



Test Certificate

Form TC1: Revision 3: Date 7 Feb 2018

13609 Industrial Road, Houston, TX 77015, US

Customer: NORTH SHORE STEEL CO, INC 1566 MILES STREET VENDOR 52155 HOUSTON TX 77015	Customer P.O.No.: 308277	Mill Order No. 41-551717-01	Shipping Manifest: HT118534
	Product Description: ASTM A36(14)/A709(17)36/ASME SA36(17) AASHTO M270(15)36		Ship Date: 05 Sep 18 Cert Date: 05 Sep18
	Size: 0.188 X 96.00 X 460.0 (IN)		

Tested Pieces:				Tensiles:					Charpy Impact Tests													
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (KSI)	UTS (KSI)	%RA	Elong % 2in 8in	Tst Dir	Hardness	Abs. Energy(FTLB)				% Shear				Tst Tmp	Tst Dir	Tst Siz (mm)	BDWTT Tmp %Shr	
										1	2	3	Avg	1	2	3	Avg					
E8F090	0387	0.188 (T.L.C)	L	54	68		29	T														
			C	57	71		33	T														
E8F090	0390	0.188 (T.L.C)	L	54	72		27	T														
			C	55	72		25	T														

Heat Id	Chemical Analysis																ORGN
	C	Mn	P	S	Si	Tot Al	Cu	Ni	Cr	Mo	Cb	V	Ti	B	N		
E8F090	.18	.81	.007	.001	.05	.042	.27	.13	.12	.04	.001	.004	.013	.0001	.0097	USA	

KILLED STEEL
 MERCURY IS NOT A METALLURGICAL COMPONENT OF THE STEEL AND NO MERCURY WAS INTENTIONALLY ADDED DURING THE MANUFACTURE OF THIS PRODUCT.
 MTR EN 10204:2004 INSPECTION CERTIFICATE 3.1 COMPLIANT
 100% MELTED AND MANUFACTURED IN THE USA.
 MATERIAL MARKED BELOW WITH AN ASTERISK IS PRODUCED FROM COIL
 PRODUCTS SHIPPED:
 * E8F090 0391 PCS: 4, LBS: 9416

(P) Cust Part #: SM PLATE	WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION	<u>Justin Ward</u> SENIOR METALLURGIST - PRODUCT
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