

Heat: MK0103  
Your PO: PO244011-1

Order: 3197741 Line: 3  
Item: 5" XH 0.375" PIPE SMLS A53/API5L/A106 GR B/X-42 PEB SRL



2669 Martin Luther King Jr Blvd  
Youngstown, OH 44510

**VALLOUREC STAR LP**  
Seamless Tubular Products

Certified Test Report  
10/03/2022  
Revision: 0

Order: Y-221122914-001 Desc: Seamless Line Pipe- Normalized Rolled  
Grade: API 5L X42/B N/BN PSL2 46th Edition May 01, 2019  
OD(in): 5.563 Wall(in): 0.375 Lbs/Ft: 20.80 Length: Double Random  
End Finish: Plain End Beveled  
Comments: Melted and Manufactured in Youngstown, Ohio USA  
Customer Order: 324405  
SLN / (Heat): MK0103  
Split: 00

Pipe is also manufactured to: ASTM A106B/C-19a, ASTM A53B-20, ASME SA106B/C-2021, ASME SA53B-2021. Vallourec Star's QA program meets the requirements of DIN EN10204-2004 Type 3.1. Satisfies NACE MR0175/ISO15156:2015 and ANSI/NACE MR0103/ISO17945:2015.  
No repair welding has been conducted. Material is free from Mercury.

**Mechanical Properties**

Orientation	Type	Tensile Size Specimen Cross Section			Strength (ksi)			Elongation		
		Width (in)	Thick (in)	Area (sqin)	Yield	Tensile	Y/T Ratio	Gage Length	% Elong	% RA
Longitudinal	Strip	1.000	0.370	0.3700	45.5	74.2	0.61	2	35.7	60.4

Required Min/Max Yield Strength (ksi): 42.1/71.8      Required Min/Max Tensile Strength (ksi): 70/95      Calculated Max Internal Yield (psi): 5371

Required Min Elongation(%): 30

**Supplemental Requirements**

Flattening Test	PASS
Hardness 3 Point	76.2 avg HRBW
Hydrostatic Pressure	4260 psi
Hydrostatic Hold Time	5 seconds

**Chemical Analysis Chem Spec: 61M**

WT%	C	Mn	P	S	SI	Cu	Ni	Cr	Mo	Sn	Nb	V	Al	Ca	B	Ti	N	C.E.
Heat	0.20	0.68	0.007	0.007	0.24	0.17	0.06	0.12	0.02	0.008	0.000	0.001	0.037	0.0021	0.0003	0.002	0.0089	0.36
Product 3	0.20	0.68	0.007	0.006	0.23	0.17	0.06	0.11	0.03	0.008	0.000	0.001	0.036	0.0018	0.0002	0.002	0.0085	0.36
Product 4	0.20	0.68	0.007	0.006	0.23	0.17	0.06	0.11	0.03	0.008	0.000	0.001	0.037	0.0018	0.0002	0.002	0.0086	0.36

**Charpy Impact Testing**

	Notch	Direction	Size	Temp °F	Position	Ft Lbf 1	Ft Lbf 2	Ft Lbf 3	Ft Lbf Avg	Shear 1	Shear 2	Shear 3	Shear Avg
Actual	V	Transverse	2/3	32	Lead	25	30	29	28	25	25	25	25

This material has been produced and tested in accordance with the requirements of applicable specifications unless otherwise listed below. We hereby certify that the above test results are representative of those contained in the records of the company. Any modification to this certification as provided by Vallourec Star without the expressed written consent of Vallourec Star negates the validity of this test report. Vallourec Star is not responsible for the inability of this material to meet specific applications.

THIS CERTIFICATE IS NOTARIZED ONLY WHEN REQUESTED.

Signed:

Name: Jeff Schultz, Lab Supervisor

Date Approved: 10/03/2022

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Inspection Company: L Bay

### Non-Destructive Evaluation Criteria

#### EMI CHANNELS

ID  
10% Longitudinal  
10% Transverse  
OD  
5% Longitudinal  
5% Transverse

#### WALL THICKNESS CHECK

75% Wall Reduction  
87.5% Wall Reduction  
Required Volumetric Coverage: 50%

#### END AREA

Mag. Particle (Ref. Ind. Burmah/Castrol Strip)  
OD  
White Light  
Longitudinal

#### ADDITIONAL REQUIREMENTS

Notch Length 1.5" Max  
Notch Width .020" Max