



# Test Certificate

Form TC1: Revision 3: Date 7 Feb 2018

13609 Industrial Road, Houston, TX 77015, US

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