



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.: 303965	Mill Order No. 41-544068-01	Shipping Manifest: HT117212	
	Product Description: ASTM A36(14)/A709(17)36/ASME SA36(17) AASHTO M270(15)36, 0.80-1.20 MN		Ship Date: 27 Jun 18 Cert Date: 27 Jun18	Cert No: 031207111 (Page 1 of 1)
	Size: 0.188 X 96.00 X 480.0 (IN)			

Tested Pieces:				Tensiles:					Charpy Impact Tests					BDWTT Tm %Shr						
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (KSI)	UTS (KSI)	%RA	Elong % 2in 8in	Tst Dir	Hardness	Abs. Energy(FTLB) 1 2 3 Avg					% Shear 1 2 3 Avg				Tst Tmp	Tst Dir
E8D210	0001	0.501 (T.L.C)	L	50	69		35	T												
			C	50	69		35	T												
E8D210	0687	0.188 (T.L.C)	L	54	71		28	T												
			C	54	71		29	T												

Heat Id	Chemical Analysis																ORGN
	C	Mn	P	S	Si	Tot Al	Cu	Ni	Cr	Mo	Cb	V	Ti	B	N	IIW	
E8D210	.18	.84	.011	.001	.05	.040	.30	.15	.09	.04	.002	.006	.015	.0001	.0075	.38	USA

KILLED STEEL
 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
 100% MELTED AND MANUFACTURED IN THE USA.
 MATERIAL MARKED BELOW WITH AN ASTERISK IS PRODUCED FROM COIL
 PRODUCTS SHIPPED:
 * E8D210 0688 PCS: 19, LBS: 46683

(P) Cust Part #:	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
-----------------------	--	---