



**KALYANI STEELS LTD - HOSPET DIVISION**  
Hospet Road, Ginigera - 583228 Taluka & Dist : Koppal, Karnataka.  
Telephone : 08539 - 286603-08 (6lines) Telefax : 08539 -286611

**TEST CERTIFICATE**

CUSTOMER: S S B ENGINEERS PVT LIMITED		Delivery No: 8300044684		PROCESS ROUTE			TC NO. K119760 DATE.04.01.2018	
CUSTOMER SPECIFICATION NO		CUSTOMER P.O.NO.	HEAT NO	GRADE	SECTION (IN mm )	COLOR CODE	EOF-LRF-VD-CCM(EMS)-R-MILL	TRUCK NO: RJ13GC0609
			K119760	ZF7B	83 ROUND	HALF(RED+YELLOW)	SUPPLY CONDITION	OVALITY (IN mm )
						W)	AS ROLLED	AS PER IS
							4.0 TO 6.0	3739
							LENTH (IN Mtrs. )	NO.OF PIECES
							55	QUANTITY
							12.460	

**CHEMICAL COMPOSITION**

%C	%Si	%Mn	%P	%S	%Ni	%Mo	%Cr	%Cu	%Al	%Sn	%V	N <sub>2</sub> ppm	O <sub>2</sub> ppm	H <sub>2</sub> ppm	%Ti	CaPPM	Bppm	%As	%Sb	%Pb
0.1610	0.2580	1.2260	0.0150	0.0270	0.1830	0.0690	1.2320	0.1270	0.0360	0.0010	0.0039	90Min	25Max		0.0020	14.0000	21.0000	0.0025	0.0001	

**MECHANICAL PROPERTIES**

TENSILE VALUES			IMPACT STRENGTH (IZOD/CHARPY)	HARDNESS (BHN)	JOMINY VALUES (HRC)						D.I. VALUE	
YS	UTS	%EL			J5mm	J10mm	J25mm	J50mm				
					39/43	35/39	27/31	24Min				

**METALLURGICAL PROPERTIES**

SPARK/ SPECTRAL TEST	STEP DOWN TEST	MACRO ETCH RESULTS(ASTM E-381)	INCLUSION RATING (ASTM - E - 45 ) Method 'A' Plate I(Worst Fields)										GRAIN SIZE (ASTM E-112)	SURFACE DEFECT LEVEL (mm)	CORE HARDNESS (OILQUENCH (HRC)	UPSET TEST RESULTS	TOTAL DEPTH OF DECARBURIZATION IN mm		
			A				B		C		D								
			T		H		T		H		T							H	
OK	NA	C2R2S2Max												OK	NA	NA	NA		
OK	NA	<C2/R2/S2												OK	NA	NA	NA		

KS: 1 BLOOM SIZE:240X280MM2 REDUCTION RATIO:1:12.43

2 ROLLED PRODUCT SIZE : 83MM DIA

3. ACT %NB : 0.0016.

4. "MATERIAL IS FREE FROM RADIOACTIVE ELEMENTS".

**PREPARED BY**

**AUTHORISED SIGNATORY**

QF.NO.HS / QA/ 10.01 DG.Rev.01 Dtd : 23.02.2015

K.POMESH(GM-QAD)