

HAPPY FORGINGS LIMITED, LUDHIANA

METTALURGICAL TEST REPORT

RAW MATERIAL BILLET/FORGINGS

(FROM SUB CONTRACTOR)

(DOC. NO. FM:HT-LB-11)

CUSTOMER	M/s	VE Commercial (Dewas)		REPORT NO.	231534				
STEEL MILL		JSW Steels		DATE	01.03.2018				
CHALLAN NO.				SECTION SIZE	125RCS				
HEAT NO.		E-72787		NO. OF BARS/BILLET					
GRADE		20MNCR5		LENGTH RANGE	4.5 TO 5.5 MTRS				
QTY.				COLOUR CODE	WHITE BASE+RED DOT				
PART NO.		7779							
CHEMICAL PROPERTIES									
SPEC.		C%	Mn%	Si%	S%	P%	Cr%	NI%	Mo%
MIN.		0.17	1.1	0.15			1		
MAX		0.22	1.4	0.35	0.035	0.035	1.3		
OBSERVED		0.176	1.23	0.241	0.016	0.012	1.25	0.028	0.008
PHYSICAL PROPERTIES									
INTERNAL SOUNDNESS		C2 R1 S1							
GRAIN FLOW									
SURFACE HARDNESS(BHN)									
UPSETTING TESTING		OK							
METALLOGRAPHY									
GRAIN SIZE-ASTM E-112		ASTM-7							
		A		B		C		D	
INCLUSION RATING WORST		TK	TN	TK	TN	TK	TN	TK	TN
FIELD AS PER ASTM E-45		0.5	1.5	0	0.5	0	0	0	1
JOMINY TRASVELET									
DISTT.		J11MM							
SPEC.		28-32							
HFL OBSERVED HRC		35							
REMARKS									
MILL T. C. ENCLOSED									

