

Certificate of Test

16.5 Lueber Ave. S.W.
Canton, Ohio 44706
ID #0487140-1

TIMKEN STEEL

12/05/201

CH 80 sleeve - 1 pc

S
O T
L O
D

HT # W3786

R 5 982 + 2

S
H T
I O
P

Customer Order: P892633-423 120592 BAY 3 Customer Part Number: 120592
Mill Order: 56847-P (2160538) Heat Number(s): W3786

Description of Material

OD: 10.000 in (254.000 mm) WALL: 0.750 in (19.050 mm) ID: 8.500 in (215.900 mm)
Shape: RD
Prod Type: TUBE
Sales Type: 1026
Int Quality: ULTRASONIC
Condition: HOT ROLL

Specification

- ASTM A 519 / A 519M Rev. 17 06/01/2017
- ASTM A 106 / A 106M GRADES B & C Rev. 18 05/01/2018 EXCEPT AS NOTED
- ASTM E 213 Rev. 14e1 06/01/2014 FOR NONDESTRUCTIVE ELECTRIC TESTING
- ASTM E 309 Rev. 16 06/01/2016 EXCEPT AS NOTED
- EUROPEAN STANDARD EN 10204 12/17/2004 TYPE 3.1 INSPECTION CERTIFICATE

Chemistry Information

	%C	%Mn	%P	%S	%Si	%Cr	%Ni	%Mo	%Cu	%Al	%V
SPEC Ladle Min:	.22	.60			.10						
SPEC Ladle Max:	.28	.90	.030	.035		.40	.40	.15	.40		.080
W3786 Ladle:	.26	.86	.010	.020	.25	.07	.08	.02	.16	.033	.002

Testing of elements performed at TimkenSteel Chemistry Labs except where noted.

Metallurgy Information

SPEC: Chemistry CR+NI+MO+CU+V 1.000 Max

Heat W3786 CR+NI+MO+CU+V: 0.332

SPEC: Flattening

Material is capable of meeting flattening requirements of ASTM A106 and ASME SA106.

SPEC: Hardness ASTM E10 (Info Only)

Heat	Piece#	1	UOM
W3786	3153459	HARDNESS	171 BRINELL
	3153459	LOCATION	MID BRINELL

SPEC: Tensile ASTM E8 TENSILE 70,000 Min STRENGTH UOM PSI YIELD .2 40,000 Min MIN ELONGATION 22.0
Min GAUGE LENGTH 2 IN SHAPE ROUND DIRECTION LONGITUDINAL TEMPERATURE ROOM LOCATION MID

Heat	Piece#	Tensile Strength	UOM	Yld Elong%	Gauge Length	%Red Specimen	Direction	Temp	Location
W3786	3153460	78,583	PSI	49,412 28.7	2 IN	60.2 .505"	RD LONG.	RT	MID

All Hardness and Tensile testing performed at TimkenSteel Metallurgical Lab except where noted.

When shipping document is attached it becomes part of this certification.

We certify the above materials have been inspected and tested in accordance with the methods prescribed in the governing specifications and consistent with our Standard Commercial Terms and Conditions for Sale, Manufacture, and Shipping, which are incorporated into and made part of this certification. The results of such inspections and tests conform with the applicable requirements including the purchase order, specification(s) and exception(s). This certificate or report shall not be reproduced except in full, without the written approval of TimkenSteel Corporation.

Notarized: _____ by _____
NOTARY PUBLIC

Essie Dillard
Essie Dillard, METALLOGRAPHER

TimkenSteel Corporation

Center Pipe

Jan 31 / 19

Steel Certificate of Test

1835 Dueber Ave. S.W.
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Customer Order: P892633-423 120592 BAY 3 Customer Part Number: 120592
Mill Order: 56847-P (2160538) Heat Number(s): W3786

Heat W3786 Melt Source: USA
Manufacturing: USA

STRAND CAST PROCESS
REDUCTION RATIO - 19.8:1

Ultrasonic in lieu of hydrostatic testing - Satisfactory.

DFARS 252.225-7008 AND 252.225-7009 COMPLIANT (FORMERLY DFARS 252.225-7014)

TimkenSteel certifies that there is no mercury or radio-active material used in the melting or processing.

NAFTA - YES

No welding of this material has occurred.

Material has not been exposed to radioactivity.

Material melted and produced in the USA

In reference to Section 1502 ("Conflict Minerals") of the Dodd-Frank Wall Street Reform and Consumer Protection Act, no tantalum, tin, tungsten or gold was intentionally added to this material.