



## JAYASWAL NECO INDUSTRIES LIMITED

(STEEL PLANT DIVISION)

SILTARA INDUSTRIAL GROWTH CENTRE, RAIPUR (C.G.)

Ph.: +91-7721-264241/263, Fax No.: +91-7721-264279/264240

## TEST CERTIFICATE

No: SM36247

CUSTOMER : FORGE INDIA PVT.LTD. DISTT-SOLAN (HP)  
 SPECIFICATION : FI/TDC/S-002,ISSUE NO.1  
 REV No / REF NO : 00,  
 HEAT NO : M805740  
 GRADE : 20MNCRS  
 SECTION(MM) : 90RCS  
 REDUCTION RATIO : 7.7  
 INPUT SIZE (MM) : 250 X 250  
 PROCESS ROUTE : BF/EOF/LRF/VD/CCM/SEN/M'EMS/AMLC

INVOICE NO :  
 TRUCK NO :  
 DATE : 06/02/2018  
 NO OF PCS / BNDL :  
 QUANTITY (MT) :  
 COLOUR CODE : RED+BLUE DOT  
 SUPPLY CONDITION : AS ROLLED  
 MULTIPLE LENGTH : 5-6MTR

QA/RM/F10

## 1. CHEMICAL COMPOSITION % (Ladle/Product)

	%C	%Mn	%P	%S	%Si	%Cr	%Ni	%Mo	%Pb	%Cu	%Sn	%V	%Ti	%B	%Al	%Ca
CUST. MIN	0.170	1.100	--	--	0.150	1.000	--	--	--	--	--	--	--	--	0.020	--
SPEC. MAX	0.220	1.400	0.025	0.035	0.400	1.300	--	--	--	--	--	--	--	--	0.040	--
ACTUAL	0.180	1.280	0.015	0.025	0.200	1.090	0.020	0.003	--	0.008	0.003	0.005	0.0030	0.0003	0.025	0.0013

## 2. MECHANICAL PROPERTIES

	SPECIFIED	ACTUAL
YS	--	--
UTS	--	--
ELONGATIONS(5.65sq.rt.A) %	--	--
REDUCTION AREA %	--	--
IMPACT VALUE	--	--
HARDNESS(BHN/HRB/HRC)	220BHN MAX.	170/190BHN

## 3. METALLURGICAL PROPERTIES

MICRO STRUCTURE	P+F	FERRITE+PEARLITE
GRAIN SIZE(ASTM E112/IS:4748)	6/8	6.5/7.5ASTM
TOTAL DECARB (MM) SAEJ419	1.0%OF DIA	0.38MM PARTIAL
INCL RATINGS(ASTM E-45/IS:4163)		

Material has been sold to M/s.

FORGE INDIA PVT LTD Panama.  
 20287 5/2/18 150335 MW  
 vide Invoice No. 112208211  
 Truck No.

For Jayaswal Neco Industries Ltd. (C.G.)

*Jandeep*  
 With Signature

## SPECIFIC REQUIREMENT

ACTUAL

	THIN	THICK	THIN	THICK	THIN	THICK	THIN	THICK
	A-2.0/1.5	B-2.0/1.5	C-2.0/1.0	D-2.0/1.0				
ACTUAL	1.5	0.0	0.5	0.0	0.0	0.0	1.5	0.0

MACRO ETCH TEST (ASTM E - 381) : C2R2S2 MAX. BETTER THAN C2R2S2  
 4. D. I. VALUE (J406) : --  
 JOMINY REQUIREMENT : 4/16"=34/38HRC  
 HARDENABILITY IS:3848/A255-02 :

DIST-INCH/MM:			4/16"													
VALUES(HRC):			38.00													

5. GAS LEVEL (PPM) SPECIFIED MAX : O2: 20.0 N2: 70-80 H2: 2.0  
 GAS LEVEL (PPM) ACHIEVED : O2: 16.0 N2: 71.0 H2: 1.5

## 6. REMARKS

100% SPARK/SPECTRAL/MOBILE SPECTRO TEST :OK  
 STEP DOWN TEST :OK  
 UPSET TEST :NA  
 100%MPI & UT - OK.

AUTHORISED SIGNATORY