



An ISO/TS 16949:2009 COMPANY

AARTI STEELS LIMITED
Registered Office : G.T.Road, Miller Ganj, Ludhiana.
Works : Focal Point, LUDHIANA - 141010. (INDIA)
Phone No. :- 0161-3006200 Fax :- 0161-3006250
MANUFACTURER'S OF :- CARBON ALLOYS & SPECIAL STEELS
:- **TEST CERTIFICATE** :-

-: Original :-

M/S.- HAPPY FORGINGS LTD.U-II,B-XXIX,2254 | T.C.NO. 7781 Date -: 18/01/2018 16:31:55
/1.&OPP.HINDUSTAN TYRE. | Invoice No. 20358
KANGANWAL ROADJUGIANA.LUDHIANA | Truck No. PB10CH-6505

GRADE	SIZE	HEAT NO.	MANUFACTURING ROUTE	COLOUR CODE	SUPPLY COND.N.	QTY. (MT)	NO. OF PCS.
EN 353	65 RCS	6075	E.A.F.+L.F.+V.D.+CCM+EMS	BLUE+WHITE	E	AS ROLLED	16.420 88

-: **CHEMICAL COMPOSITION IN PERCENTAGE** :-

	C	Mn	S	P	Si	Ni	Cr	Mo	V	Al	Cu	Sn	Ti	B	Ca
Min	--	0.5000	--	--	--	1.0000	0.7500	0.0800	--	--	--	--	--	--	--
Max	0.2000	1.0000	0.0500	0.0500	0.3500	1.5000	1.2500	0.1500	--	--	--	--	--	--	--
Actual	0.1800	0.9300	0.0250	0.0170	0.2250	1.0400	1.2000	0.1200	0.0049	0.0240	0.1500	0.0140	0.0033	0.0004	0.0007

-: **METALLURGICAL RESULTS** :-

INCLUSION RATING IS : 4163/JK CHART/ASTM E-45A									Aust.Grain Size ASTM No. (E-112)	7	Gas Content (ppm)	
	A		B		C		D					
	T	H	T	H	T	H	T	H				
STD MAX	2.0	1.0	2.0	1.0	2.0	1.0	2.0	1.0	Decarb. (MM)	0.11	O2	16
											N2	85
ACTUAL	1.5	0.5	0.5	0.0	0.0	0.0	1.0	0.0	Micro- Structure	B+F+P	H2	.912

MECHANICAL PROPERTIES (ASTM A-370/IS-1608) TEST CONDITION (N / H & T)							MACRO	ULTRASONIC TEST	MIX UP TEST
	U.T.S.	Y.S.	EL%	RA%	Impact Value	Hardness B.H.N./Rb	BETTER THAN C2,R2,S2 MAX LEVEL AS PER PLATE 1st OF ASTM-E-381	100 % DONE OK	SPARK TEST 100% DONE OK .
Reqd.	-	-	-	-	-	-			
Actual	-	-	-	-	-	265-269			

-: **HARDENABILITY (HRC) AS PER IS : 3848** :-

Distance	J1/16	J2/16	J3/16	J4/16	J5/16	J6/16	J7/16	J8/16	J9/16	J10/16	J12/16
Required	-	-	-	-	-	-	38-42	-	-	-	-
Actual	-	-	43.5	42.5	42	40	39	37.5	-	-	-

Remarks :- REDUCTION RATIO=9.5,100% MOBILE SPECTRO DONE OK (X-RAYS) SURFACE SATISFACTORY

Note :- TESTED FOR RADIOACTIVE CONTAMINATION OK

CERTIFIED THAT THE TEST FINDINGS ARE CORRECT & ARE BASED ON
ACTUAL RESULTS CARRIED OUT ON SAMPLES DRAWN AS PER Q.A.P.

PREPARED BY

AUTHORISED SIGNATORY