

CHECKED BY  
ARCUS

VIRAJ PROFILES LIMITED (Forgings Div)  
Survey No-140/1 & G-75 MIDC, Tarapur Ind.Area, Boisar, Dist.Palghar,Maharashtra-401506,INDIA  
Email-vflqc@viraj.com,web.www.viraj.com(A01)


date 03-01-2019

RAIB

signature

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## (A02) INSPECTION CERTIFICATE &amp; MILL TEST REPORT - EN 10204 3.1

(A06)CUSTOMER : ARCUS NEDERLAND B.V NIJVERHEIDSTRAAT 4, 3316 AP P.O. BOX 846, 3300 AV DORDRECHT THE NETHERLANDS	Manufacturer's Symbol (A04) 	(A03)MTR NO.	12/1037835/38
		(Z02) DATE	01.05.2018
		MATERIAL SPEC.	ASTM A182/A182M-16 / ASME SA182 / SA182M-15
			EN10222 - 5-2013 / ASME SECT.II PART A-2015
		(B02) GRADE	F316/316L/1.4401/1.4404
		DIMENSIONAL SPEC	

(B01) : STAINLESS STEEL FORGED FLANGES

(B04) DELIVERY CONDITION :

ISO 9001:2015-TUV NORD REG.No-04100011170 EXPIRY DATE: 21.01.2019 & APPROVED ACCORDING TO AD 2000 MERKBLATT W0, MATERIAL ACCORDING TO W2/W9/W10 & CERTIFIED ACCORDING TO PED (2014/68/EU) BY CERTIFICATION BODY FOR PRESSURE EQUIPMENT OF TUV NORD SYSTEMS ( NOTIFIED BODY REGISTRATION NO. -0045 )

(A07)ORDER NO: IOR07479RH

(A08)Sales Order No. 30087495/000940

Article No:

(B09-B11)ITEM DESCRIPTION

QUANTITY(PIECES)

HEAT NUMBER

4" BLRF 150#

93

107372

## (C71-C92) CHEMICAL ANALYSIS

ELEMENT	%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Mo	%Ti	%N							
MIN						16.50	10.00	2.00									
MAX	0.030	2.00	1.00	0.030	0.045	18.50	12.00	2.50									
HEAT	0.026	1.57	0.44	0.023	0.039	16.70	10.02	2.02	0.004	0.0760							
PROD.																	

## MECHANICAL PROPERTIES

## Test specification ASTM-A370

Sample location : Mid thick-forging		Test Temp : RT	Test Direction : Tr	Sample Shape Round		ASTM E10				
Test Values	(C12) Tensile Strength	(C11) Proof Strength		(C13)	Reduction of Area	(C32) Hardness	Charpy V-Notch 10x10x55mm (Values in Joules) & (Shear%)			
		Rp=0.2%	Rp = 1%	Elongation%			(C42) Single values			(C43)
	N/mm2	N/mm2	N/mm2	Lo=4D		%	BHN	1	2	3
Req.	515/690	205 MIN	225 MIN	35 MIN	50 MIN					
T	551.88	291.47	330.24	60.40	71.74	154	185	172	209	189

Other applicable Specifications :: NACE MR 0175/ ISO 15156-2016 &amp; NACE MR 0103-2016 / NORSOK MDS S01 REV 3

Melting Process : Electrical induction furnace &amp; Argon Oxygen decarburization(IRS) Concast

Heat Treatment	: Solution Annealed at 1080°C and water Quenched
Dimension	: Conform with the specification (100% inspected)
Surfacequality	: Satisfactory Roughness value - RZ 12.5 TO 25 µm / RA 3.2 TO 6.3 µm
PMI Test	: No objection (100% tested with mobile spectro)
Corrosion Test	: Passed IGC test in accordance with DIN EN ISO 3651-2 & ASTM A262 Practice E
Micro Observation	: No carbide precipitation observed on grain boundaries
Radioactivity Test	: We here by certify that all the material is free from radioactive contamination
Mercury Contamination	: Free from mercury contamination

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we certify that the above material has been inspected and tested and complies with the order/contract and is of Indian origin



(Z03)Inspector's Stamp



VIJAY KUMAR PILLAI (GM, QAD)