


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)							
STEEL MILL	M/S	RL Steels				REPORT NO.	17-4136		
CHALLAN NO.						DATE	26.02.2018		
HEAT NO.		2-VUP-4				SECTION SIZE	90 RCS		
GRADE		EN-353				NO. OF BARS/BILLET			
QTY						LENGTH RANGE	4.5 TO 5.5 MTRS		
PART NO.		5613				COLOUR CODE	YELLOW+BLUE+WHITE		
CHEMICAL PROPERTIES									
SPEC.		C%	Mn%	Si%	S%	P%	Cr%	Ni%	Mo%
MIN.			0.5				0.75	1	0.08
MAX		0.2	1	0.35	0.05	0.05	1.25	1.5	0.15
HFL OBSERVED		0.193	0.953	0.236	0.028	0.029	1.11	1.05	0.15
PHYSICAL PROPERTIES									
INTERNAL SOUNDNESS		C2 R1 S1							
GRAIN FLOW									
SURFACE HARDNESS(BHN)									
UPSETTING TESTING		OK							
METALLOGRAPHY									
GRAIN SIZE-ASTM E-112		ASTM-7							
INCUSSION RATING WORST		A		B		C		D	
		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.			J6/16						
SPEC.			38-42						
HFL OBSERVED HRC			38						
REMARKS									
MILL T. C. ENCLOSED									
 AUTHORISED SIGNATURE									