinell - Rockwell - Vickers	EN ISO 6506-1 EN ISO 6507-1 EN ISO 6508-1 ASTM – A370-89 ASTM – E92 EN 1043-1 EN 12952-5,6 STN 05 0211	(100-400)HB (1-70)HRC (100-500)HV10	3% 6% 2%	
		butt welds					
3.	iron based materials a) U notch $KU_3$ b) U notch $KU_2$ c) V notch KV	impact toughness base material	impact bending test	EN 10045-1,2 STN 420382	(1-300)J	2,5%	
		butt welds		STN EN 13 445-4 STN EN ISO 15 614 EN 875 EN 12952-5,6 AD HP 2/1			

Destruction Laboratory



## The Annex of September 3, 2010 to the Accreditation Certificate No. S-060

The Annex is an integral part of the certificate.

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4.	iron based materials	fracture base material	fracture test	EN ISO 7438	-	-
		butt welds, fillet welds		STN EN 1320 STN EN 13 445-4 STN EN ISO 15 614 EN 287-1, EN 910 EN 12952-5,6 AD HP 2/1 ASME CODE I.-IX.		
5.	iron based materials	steel weldability	bead bend test	SEP 1390	-	-
6.	iron based materials - tubes	material damage, cracking	bending test, flattening test, drifting test, flanging test, ring drifting test, ring tensile test	EN 10232, ISO 8491 EN 10233, ISO 8492 EN 10234, ISO 8493 EN 10235, ISO 8494 EN 10236, ISO 8495 EN 10237, ISO 8496 ASME CODE I.-IX.	-	-
7.	iron based materials	content of carbon	IR-absorption	STN 420542 STN EN ISO 9556 (I-Q No. 101050/06)	-	-
		sulphur		STN EN 24 935 (I-Q No. 101051/06)		
		oxygen		STN EN 10 276-2 (I-Q No. 101052/06)		
8.	iron based materials	content of vanadium tungsten cobalt titan aluminium tin phosphor sulphur niobium carbon manganese silicon copper nickel chromium molybdenum	AES	Manual SPECTRO Stationary Metal Analyzers (I-Q No. 101064/10)	-	-
9.	iron based materials	content of manganese silicon copper nickel chromium molybdenum vanadium tungsten cobalt titan aluminium tin phosphor niobium	ICP-AES	Spectroflame Modula operation manual (I-Q No. 101048/03)	-	-

Destruction Laboratory

Section of Chemical Laboratory



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10.	iron based materials	content of manganese silicon copper nickel chromium molybdenum vanadium tungsten cobalt titan aluminium	AAS	Manual Perkin-Elmer Analytical Methods for AAS (I-Q No. 101047/02)	—	—
11.	iron based materials	content of silicon tungsten	gravimetric	STN 420512 STN 420520	—	—
12.	iron based materials	content of chromium	volumetric	STN 42 0517 (I-Q No. 101043/98)	—	—
13.	iron based materials	content of phosphor niobium	spectrophotometric	STN 420513 (I-Q No. 101042/96) STN 420531 (I-Q No. 101053/06)	—	—
14.	iron based materials	content of nitrogen	thermoevolving with thermal conductivity measurement	Instruction Manual 200-319 TC-136 (I-Q No. 101044/98)	—	—
15.	solid fuels	content of coarse water residual water analytical water total water ash total sulphur volatile inflammable	gravimetric	STN 441377 (I-Q No. 101059/09) STN ISO 1171 STN EN 14775 (I-Q No. 101060/09) STN 441379 (I-Q No. 101061/09) STN 441351 STN ISO 562 STN EN 15148 (I-Q No. 101063/09)	—	—
16.	solid fuels	total heating value and calorific value	calorimetric	STN ISO 1928 STN EN 14918 (I-Q No. 101062/09)	—	—
17.	iron based materials – semi-finished products, weld seams	weld size macrostructure and microstructure	measurement of weld size evaluation of structure	ON 070637 VdTUV 451-68/1 EN 12952-5 STN 038137 TRD 201 ASME CODE I.-IX. EN 1321 EN 12952-5, 12952-6 EN ISO 945, 5817 EN ISO 6520-1 EN ISO 15614, 14555 AD 2000 HP 2/1, HP 5/2	(0,1-10) mm	7 %
18.	iron based materials	resistant to intercrystalline corrosion	evaluation of structure	EN ISO 3651-2	—	—

Section of Chemical Laboratory

Metallographic Laboratory



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	Object / Matrix / Environment	Property / Parameter / Indicator / Analyte	Principle / Kind / Type	Identification	
19.	iron based materials, aluminium – welds, base materials	quality	radiographic testing	EN 1435, 25817, 12517 EN 13068, 12952, 12953 EN 13445, 444, 10208 EN 10246, 12062, 13480 EN 12732 GOST 7512 NF E 32105 DIN 1690, DIN 18800 EN ISO 5817, 15614 ISO 1106, 2437, 5579 STN 051305 ASME Code I., V., VIII., IX., B31.1 AD HP 5/3 CODAP	the tests are carried out in the laboratory and on the spot at the client
20.	iron based materials – welds, base materials	quality	ultrasonic test	EN 583, 1712, 1713 EN 1714, 10160, 10228 EN 10246, 10307, 10308 EN 12952, 12953, 13445 EN 25817, 10208, 12062 EN 13480, EN 12732 GOST 14782 NF A 04-308, 09-340 NF E 32105 DIN 1690, DIN 18800 EN ISO 5817, EN ISO 15614 ASME Code I., V., VIII., IX., B31.1 AD HP 5/3 CODAP SEL 072 SEP 1915, 1918, 1921 SEP 1919, 1920, 1922 STN 015024, 051171 STN 051172, 051173 STN 015042, 015043 STN 015028	the tests are carried out in the laboratory and on the spot at the client
21.	iron based materials, aluminium – welds, base materials	quality	dye penetrant tests	EN 571, 1289, 10228 EN 10246, 12952, 12953 EN 13445, 25817, 12062 EN 13480, EN 12732 GOST 18442 NF E 32105, NF A 09120 DIN 1690, DIN 18800 EN ISO 5817, EN ISO 15614 ASME Code I., V., VIII., IX., B31.1 AD HP 5/3 CODAP STN 015016	the tests are carried out in the laboratory and on the spot at the client
22.	iron based materials – welds, base materials	quality	magnetic particle test	EN 1290, 1291, 10228 EN 10246, 12952, 12953 EN 13445, 25817, 12062 EN 13480, 12732 GOST 21105 NF E 32105, NF A 09590 DIN 1690, DIN 18800 EN ISO 5817, 9934 EN ISO 15614 STN 015015 ASME Code I., V., VIII., IX., B31.1 AD HP 5/3 CODAP	the tests are carried out in the laboratory and on the spot at the client

Section of Defectoscopy

Remark: Extended uncertainty  $U$  for the items 1, 2, 3 represents the maximal value of uncertainty for the given interval.

