

NORMA (INDIA) LIMITED

(AN ISO 9001:2015 CERTIFIED COMPANY)

48 Site IV industrial Area, Sahibabad, Ghaziabad-201010 (U.P) INDIA.

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Works Test Certificate

(AS PER EN 10204:3.1)

NORMA/LAB NO-10904/20-21		INVOICE NO. E 2102		DATE: 08.02.2021	
P. Order. No:	P1025972	Customer:	SERVICE METAL PRODUCTS CO.	Forging specification	ASTM A105- 2018
Component	3"-150# SOFF FLG				ASME SA105-2017
Drawing No.			U.S. A	Steel Supplier	R.I.N.L.
Machining STD	ANSI B16.5- 2017 ASME B16.5-2017	Quantity: -	312Nos.	Mill Heat No.	19E05042
TEST RESULTS				NORMA HEAT NO. 251	

CHEMICAL COMPOSITION

MECHANICAL PROPERTIES

Elements %	Specified Composition	Actual		PROPERTIES	SPECIFIED	OBTAINED
		NORMA LAB	MILL T.C.			
Carbon	0.35max.	0.18	0.18	Yield Strength (mpa)	250.00 min.	347.97
Manganese	0.60-1.05	1.22	1.24			
Silicon	0.10-0.35	0.25	0.26	Tensile Strength (mpa)	485.00 min.	563.37
Sulphur	0.040max.	0.009	0.012			
Phosphorous	0.035max.	0.025	0.025	%Elongation in 50mm / 4D	22.00 min	30.00
Chromium	0.30max.	0.006	0.008			
Nickel	0.40max.	0.002	0.001	Hardness HB.	197 max.	149-167
Copper	0.40max.	0.003	0.002			
Molybdenum	0.12max.	0.002	0.001	% Reduction of Area	30.00 min.	65.34
Vanadium	0.080max.	0.002	0.001			
Carbon Equivalent (CE)	0.470max.	0.386	0.389	"As per ASTM A105 Table I Note: For each reduction of 0.01% below the specified carbon maximum (0.35%), an increase of 0.06% manganese above the specified maximum (1.05%) will be permitted up to maximum 1.65%.		

Specified carbon as per Purchase Order 0.25max.
Serrated face as per MSS-SP-6 With in limits of 125-250AARH

Supply Condition: Fully Finished.

CARBON EQUIVALENT (CE)
 $CE = C + \frac{Mn}{6} + \frac{Cr+Mo+V}{5} + \frac{Ni+Cu}{15}$

MARKING AS PER MSS-SP-25-2008
 3"-150 SA/A105 251 B16.5 NORMA INDIA.10/2020

Checked by: 
Metallurgist

Certified by: _____
Quality Control Manager



3" 150# A/SA105 SLIP ON FLG FF B16.5

Heat #: 251

Stock 4709893 04/04/2022
 MATCONOR MN150FSF10 3IN 150LB SLI
 ON WELD FLANGE FF

Remarks: We here by certify that the material described here in has been tested in accordance with the applicable specifications referred above and meets the requirements as per EN10204:3.1-2004, NACE MR0133-15. NACE MR0175-1S/ ISO15156-2. All material supplied is certified to be free of mercury contamination, No weld repair performed. Raw material used is fully killed and fine grain practice. Country of Origin/Melt: INDIA.