

**MILL TEST CERTIFICATE**

CERTIFICATE ACCORDING TO EN 10204 : 3.1

<b>PURCHASER NAME :</b>		<b>TEST CERTIFICATE No.:</b>	GSTP/4292/GFT/2023
<b>PURCHASER ORDER No. :</b>	GFT23GS025	<b>TEST CERTIFICATE Date :</b>	13.12.2023
<b>WORK ORDER No. :</b>	GSTPL/WO/EXP/6083	<b>INVOICE NO:</b>	GSTPLEXP232484
<b>NAME OF PRODUCT :</b>	CARBON STEEL SEAMLESS PIPES	<b>INVOICE Date :</b>	15.12.2023
<b>PROCESS OF PIPE/TUBE MANUFACTURE :</b>	CARBON STEEL COLD DRAWN SEAMLESS PIPES		
<b>STEEL MANUFACTURED BY (MELT &amp; POUR):</b>	RASHTRIYA ISPAT NIGAM LIMITED, INDIA FOR SL NO 1 BHUSHAN POWER & STEEL LIMITED, INDIA FOR SL NO 2, 3 & 4		
<b>STEEL MAKING METHOD :</b>	BOF-LF/IRUT-CCM-ROUND METHOD, Fully Killed	<b>Approved QAP No.:-</b>	----
<b>SPECIFICATION &amp; GRADE :</b>	ASTM / ASME A / SA 106 B, EDD. - 2019 / 2021, NACE MR-0175 & MR-0103		

Sr. No.	SUPPLIER HEAT NO.	GSTPL REF. HEAT NO.	SIZE (Inch)	Quantity				General	
			OD X WT X LENGTH	Nos.	Mtrs.	FEET	MT.	End Condition	Coating
1	23E01656	RG1455	1"(1.315) X 0.179" X 19'	3843	22289.40	73017.00	72.120	Plain End	Black Lacquered
2	E232880	BG1342	1"(1.315) X 0.179" X 19'	2567	14888.60	48773.00	48.160	Plain End	
3	B231538	BG1346	1-1/2"(1.900) X 0.281" X 19'	1149	6664.20	21831.00	48.280	Plain End	
4	A234369	BG1512	1-1/2"(1.900) X 0.281" X 19'	576	3340.80	10944.00	24.200	Plain End	

**CHEMICAL COMPOSITION (%)**

Sr. No.	HEAT NO.	REQUIRED	%C	%Mn	%S	%P	%Si	%Cr	%Cu	%Mo	%Ni	%V	%CE
		Max	0.30	1.06	0.035	0.035	-	0.400	0.400	0.150	0.400	0.080	0.430
		MIN	-	0.29	-	-	0.100	-	-	-	-	-	-
1	23E01656	L1 /A	0.170	0.730	0.010	0.017	0.160	0.006	0.001	0.001	0.001	0.001	0.293
	RG1455	P1 /A	0.173	0.724	0.007	0.016	0.168	0.010	0.007	0.002	0.009	0.002	0.298
2	E232880	L2 /A	0.190	0.710	0.006	0.009	0.150	0.020	0.001	0.001	0.004	0.002	0.313
	BG1342	P2 /A	0.183	0.718	0.005	0.011	0.163	0.018	0.006	0.001	0.008	0.003	0.308
3	B231538	L3 /A	0.180	0.710	0.004	0.018	0.130	0.023	0.003	0.001	0.007	0.001	0.304
	BG1346	P3 /A	0.176	0.715	0.006	0.016	0.138	0.020	0.005	0.001	0.008	0.002	0.301
4	A234369	L4 /A	0.190	0.720	0.004	0.019	0.150	0.020	0.005	0.001	0.007	0.001	0.315
	BG1512	P4 /A	0.184	0.726	0.005	0.017	0.161	0.019	0.008	0.003	0.009	0.003	0.311

**MECHANICAL PROPERTIES**

Sr. No.	HEAT NO	REQUIRED	TENSILE STRENGTH (MPa)	YIELD STRENGTH (MPa)	ELONGATION (%)	HARDNESS (HRBW)	IMPACT TEST	FLATTENING TEST	FLARING TEST	Bend Test at 90°
			G.L. = 50 mm, G.W. = 19.05 mm & Pipe Tested On Full Section For SI No 1 & 2, Pipe Tested On Longitudinal Strip For SI No 3 & 4							
		Max	-	-	-	99 HRBW (Max)	-	-	-	-
		Min	415 Mpa	240 Mpa	30.00%	-	-	-	-	-
1	RG1455		448.12	346.38	47.32	66 - 67	N/A	N/A	N/A	Satisfactory
2	BG1342		423.55	271.21	57.38	65 - 66	N/A	N/A	N/A	Satisfactory
3	BG1346		481.95	290.90	41.22	68 - 69	N/A	N/A	N/A	Satisfactory
4	BG1512		517.92	353.99	40.24	70 - 72	N/A	N/A	N/A	Satisfactory

**NON-DESTRUCTIVE TEST**
**SURFACE QUALITY**

Sr. No.	HEAT NO	HYDRO-STATIC TEST as per SA530 (100%)	E.C.T. as Per ASTM E-309 (100%)	U.T. AS PER ASTM E-213 (100%)	IN SIDE	OUT SIDE	DIMENSION TOLERANCE as per Specification
1	RG1455	2500 PSI, Satisfactory	Satisfactory	N/A	Satisfactory	Satisfactory	Satisfactory
2	BG1342	2500 PSI, Satisfactory	Satisfactory	N/A	Satisfactory	Satisfactory	Satisfactory
3	BG1346	2500 PSI, Satisfactory	Satisfactory	N/A	Satisfactory	Satisfactory	Satisfactory
4	BG1512	2500 PSI, Satisfactory	Satisfactory	N/A	Satisfactory	Satisfactory	Satisfactory

**Heat Treatment : Heat Treated Above 650°C (1200°F)**
**MARKING :** GSTP/LOGO/SMLS/ASTM/ASME A/SA-106-B /NACE MR-01-75/NACE MR-01-03/SIZE..../HYD. 2500 PSI/H. NO..../MADE IN INDIA

**REMARKS:** Legends: 1. L1/A= Ladle Analysis One, P1/A= Product Analysis One, L2/A= Ladle Analysis Two, P2/A= Product Analysis Two, 2. L3/A= Ladle Analysis Three, P3/A= Product Analysis Three, L4/A= Ladle Analysis Four, P4/A= Product Analysis Four, 2. G.L= Gauge Length, 3. N/A= Not Applicable.

- 100% Pipes Visual Surface Finish & Visual Dimensional Inspection Carried Out By "GSTPL" - Found Satisfactory.
- Mechanical Tests Carried Out By "GSTPL" - Found Satisfactory.
- Chemical Tests Carried Out By "GSTPL" - Found Satisfactory.
- 100% Hydrostatic Test Carried Out By "GSTPL" - Found Satisfactory.
- 100% Eddy Current Test Carried Out By "GSTPL" - Found Satisfactory.

We hereby certify that the material herein described has been Manufacture Sample tested &amp; Inspected in accordance with above standard &amp; specification &amp; satisfy the requirement.

For, GLOBAL SEAMLESS TUBES &amp; PIPES PVT. LTD. (INDIA)

**Asst. MANAGER (QA/QC)**
**MANAGER (QA/QC)**