



# R.D. FORGE

(A Unit of R.D. Chemicals Pvt. Ltd.) (AN ISO 9001, 14001 & OHSAS 18001 CERTIFIED CO.)

Manufacturer & Exporter of Steel Forgings

EIL Approved/PED/AD2000 MERKBLATT W0 Certified, IBR WELL KNOWN FORGE

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## MATERIAL TEST REPORT

EN 10204 TYPE. 3.1

Certificate No. 15674	Dt.: 08.02.2022	Inspection Agency: RDF	W.O. No.: 773
Client: DODSON GLOBAL.		P.O. No.: 291225	Dt. 27.05.2021
MATERIAL SPECIFICATION: ASTM A105-2018 / SA 105 ASME SEC II PART A-2019 "FULLY KILLED STEEL" "FINE GRAIN PRACTICE"			Invoice No.: RDF/E/J/0067
			Dt. 08.02.2022
			Order Status : COMPLETE

We certify that the material detailed below meets the requirement of purchase order/relevant specification

Item No	PO. SR. NO.	Description	Group No.	Qty.	H.T. Condition	H.T Temp	P/C
7.	27.	4" 150# RF SO FLANGE (150-200 AARH)	1661	500	NORMALISED	910°C	C
8.	30.	18" 150# RF SO FLANGE (150-200 AARH)	1795	100	NORMALISED	910°C	C
9.	57.	18" 150# LJ FLANGE (150-200 AARH)	1795	10	NORMALISED	910°C	C
10.	65.	8" 2500# RTJ WN XXH FLANGE (150-200 AARH)	1794	05	NORMALISED	910°C	C

(DIMENSION AS PER ASME B16.5-2017)

### CHEMICAL COMPOSITION (in percentage)

Group No.	C	Mn	P	S	Si	Ni	Cr	Mo	V	Cu	Nb / Cb	Al	CE	Cast No.
Req. Min.	0.27	0.60	0.035	0.040	0.10	0.40	0.30	0.12	0.08	0.40			0.43	
Req. Max.		1.35			0.35									
				LADDLE ANALYSIS										
	0.203	1.14	0.020	0.003	0.22	0.001	0.010	0.001	0.001	0.003	0.000	0.022	0.395	21F00271
	0.199	0.87	0.030	0.020	0.22	0.010	0.170	0.004	0.002	0.020	0.000	0.030	0.381	A7622
	0.200	0.92	0.019	0.004	0.25	0.020	0.130	0.010	0.004	0.010	0.002	0.029	0.380	F5/45
				PRODUCT ANALYSIS										
1661	0.201	1.10	0.022	0.002	0.21	0.006	0.016	0.004	0.002	0.004	0.042	0.021	0.389	21F00271
1794	0.202	0.90	0.029	0.019	0.24	0.015	0.192	0.006	0.001	0.019	0.003	0.028	0.394	A7622
1795	0.194	0.94	0.021	0.003	0.26	0.018	0.143	0.013	0.005	0.014	0.002	0.027	0.385	F5/45

### MECHANICAL / PHYSICAL PROPERTIES

Group No	YS P.S.I 0.2% Offset method	UTS P.S.I	El% GL=4XD	RA %	HARDNESS BHN	Bend	Charpy V- notch - Test Temp. °C (Joules) T.P.SIZE=10X10X55X2MM CVN (Transverse Direction)	Remarks
Req. Min.	36000	70000	22	30	187			
Req. Max.								
1661	45107	74985	28.20	57.64	150, 152	--	--	--
1794	48161	77057	28.85	56.16	151, 154	--	--	--
1795	45645	75682	30.20	59.03	152, 155	--	--	--

Supplementary Testing	Test Standard	Acceptance Standard

	Manager (Q.C.)
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F-INS-03(00)

### Remarks

- Steel making process: - BOF-LF-CCM. For Heat No. 21F00271, Electric Melting Furnace-Refining with Argon Purging in Ladle-Bottom Pouring.. For Heat No. A7622 & EF+LRF+CCM (With EMS) For Heat No. F5/45.
- We certify that material is free from Mercury contamination and no mercury bearing equipments used during manufacturing.
- Material forged in single piece & no weld repair has been done.
- Material conforms to NACE MR0175, MR 0175-2015.