

WELDING PROCEDURE QUALIFICATION RECORD (WPQR)

N. 2025TQCE388-1

Manufacturer **SAFAK EYLUL TANKOS**

WPQR No. **WPQR-01**

Dated **02.09.2025**

Manufacturer's welding procedure (WPS) No. **pWPS01**

Dated **15.08.2025** Date of welding **13.08.2025**

RANGE OF APPROVAL

Welding process	131	Type	Partly mechanized 131
Joint type	Plates and Pipes BW ssgb, ssmb, bs/FW		
Single/Multiple pass	Multiple 131		
Parent material group(s)	22.4 ISO/TR 15608; ISO/TR20172; ISO/TR 20173; ISO/TR20174		
Steel grades	5083 H321 - 5083 H111 - 5083 O according to Pt D, Ch 3, Sec 2 of RINA Rules		
Parent material thickness (mm)	Butt Joint = 3 to 20	Fillet Joint	$t_1 = \mathbf{3\ to\ 20}$ $t_2 = \mathbf{3\ to\ 20}$
Throat thickness (mm)	3 to 20		
Weld deposit thickness (mm)	max. 20		
Outside diameter (mm)	Over 500		
Filler metal make	Hyundai SMT-5183 (AlMg4,5 Mn 0.7A) Solid rod		
Filler metal type	S Al 5183		
Shielding gas (ISO 14175)	II	Backing gas (ISO 14175)	N.A.
Type of welding current	DCEP 131	Heat input Kj/cm	min. 7.37 max. 15.68
Welding position	PA		
Preheat min. (°C)	20	Interpass temp. Max. (°C)	200
Post weld heat treatment / Ageing	None		
Other information	None		

Welders name **Erkal Tankos**

Stamp No. **WPQR01**

Welding test conducted by **SAFAK EYLUL TANKOS**

Mechanical test conducted by **İMKOSAN Mühendislik Ltd. Şti.**

Laboratory **00236-25-TT**
test No. **00013-25-BT**

At presence of RINA Surveyor **Buğra Öztekin**

We certify that the statements in this certificate are correct and that the test welds were prepared, welded and tested in accordance with **RINA Rules for the Classification of Ships** requirements.

Issued at: **Genova**

on 19.11.2025

Current issue: 19.11.2025



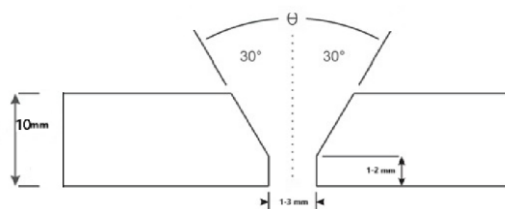
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PED No. Bo. 0474

JOINT DETAILS AND WELDING SEQUENCES

SINGLE V BUTT JOINT IN PLATES, BOTH SIDES WELDING

Pass No.	Process	Filler metal diam. (mm)	Filler metal classification	Amps	Volt	Travel speed (cm/min)	Heat input (kJ/cm)	Other
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1	131	2.4	S AL5183	260	26	33.00	9.83	-
2	131	2.4	S AL5183	280	28	37.00	10.17	-
3	131	2.4	S AL5356	280	28	30.00	12.54	-

**PARENT MATERIAL**

Material specification	EN 485-2013		
Type or grade	5083 H111		
Steel grade	- according to Pt D, Ch 3, Sec 2 of RINA Rules		
Group(s)/Subgroup(s) No. (ISO/TR 15608)	22.4		
Thickness (mm)	10	Throat thickness (mm)	N.A.
Diameter (mm)	N.A.		
Branch connection angle	N.A.		
Other	-		

WELDING CONSUMABLES

Process	131		
Trade name(s)	Hyundai SMT-5183		
Specification	EN ISO 18273		
Classification / designation	S Al 5183 (AlMg4,5 Mn 0.7A)		
Size (mm)	2.4		
Deposited metal thickness	10mm		
Groove	10mm		
Throat	N.A.		
Flux trade name	N.A.		
Consumable insert	N.A.		
Other	-		

GAS			
	Gas	Mixture	Flow rate (l/min.)
Shielding	I1 100%Ar	N.A.	16
Trailing	N.A.	N.A.	N.A.
Backing	N.A.	N.A.	N.A.

POSITION	
Welding position	PA
Other	-

PREHEAT		POSTWELD HEAT TREATMENT	
Preheat temperature	20°C	Temperature	None
Interpass temperature	200°C	Time	N.A.
Other	None	Other	-

ELECTRICAL CHARACTERISTICS			
Current	DCEP		
Ampere (range)	See table	Volts (Range)	See table
Mode of metal transfer	N.A.		
Tungsten electrode size and type	N.A.		
Other	-		

TECHNIQUE	
Travel speed (range)	See table
String or weave bead	String and weave
Oscillation (*)	none
Method of groove/edge preparation	Machining/Grinding
Interpass cleaning	Grinding/Brushing
Method of back gouging	Grinding to sound metal
Orifice or gas cup size	19
Stand off distance (*)	N.A.
Multiple or single pass	Multiple
Multiple or single electrodes	Single
Torch angle (*)	N.A.
Other	(*) for fully mechanized/robotic only

TRANSVERSE TENSILE TEST						
Spec. (No.)	Width (mm)	Thickness (mm)	Area (mm ²)	Total load (N)	R _m . (N/mm ²)	Fracture location
NO 1	24.62	9.97	245.46	70000	282	Base Metal
NO 2	24.76	9.89	244.88	70000	286	Base Metal

BEND TEST		
Type	No.	Result
FACE TRANSVERSE	2 OFF	Acceptable
ROOT TRANSVERSE	2 OFF	Acceptable
SIDE TRANSVERSE	-	-

IMPACT TEST				
Spec No.	Notch location	Notch type	Test Temp. (°C)	Impact values (J)
VWT_{1,2,3}	WELD	ISO-V	-	-
VHT_{1,2,3}	FUSION LINE	ISO-V	-	-
VHT_{1,2,3}	H.A.Z.	ISO-V	-	-

HARDNESS TEST		
Location	Type/load	Maximum value
Parent metal(s)	HV10	-
H.A.Z.(s)	HV10	-
Weld metal	HV10	-

OTHER TEST

MACROGRAPHIC EXAMINATION
MICROGRAPHIC EXAMINATION

Acceptable (Report No: 00036-25-MO)
Not required

NON DESTRUCTIVE EXAMINATION

VISUAL EXAMINATION
RADIOGRAPHIC EXAMINATION
PENETRANT TEST
MAGNETIC PARTICLE
ULTRASONIC TEST

Acceptable
Acceptable (Report No: 03826-25-XR)
Acceptable (Report No: 01286-25-PT)
Not required
Not required

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