



TMK-ARTROM S.A.

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 EUID: ROONRC.J28/9/1991; J28/9/31.01.1991
 VAT No. RO 1510210/1992
 Subscribed and Paid Share Capital: 291.587.538,34 lei

INSPECTION CERTIFICATE - EN 10204: 2004 / 3.1

No : I 1106	Sigla fabricii:		Comanda client nr.: 39/2017	PL: 0480
Date: 12.01.2018	Manufacturer's mark:		Customer Order No. : 39/2017	
Specificatii/Specification: API5L:13/ ASTM A106:15/ASME SA106:15/ASTM A53:12/ PED 2014/68/EU(Appendix 1, par. 4.3)+ AD 2000W4/ EN 10216-2:13/ ISO 3183:12		Dimensiune / Dimensions: 108 x 5 x 6 000+100/-0 mm Otel / Steel: Gr. B PSL1/ Gr.B/ P235GH TC1/ P265GH TC1 / L245 PSL1		
Description: Hot rolled seamless steel pipes; marking by painting at one end: TMK-ARTROM, standard, dimension, steel grade, SMLS, heat no., lot, LENGTH(m), mill inspector no. 5 // standard, steel grade, 12.70 Kg/m, TEST PRESSURE 2500 PSI;				
Nr. Sarja / Heat No. : 93737				
Cantitatea livrata/ Quantity delivered	Bucati / Pcs.	Lungime/Length - m	Greutate / Weight- Kg	
	80	480.0	6100	

Compozitia chimica pe otel lichid / Ladle Chemical Analysis [%]

Heat no.	C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	V	B
93737	0.19	1.32	0.004	0.010	0.21	0.07	0.06	0.02	0.24	0.024	0.001	0.001	0.002	.0004

Cr+Cu+Mo+Ni= 0.39 Nb+V=0.003 Nb+V+Ti=0.004

Compozitia chimica pe otel produs / Product Chemical Analyse (%)

Heat no.	C	Mn	S	P	Si	Ni	Cr	Mo	Cu	Al	Nb	Ti	V	B
93737	0.19	1.32	0.004	0.009	0.20	0.08	0.06	0.02	0.22	0.026	0.001	0.001	0.001	.0004
93737	0.19	1.32	0.005	0.010	0.20	0.08	0.06	0.01	0.23	0.027	0.001	0.002	0.001	.0004

Caracteristici mecanice / Mechanical Properties

INCERCAREA LA TRACTIUNE / TENSILE TEST (EN ISO 6892-1) - at room temperature-		Rp0.2	Rt0.5	Rm	A
Tip epruveta / Test Specimen // Fasie - longitudinal / Strip-longitudinal		N/mm ²	N/mm ²	N/mm ²	%
Dimensiune / Dimension (mm) : 15.40 x 5.05		367	369	461	35
Sectiune / Section (mm ²) : 77.77					
Lungime / Length - (Lo) (mm) : 45					
Test largire dorn Drift expanding test (EN ISO 8493)	Test applatizare Flattening test (EN ISO 8492)	Test Charpy - crestatura V Charpy V - Notch (EN ISO 148-1) KV/Longitudinal 2.5 x 10 [mm]		Test tractiune inel Ring tensile test (EN ISO 8496)	
OK	OK	23 (23; 23; 24) J (-10 ⁰ C)		-	
Hydraulic test pressure (ASTM A530): 2500 PSI for 5 sec: OK Melting process: electric arc furnace, fully killed Heat treatment: normalized during hot rolling process, temperature between 880°C - 940°C and cooled in still air Bending test (ASTM A106 point 11): OK		Hardness HRB: 74-75-74-75 Hardness HRC max 22 (acc to NACE MR01.75/ISO 15156) NACE MR01.03/ISO 17945 Grain size ASTM E 112: 9.0			

Inspectia vizuala si dimensionala: OK / Visual inspection and dimensional check : OK

The manufacturer of pipes is certified by LRQA in accordance with: ISO 9001:08 (certificate no. 6007159 issued by 2015-08-10, valid until 2018-08-10), ISO 14001:04 (certificate no.6007157 issued by 2015-08-16, valid until 2018-08-10), OHSAS 18001:07 (certificate no.6007158 issued by 2015-08-12, valid until 2018-08-10).

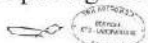
The material "not contain intentional additions of elements such as lead, selenium, or sulphur to improve machinability"

"TEVILE CERTIFICATE NU AU FOST REMANIATE PRIN SUDURA "

" NO WELD REPAIR ON HEREBY CERTIFIED TUBES "

Sef serviciu CTC Laboratoare
QC & LABORATORIES CHIEF
 Dipl. Eng. Silviu Barbulescu

INSPECTOR CTC
MILL INSPECTOR
 Eng. Constantin Lupu



Ausgestellt im Einvernehmen mit dem TÜV SÜD (02/98)
 Issued in agreement with TÜV SÜD (02/98)

THIS IS FOR CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED WITH THE ORDERED SPECIFICATION AND THAT INFORMATION IS CORRECT, THEY MEET THE SPECIFICATION'S REQUIREMENTS AND ARE RECORDS IN G OUR COMPANY DOCUMENTS.