



## RECOGNITION OF A TEST LABORATORY CERTIFICATE

No. 02-002213/024055

## 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: **2021-01-24**

Place and date: Split, 2017-03-06

Seal

Signature

Marinko Popović, dipl.ing.

## SCHEDULE OF RECOGNITION

Annex I to Certificate No:

No. 02-002213/024055

Item No.	Test method	Regulation	Test standards (latest edition)	Test witnessing mode (see note)	Comments
1.	<b>Mehanička i tehnološka ispitivanja materijala</b> <i>Mechanical and technological testings of materials</i>	CRS Rules Part 25.	EN ISO 6892-1 EN ISO 6892-2 EN 10045-1 EN ISO 6506-1 EN ISO 6507-1 EN ISO 6508-1 EN ISO 7438 ISO 8492 HRN EN ISO 8495 HRN EN ISO 8493 EN 10244-1 EN 10244-2 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.	<b>Metalografska analiza metala i zavarenih spojeva</b> <i>Metallographic analysis of metals and welded joints</i>	CRS Rules Part 25.	ISO 3057 HRN EN ISO 643 HRN EN ISO 3887 ISO 4967 HRN EN 10247 ASTM E45-13 ISO 4969 HRN EN ISO 945	(2)	
3.	<b>Kemijsko ispitivanje metala</b> <i>Chemical testing of metals</i>	CRS Rules Part 25.	HRN C.A1.050 HRN EN ISO 439 HRN C.A1.054 HRN C.A1.058 HRN C.A1.064 EN ISO 2178 EN ISO 8502-4 ASTM D4417-03 EN ISO 2409 EN ISO 2808	(2)	
4.	<b>Ispitivanje metala i zavarenih spojeva, metodama bez razaranja</b> <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 HRN EN ISO 10893-6 HRN EN ISO-10893-5 HRN EN ISO-10893-4	(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.

			EN 12681 EN 1369 EN 1371-1 EN 1371-2 EN 10160 EN 10307 EN 10228-3 EN 10228-4 EN 10228-1 EN 10228-2 EN 10308 EN 13018 EN 13018/A1		
5.	<b>Ispitivanje stručne sposobnosti zavarivača</b> <i>Testing of welders ability</i>	CRS Rules Part 26.	HRN EN ISO 14732 HRN EN ISO 15614-1 HRN EN ISO 15614-2 EN 288-9 API 1104 ISO 15614-1 ISO 15614-8 HRN EN ISO 14555 ASME Sec.IX	(2)	
6.	<b>Ispitivanje kvalitete zavarenih spojeva i dodatnih materijala za zavarivanje, te ispitivanje zavarljivosti</b> <i>Testing of quality of welded joints and consumables for welding and testing of weldability</i>	CRS Rules Part 26.		(3)	
7.	<b>Izrada tehnoloških procesa za proizvodnju zavarenih konstrukcija</b> <i>Elaboration of technological processes for manufacture of welded structures</i>	CRS Rules Part 26.		(3)	
8.	<b>Ekspertize havarija na brodskim glavnim i pomoćnim kotlovima i spremnicima</b> <i>Expertise of damages on ship's main and auxiliary boilers and vessels</i>	CRS Rules Part 1.		(3)	
9.	<b>Ekspertize materijala i zavarenih spojeva na kotlovima i spremnicima nakon dugotrajne eksploatacije, s procjenom preostalog vijeka trajanja</b> <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.	<b>Vizualna kontrola nepristupačnih dijelova objekta (endoskopija)</b> <i>Remote visual inspection (endoscopy)</i>	CRS Rules Part 1.		(3)	

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