



Test Certificate

12400 Highway 43 North, Axis, Alabama 36505, US

Form TC1: Revision 3: Date 7 Feb 2018

Customer: SWEDISH STEEL AB MEXICO, S.A. DE C.V. BATALLON SAN PATRICIO 109 LOCAL 403 VALLE OTE SAN PEDRO GARZA GARCIA NL 66269	Customer P.O.No.: M1805 NEW WHS	Mill Order No.: 41-517579-01	Shipping Manifest: UR158111
	Product Description: HARDOX 450 ABRASION RESISTANT STEEL PLATE		Ship Date: 29 Jan 18 Cert Date: 29 Jan18
	Size: 9.50 X 2438 X 6096 (MM)		Cert No: 850178559 (Page 1 of 1)
Heat Treat Type: QUENCHED			

Tested Pieces:				Tensiles:					Charpy Impact Tests							BDWTT				
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (MPA)	UTS (MPA)	%RA	Elong % 50 200 (mm)	Tst Dir	Hardness	Abs. Energy(J) 1 2 3 Avg				% Shear 1 2 3 Avg			Tst Tmp	Tst Dir	Tst Siz (mm)	Tmp %Shr
E8A040	C33	9.65 (DISCRT)	L						442 HBW											
W8A668	C21	9.62 (DISCRT)	L						450 HBW											

Heat Id	Chemical Analysis																			ORGN
	C	Mn	P	S	Si	Tot Al	Sol Al	Cu	Ni	Cr	Mo	Cb	V	Ti	Sn	B	N	Ca	IIW	
E8A040	.18	1.37	.011	.0003	.24	.057	.056	.13	.07	.14	.02	.014	.006	.010	.005	.0014	.0035	.0021	.45	USA
W8A668	.19	1.37	.010	.0001	.24	.058	.058	.15	.09	.15	.06	.014	.006	.013	.007	.0015	.0042	.0013	.47	USA

KILLED HOT ROLLED ALLOY STEEL PLATE QUENCHED
 FINISH: PRIMER PAINT
 ACCESSORIES: NONE
 MERCURY IS NOT A METALLURGICAL COMPONENT OF THE STEEL AND NO MERCURY WAS INTENTIONALLY ADDED DURING THE MANUFACTURE OF THIS PRODUCT.
 $CEV (IIW) = C + MN/6 + (CR+MO+V)/5 + (NI+CU)/15$
 MTR EN 10204:2004 INSPECTION CERTIFICATE 3.1 COMPLIANT
 NO WELD REPAIR HAS BEEN PERFORMED ON THIS MATERIAL.
 THE E-MAIL ADDRESS FOR MEXICO IMPORT PURPOSES IS MEXICO.CERTIFICATES@SSAB.COM.
 MATERIAL MARKED BELOW WITH AN ASTERISK IS PRODUCED FROM COIL
 PRODUCTS SHIPPED:

E8A040 C33	5755307	PCES:	1, KGS:	1108.14	E8A040 C33	5755306	PCES:	1, KGS:	1108.14
E8A040 C33	5755323	PCES:	1, KGS:	1108.14	E8A040 C33	5755322	PCES:	1, KGS:	1108.14
E8A040 C33	5755320	PCES:	1, KGS:	1108.14	E8A040 C33	5755321	PCES:	1, KGS:	1108.14
E8A040 C33	5755316	PCES:	1, KGS:	1108.14	E8A040 C33	5755318	PCES:	1, KGS:	1108.14
E8A040 C33	5755325	PCES:	1, KGS:	1108.14	E8A040 C33	5755324	PCES:	1, KGS:	1108.14
E8A040 C33	5755319	PCES:	1, KGS:	1108.14	E8A040 C33	5755315	PCES:	1, KGS:	1108.14
E8A040 C33	5755314	PCES:	1, KGS:	1108.14	W8A668 C21	5760180	PCES:	1, KGS:	1108.14
W8A668 C21	5760964	PCES:	1, KGS:	1108.14	W8A668 C21	5760965	PCES:	1, KGS:	1108.14
E8A040 C33	5755317	PCES:	1, KGS:	1108.14					

(P)	Cust Part #: ITM6064	WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION	Justin Ward +1 251 662 4400 SENIOR METALLURGIST - PRODUCT
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