

**RECOGNITION OF A TEST LABORATORY CERTIFICATE**

No. 02-003121/025151

THIS IS TO CERTIFY:

That CROATIAN REGISTER OF SHIPPING did undertake, at the Laboratory's request, and pursuant of the Work instruction QW104 - "Recognition of test laboratory", on assessment of the organisational structure, responsibilities, facilities and associated quality assurance procedures of the referenced Laboratory with respect to test and testing standards, subject to any conditions in the Schedule of recognition attached hereto.

1. LABORATORY:Name of laboratory: **TPK – ZAVOD ZA ENERGETSKU I PROCESNU OPREMU d.d.**Address: **Slavonska avenija 20, 10000 ZAGREB, HRVATSKA - CROATIA****2. SCOPE OF RECOGNITION**

As listed in Annex I of the Schedule of recognition providing that test witnessing shall be as stated hereto.

3. CONDITIONS FOR THE VALIDITY OF THE RECOGNITION

- Tests are to be carried out and reported in compliance with the relevant Regulation(s).
- Surveillance audits are to be carried out annually by the CRS's surveyors and recorded in the Annex II of the Schedule of the recognition.
- CRS is to be informed immediately of any modification in the organisational structure, responsibilities, facilities and associated quality assurance procedures.

Recognition is valid until: **2025-01-24**Place and date: **Split, 2021-01-22**Seal **Signature****Marinko Popović, dipl.ing.**

SCHEDULE OF RECOGNITION

Annex I to Certificate No:

No. 02-003121/025151

Item No.	Test method	Regulation	Test standards (latest edition)	Test witnessing mode (see note)	Comments
1.	Mehanička i tehnološka ispitivanja materijala <i>Mechanical and technological testings of materials</i>	CRS Rules Part 25.	EN ISO 6892-1 EN ISO 6892-2 EN ISO 148-1 EN ISO 6506-1 EN ISO 6507-1 ASTM A1038-1 EN ISO 7438 ISO 8492 HRN EN ISO 8495 HRN EN ISO 8493 EN ISO-898-1 EN ISO-898-2 EN ISO 4136 EN ISO 5178 EN ISO 9016 EN ISO 9017 EN ISO 9015-1 EN ISO 9015-2 EN ISO 5173 EN ISO 5173/A1	(1)	
2.	Metalografska analiza metala i zavarenih spojeva <i>Metallographic analysis of metals and welded joints</i>	CRS Rules Part 25.	ISO 3057 HRN EN ISO 643 ASTM E112-13 HRN EN 10247 ASTM E45-13 EN ISO 945-1 EN ISO 17639 EN ISO 8249	(2)	
3.	Kemijsko ispitivanje metala <i>Chemical testing of metals</i>	CRS Rules Part 25.	ASTM E322-12 ASTM E572-12	(2)	
4.	Ispitivanje metala i zavarenih spojeva, metodama bez razaranja <i>Testing of metals and welded joints by non-destructive methods</i>	CRS Rules Part 1.	HRN EN ISO 23277 EN ISO 17636-1 HRN EN ISO 17640 HRN EN ISO 17638 HRN EN ISO 17637 ASME BPVC, Sec.V, Art.23 EN ISO 23277 EN ISO 10863 EN ISO 13588 EN ISO 14730-1 ASME BPVC, Sec.V, Art.2 ASME BPVC, Sec.VIII, Div I, App.4, Part UW-51, UW-52	(2)	

Note:

- (1) Except otherwise agreed upon, the CRS witnessing is compulsory for every test.
- (2) First test and one per 4 years.
- (3) CRS witnessing is not compulsory.

			ASME BPVC, Sec.VIII, Div I, App.8 EN 12681 ANSI/ASME 31.3, Ch VI, Par. 344.4 ASME BPVC, Sec.V, Art.7 ASME BPVC, Sec.VIII, Div I, App.6 EN 10160 ANSI/ASME B31.3, Ch VI, Par. 344.3 ASME BPVC, Sec.VIII, Div 1, App.6 ANSI/ASME B31.3:2014, Ch VII, Par. 344.3 ASME BPVC, Sec.V, Art.4, Mand.App. III HRN EN 1593 ASME BPVC, Sec.V, Art.10, App. II API 650 EN 10160 DIN 55670-A EN ISO 16809 EN 12681		
5.	Ispitivanje stručne sposobnosti zavarivača <i>Testing of welders ability</i>	CRS Rules Part 26.	HRN EN ISO 14732 API 1104 EN ISO 9606-1 EN ISO 9606-2 ASME Sec.IX	(2)	
6.	Ispitivanje kvalitete zavarenih spojeva i dodatnih materijala za zavarivanje, te ispitivanje zavarljivosti <i>Testing of quality of welded joints and consumables for welding and testing of weldability</i>	CRS Rules Part 26.		(3)	
7.	Izrada tehnoloških procesa za proizvodnju zavarenih konstrukcija <i>Elaboration of technological processes for manufacture of welded structures</i>	CRS Rules Part 26.		(3)	
8.	Ekspertize havarija na brodskim glavnim i pomoćnim kotlovima i spremnicima <i>Expertise of damages on ship's main and auxiliary boilers and vessels</i>	CRS Rules Part 1.		(3)	

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9.	Ekspertize materijala i zavarenih spojeva na kotlovima i spremnicima nakon dugotrajne eksploatacije, s procjenom preostalog vijeka trajanja <i>Expertise of materials and welded joints on boilers and vessels upon long-time exploitation with estimation of the remaining duration life</i>	CRS Rules Part 1.		(3)	
10.	Vizualna kontrola nepristupačnih dijelova objekta (endoskopija) <i>Remote visual inspection (endoscopy)</i>	CRS Rules Part 1.		(3)	
11.	Ispitivanje antikorozijske zaštite <i>Testing of anticorrosive protection</i>	CRS Rules Part 1. CRS Rules Part 24.	EN ISO 2178 EN ISO 8502-4 ASTM D4417-19 EN ISO 2409 EN ISO 2808	(3)	

Note:

- (1) Except otherwise agreed upon, the CRS witnessing is compulsory for every test.
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SURVEILLANCE AUDITS

Annex II to Certificate no:

No. 02-003121/025151

Mandatory survey due period (+/- 3 months):

	1.	2.	3.
Due date:	2022-01-24	2023-01-24	2024-01-24
Date of survey:			
Name and signature:			
Seal:			