

Heat: 820053
Your PO: PO 239426-01

Order: 3001631 5" XH 0.375" PIPE SMLS A53/API5L/A106 GR B/X-42 PEB SRL
Line: 1



Vallourec Soluções Tubulares do Brasil S.A.
Barreiro Plant - Av. Olinto Meireles, 65
ZIP 30640-010 - Belo Horizonte, MG



Inspection Certificate

(According to DIN EN 10204.3.1)

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Customer: VALLOUREC USA CORPORATION c/o Vallourec North America SSC AP

Country: USA

Material Number: 281649

Work Order: 632332 / 170

Customer Order: 21009459 - 113303

Material Supply Authorization: 21009459 - 113303

Inspection: Vallourec Soluções Tubulares do Brasil S.A.

DESCRIPTION OF PRODUCTS: SEAMLESS STEEL PIPE, HOT FINISHED , BEVELED ENDS 30 DEG. , NORMALIZED

DIMENSIONS: 5 9/16" X 0.375" **GRADE:** X42N # BN # C # B # B

STANDARD: API SPEC 5L, 04.2018, 46TH EDITION - PSL 2

IN ACCORDANCE ALSO TO THE STANDARDS: ASTM A 106 - 19 A ASTM A 530 - 18 # ASTM A 53 - 20 # ASME SA-106 - 19 ASME SA 530 - 19 # ASME SA-53 - 19

CUSTOMER SPECIFICATION: TEXAS PIPE Gr B, C, X42, R8 , 28.03.2017

SURFACE PROTECTION: EXTERNAL: LACQUER **PIPE ENDS PROTECTOR:** PLASTIC CAP

TOLERANCES: OUTSIDE DIAMETER (PIPE BODY): -0.03 " / +0.04 " **WALL THICKNESS:** -0.05 " / +0.06 "

TOLERANCES(PIPE ENDS): OUTSIDE DIAMETER: -0.02 " / +0.06 "

LENGTH: RANDOM 38.00 FT - 45.00 FT

STANDARD MARKING: Paint stenciled in the pipe body: MANUFACTURER API Spec 5L-0150.4 API MONOGRAM MONTH/YEAR ASTM/ASME A/SA 53/106 5 9/16 X 0.375 X42N/BN/B/C/B PSL2 SMLS HEAT NUMBER LENGTH 2970
PSI/NDE SCH 080 WEIGHT S SEQ SSEQNUMBERS NPS 5" X SCH XS VSB LOGO

SHIPPING MARKING: TEXAS PIPE * P.O 293835/ITEM-17 * VUSA 21009459 * HOUSTON * MADE IN BRAZIL 601394/170

Heat	Pieces
195432	8
820053	54
Total	62

THE PRODUCT IS SATISFACTORY IN THE FOLLOWING TESTS / INSPECTIONS: DIMENSIONAL # VISUAL # FLATTENING TEST # ENDS INSPECTION : MPI(WET) # HYDROSTATIC TEST: 2970.0 PSI 5 S # RESIDUAL
MAGNETISM: MAX 30 GAUSS # ELECTROMAGNETIC TEST : API 5L,N12,5, LONG, OUT/IN #



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Chemical Composition (%)

Ceq: C+Mn/6+(Cr+Mo+V)/5 +(Ni+Cu)/15		CE1: Nb + V					CE2: Nb + V + Ti					CE3: Cr + Cu + Mo + Ni + V									
		C	Mn	P	S	Si	Ni	Cr	Mo	Al	Cu	V	Nb	B	Ti	N	Ca	Ceq	CE1	CE2	CE3
Heat Analysis	Min		0.29			0.10															
	Max	0.220	1.15	0.025	0.0150	0.40	0.30	0.30	0.150		0.40	0.060	0.050	0.0010	0.040			0.40	0.06	0.15	1.00
Product Analysis	Min		0.29			0.10															
	Max	0.220	1.15	0.025	0.0150	0.40	0.30	0.30	0.150		0.40	0.060	0.050	0.0010	0.040			0.40	0.06	0.15	1.00
Heat Control Lot																					
195432	030003748048	0.159	1.07	0.015	0.0017	0.31	0.03	0.09	0.016	0.023	0.08	0.006	0.001	0.0002	0.001	0.0062	0.0018	0.37	0.01	0.01	0.22
	Check 1	0.161	1.10	0.015	0.0023	0.30	0.03	0.08	0.014	0.025	0.08	0.003	0.003	0.0000	0.002	0.0061	0.0017	0.37	0.01	0.01	0.21
	Check 2	0.162	1.10	0.015	0.0022	0.30	0.03	0.08	0.015	0.025	0.08	0.003	0.003	0.0000	0.002	0.0065	0.0017	0.37	0.01	0.01	0.21
820053	030003748047	0.190	1.07	0.011	0.0010	0.27	0.04	0.03	0.010	0.030	0.04	0.001	0.001	0.0001	0.002	0.0080	0.0012	0.38	0.00	0.00	0.12
	Check 1	0.175	1.09	0.011	0.0013	0.27	0.03	0.04	0.008	0.030	0.04	0.000	0.002	0.0000	0.002	0.0075	0.0016	0.37	0.00	0.00	0.12
	Check 2	0.180	1.09	0.012	0.0013	0.27	0.03	0.04	0.008	0.030	0.04	0.000	0.002	0.0000	0.002	0.0076	0.0016	0.38	0.00	0.00	0.12

Ceq: Carbon Equivalent; CE: Combined Elements;

Tensile Test

Specimen Direction: Longitudinal Temperature: Room Temperature Wall Thickness: 0.375" Gauge Length: L0=2"
Method: Elong.Total Under Load 0.50 %

		Type of Specimen	Area (S _{qin})	YS (PSI)	TS (PSI)	E (%)
Required: Min				42100	70000	26.0
Max				71800	95000	
Heat Control Lot						
195432	030003748048	STRIP WIDTH 25.4 MM	0.4	48400	73700	40.0
820053	030003748047	STRIP WIDTH 25.4 MM	0.4	47600	72200	39.0

YS-Yield Strength; TS-Tensile Strength; E-Elongation;



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Hardness Test

Scale: HV10

Required: Min

Max 246.0

Heat Control Lot

195432	030003748048	148.0
820053	030003748047	150.0

Impact Test

Test Specimen: CHARPY 10X55X6.67 V NOTCH

Direction: Transverse

Temperature: 32°F

Striker radius: 0.315"

	AE1 (Ftlb)	AE2 (Ftlb)	AE3 (Ftlb)	AE4 (Ftlb)	AE5 (Ftlb)	AE Avg (Ftlb)	SA1 (%)	SA2 (%)	SA3 (%)	SA4 (%)	SA5 (%)	SA Avg (%)
Required: Min	10	10	10			13						
Max												

Heat Control Lot

195432	030003748048	83	87	105		91	100	100	100			100
820053	030003748047	108	108	109		108	100	100	100			100

AE - Absorbed Energy; SA - Shear Area;

Remarks:

MATERIAL IN ACCORDANCE WITH NACE MR0175 / ISO 15156-2 ANNEX A.2.1.2
NACE MR0103 / ISO 17945-1 §13.1, LATEST EDITION.

THE WORKS OPERATE A QUALITY MANAGEMENT SYSTEM ACCORDING TO EUROPEAN
DIRECTIVE 2014/68/UE ANNEX I PAR. 4.3 (CERTIFICATE 2016 BH MP 02-02
VALID UNTIL 12.05.2019).

MATERIAL ACCORDANCE TO PED 2014/68/UE ANNEX I PAR. 7.5."

FREE OF MERCURY CONTAMINATION. NO WELD REPAIR. NO RADIOACTIVE
CONTAMINATION. STEEL FULLY KILLED AND FINE GRAIN PRACTICE.
STEEL MELT COUNTRY OF ORIGIN: BRAZIL.

NORMALIZED
TEMPERATURE 905°C
FURNACE TIME 20 MINUTES



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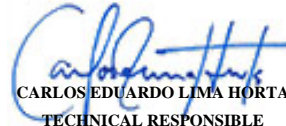
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COOLING METHOD : AIR

The data presented were converted from SI measurement system, used for the original inspection.

We hereby certify that this product has been manufactured and examined in accordance with all requirements of the standards and specifications and all the results are found to be satisfactory. This testimonial and certificate respectively is recorded by a computer system and is valid without signature. Alteration or use for others products are regarded as falsification of documents and will be subject to criminal jurisdiction.

QUALITY CONTROL DEPARTMENT
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CARLOS EDUARDO LIMA HORTA
TECHNICAL RESPONSIBLE

DATE
04.25.2022