



ESSAR STEEL INDIA LTD

HAZIRA - 394270, DIST.SURAT, GUJARAT, INDIA
CIN : 27100GJ1976FLC013787

Test Report

Test Report No. : 20

Date : 01.12.2015

Material Specification : Armour Grade 500 (SRARM03)

WE CERTIFY THAT THE PLATES HAVE BEEN MANUFACTURED, INSPECTED & TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE PRODUCT SPECIFICATION.

L/PA	Chemical Analysis (Wt.%)											
	C	Mn	Si	S	P	Cr	Ni	Mo	Al	B	N	Ca
	0.320	1.200	0.700	0.010	0.015	1.800	1.800	0.700	0.060	0.005	---	---
	Max	Max	Max	Max	Max	Max	Max	Max	Max	max	---	---
LA	0.280	0.345	0.585	0.003	0.009	0.600	0.725	0.400	0.034	0.0003	0.0050	0.0018
PA	0.272	0.359	0.597	0.001	0.007	0.614	0.739	0.403	0.030	0.0003	0.0055	0.0014

Mechanical Properties

Sr. No.	Plate No.	Heat No.	Size in mm T_W_L	Yield Strength (MPa)	Tensile strength (MPa)	%EL GL=50mm	HARDNESS (HBW)	Charpy V-notch Impact test Temp.	Impact energy (in Joules)			
									1	2	3	
				1250 Min	1450- 1750	10 Min	480-540		20J Min			
												Avg. 25J Min
1	QK0476213H	C80708	12_2000_6000	1318 1359	1651 1645	15 13	511, 514, 512 -	+25°C -40°C	54 42	50 40	52 40	52 41
2	QK0484212H	C80708	8_2000_6000	1312 1328	1604 1605	14 14	500, 504, 510 -	+25°C -40°C	56 52	66 50	60 48	61 50

Note: (1) Process Route : Hot metal/HBI/DRI - EAF - LF - VD - RHF - Plate Rolling - Heat Treatment (Q&T).

(2) Tensile & Impact test conducted as per ASTM A 370.

(3) Orientation of Specimen: Tensile & Impact specimen is transverse to the rolling direction.

Legend: T : Thickness, W : Width, L : length, EL : Elongation, GL : Gauge Length, LA : Ladle Analysis, PA : Product Analysis



[Signature]

Authorised Signatory (Quality Assurance)
For Essar Steel India LTD.