

TEST CERTIFICATE

CUSTOMER NAME		PROCESS ROUTE		BLOOM SIZE (mm)		SUPPLY CONDITION		TC NO.		DATE													
M/S SSB ENGINEERING		MBF-EDF-LRF-VD-CCM-EMS-AMLC-RMS		200x200		As Rolled		24121171		25-Dec-24													
CUSTOMER SPECIFICATION				HEAT NO.		GRADE		SIZE (mm)		REDUCTION RATIO		LENGTH (mm)		COLOUR CODE		INVOICE NO.		QTY (MT)		BUNDLE		VEHICLE NO.	
Grain Size Specifications QF1001, Rev No.02, Dtd: 12.05.2020				52705		15MnCr5		60 DIA		14.15:1		5500 TO 6000		Half Pink Half Green		52705-12326		35.920		19		NUG1A65332	
I. CHEMICAL COMPOSITION																							
II. PHYSICAL PROPERTIES																							
III. JOHNSON HARDENABILITY (in HRC)																							
IV. METALLOGRAPHY																							
V. OTHER TESTS																							
VI. REMARKS:																							

TENSILE PROPERTIES (Quenched & Tempered) (ASTM E8)												HARDNESS												IMPACT TEST (Charpy) (IS 1757) (Quenched & Tempered)											
YS (N/mm ²)				UTS (N/mm ²)				% EL				%RA or %Z				RT (kg/cm ²)				As Rolled (BHN)				As Rolled (BHN)				RT (kg/cm ²)							
Min	735	1030	1030	8	-	-	-	25	Min	240	240	Min	162-167	162-167	Min	162-167	162-167	Min	162-167	162-167	Min	162-167	162-167	Min	162-167	162-167									
Max	-	1370	1370	-	-	-	-	-	Max	-	-	Max	-	-	Max	-	-	Max	-	-	Max	-	-	Max	-	-									
Actual	924	1054	1054	16.2	-	-	-	39.7	Actual	162-167	162-167	Actual	162-167	162-167	Actual	162-167	162-167	Actual	162-167	162-167	Actual	162-167	162-167	Actual	162-167	162-167									

INCLUSION RATING (ASTM E45)												MACROSTRUCTURE												STEP DOWN												UPSET											
A				B				C				D				DS				TOTAL DECARB (mm)				ASTM E-1077				ASTM E-381				(IS 4075)				-											
Spec	2.0	1.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																
Actual	1.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																

100% Bars Checked by UT - Found OK												100% Bars Checked by MPI - Found OK & Material is free from surface defects												100% Bars checked for Mix-Up by PMI & Spark - Found OK												Material is free from Radioactive contamination											

ID: E0ED3F0B6634ADBAF75E83F8D				Prashanth B				Reviewed & Issued By				Authorised Signatory			
Arshad Khan				Arshad Khan				Arshad Khan				Arshad Khan			
Prepared By				Prepared By				Prepared By				Prepared By			