

## TEST CERTIFICATE - TECHNICAL SERVICES DEPARTMENT

MUKAND SUMI METAL PROCESSING LTD.

14008760/01

HEAT NO: M120765 CIN:L99999MH1937PLC002726

MANISH ENGINEERING

INVOICE NO: 01/03502/01

INVOICE DT: 22/03/18

T.C.DATE : 22/03/18

SPECNO

TCNO: TC18032214008760/01

THE MATERIAL SUPPLIED CONFORMS TO THE SPECIFICATION MENTIONED PAGENO:1/1

GRADE SCM 420HV  
 SIZE 26.50 MM DIA.  
 ROUTE: BLOOM ROUTE

BUNDLES 2  
 WT(MT) : 2.946

COLOUR: NIL  
 SUPPLY COND:HR+PEELED+CG

	MIN	MAX	ACTUAL	MIN	MAX	ACTUAL
C %	.1700	.2300	.1990			
Mn %	.5500	.9000	.7730			
Si %	.1500	.3500	.2040			
P %		.0200	.0170			
S %		.0200	.0150			
Cr %	.8500	1.2500	1.1590			
Cu %		.3000	.0190			
Mo %	.1500	.3500	.2020			
Ti %		.0030	.0019			
Al %	.0200	.0350	.0270			
N2ppm		140	122			
O2ppm		15	13			
H2ppm		2.00	.80			

MECHANICAL MIN MAX ACTUAL TEST COND: HR+PEELED+CG  
 HARDNESS BHN 220.00 190.00 - 198.00

METALLURGICAL MIN MAX ACTL  
 GRN SIZE (ASTM E112 ) 5 8 6 - 7  
 MACRO (ASTM E381 ) C1R1S1 C1R1S1

INCLUSION	A	B	C	D
(ASTM E 45A ) T H T H T H T H				
STD MAX	1.00 0.0	1.00 0.0	1.00 0.0	1.00 0.0
ACTUAL	1.00 0.0	.50 0.0	0.0 0.0	1.00 0.0

JOMINY (MM) 5 11  
 MIN 37.0 27.0  
 MAX 42.0 32.0  
 ACT 39.1 29.2

HR = HOT ROLLED, ANNLD = ANNEALED, CD = COLD DRAWN, CG = CENTRELESS GROUND  
 100% MATERIAL TESTED BY MAGNAFLUX TESTING & FOUND OKAY.

GENERATED BY COMPUTER KGN  
 TSD Helpline No:022-21727148

In case of any dissatisfaction  
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*(Signature)*  
 Chief Technical Services  
 Steel Division