



CHANDAN STEEL LIMITED
(GOVT. OF INDIA RECOGNISED EXPORT HOUSE)
ISO 9001 : 2008 CERTIFICATE No. 04 100 011022

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L/c. No. : ---
L/c. Date: ---

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INSPECTION CERTIFICATE 3.1
ACCORDING TO EN 10204

WARREN ALLOY VALVE & FITTINGS COMPANY, L. P. 5721 HARVEY WILLSON DRIVE P. O. BOX 15332 HOUSTON, TEXAS 77220-5332, TEL NO. (713) 672-9416	Test Certificate No. : EXP/ 01164-05 /2017-18 Date of Issue : 09.01.2018 P. O. No. : W829170CI Invoice No. & Date : EXP/ 01164 /2017-18Dtd. 09.01.2018
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ITEM DESCRIPTION
STAINLESS STEEL FORGED & FULLY MACHINED FLANGES

Po Sr.No.	Part Code	Heat No.	Pcs	Box No.	Wt.Kgs	Grade	Item	Process Route
112	316/L.L1BR1.5-CI	CH-7478	99	159	161.37	F316/316L	1 1/2" BLRF 150LBS	Electric Induction Melting, A.O.D. Refining, Continuous Casting & Hot Forging
135	316/L.L1L6-CI	CH-7429	20	159	159.00	F316/316L	6" LJFF 150LBS	
197	316/L.L3TR2-CI	CH-7478	109	159	347.71	F316/316L	2" THDRF 300LBS	
94	316/L.L1WRA12-CI	CH-7418	71	161,162,163,164, 165,166,167& 168	2521.21	F316/316L	12" WNRF 150LBS 10S	
-	-	-	-	-	-	-	-	

CHEMICAL COMPOSITION (Weight %)

Po Sr.No.	Part Code	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Ti	N	OTHERS
112	316/L.L1BR1.5-CI	0.024	0.40	1.51	0.045	0.008	16.66	2.01	10.04	-	-	0.060	-
135	316/L.L1L6-CI	0.027	0.44	1.66	0.041	0.007	16.65	2.03	10.10	-	-	0.067	-
197	316/L.L3TR2-CI	0.024	0.40	1.51	0.045	0.008	16.66	2.01	10.04	-	-	0.060	-
94	316/L.L1WRA12-CI	0.020	0.43	1.70	0.044	0.007	16.70	2.04	10.07	-	-	0.088	-
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MECHANICAL PROPERTIES

Po Sr.No.	Part Code	0.2% Yield Strength N/mm ² (R _{p0.2})	Tensile Strength N/mm ² (R _m)	Elongation %	Reduction of Area %	Hardness (B. H. N.)
112	316/L.L1BR1.5-CI	280	593	55	76	167-171
135	316/L.L1L6-CI	285	571	56	71	172-176
197	316/L.L3TR2-CI	266	594	55	75	164-168
94	316/L.L1WRA12-CI	277	574	50	71	163-168
-	-	-	-	-	-	-

Remarks:

- The material is solution annealed at minimum 1050 °C and water quenched.
- Material is free from mercury and radio-active contamination and is found within the limits of the background radiation.
- PMI test 100% satisfactory.
- Inter-Granular Corrosion Test (ASTM A262 - 15 (Pr.E)):- Satisfactory.
- The material conforms to ASTM A 182 - 15, ASME SA 182 - 15 & Dimension confirms to ASME B16.5 - 13 Specification.
- Visual and Dimensions inspection done and found satisfactory.
- The material hardness conforms to NACE MR0175/ISO 15156-3:2015 & NACE MR0103-2015.
- The steel making is by Chandan Steel Limited, India.

We hereby certify that, the material described herein, and supplied are in compliance with the requirements.



V.Y. NARAYAN
SR. MANAGER Q. A.

Stock 4725113 01/30/2020
SSFLANGE 1 - 1/2IN 150# 316 SS BLIND
FLANGE IMPORT