

# Mill Test Report



**Issuing Date :** 09/03/2014    **B/L No. :** 396485    **Load No. :** 401187    **Our Order No. :** 118317/36    **Cust. Order No. :** 17531  
**Vehicle No:** TTPX 82217    **Sold To :** PLESA ANAHUAC Y CIAS SA DE CV    **Ship To :** ALMACEN FERROVIARIO ROAN SA DE CV  
**Specification :** 15.9mm x 2438.4mm x 6096.0mm    **PERIFERICO MTY ALLENDE KM 34.1**  
**AAR TC128-B Normalized Plate CPC-1154 (6-20-03) CPC-1241 (6/20/13).**    **ESCOBEDO,NL 66050**  
**M-1002 App M Sec 5**    **KCSM**  
**NUEVO LEON**  
**ESCOBEDO,NL 66050**

**Marking :**

Heat No	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	Ti	N	Ca	B	Sn	Al(sol)	CEQ	PCM
4505621	0.22	1.45	0.015	0.001	0.23	0.29	0.11	0.12	0.01	0.031	0.003	0.002	0.0093	0.0028	0.0002	0.011	0.03	0.5163	0.3225
4505622	0.22	1.44	0.009	0.000	0.20	0.25	0.08	0.12	0.01	0.031	0.003	0.002	0.0095	0.0019	0.0002	0.010	0.02	0.5146	0.3234

  

Metric Results			Tensile Test				Heat Treat				Charpy Impacts						BHN			
Plate Serial		Tons	Dir.	Yield (psi)	Tensile (psi)	Elong. % in 2"	Elong. % in 8"	Norm °C	Time (min)	Temper °C	Time (min)	-----Absorbed Energy (Ft-lbs)-----				-----Lateral Expansion (in.)-----				Temp °C
No	Pieces											1	2	3	Ave	Min	1	2	3	
4505621-07	10	18.52	T	448	627	36.7		899	27											
4505622-06	4	7.40	T	448	627	37.6		899	27											

Manufactured to fully killed fine grain practice by Electric Arc Furnace. Welding or weld repair was not performed on this material. Mercury has not been used in the direct manufacturing of this material. Produced as continuous cast discrete plate, unless otherwise noted in Specification. For Mexico shipments: nhc-SalesMX@Nucor.com

Yield by 0.5EUL method unless otherwise specified. Ceq = C+(Mn/6)+((Cr+Mo+V)/5)+((Cu+Ni)/15)

Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

Melted and manufactured in the USA. ISO 9001:2008 certified (#010940) by SRI Quality System Registrar (#0985-09). PED 97/23/EC 7/2 Annex 1, Para. 4.3 Compliant. DIN 50049 3.1.B/EN 10204 3.1B(2004), DIN EN 10204 3.1(2005) compliant. For ABS grades only, Quality Assurance certificate 14-MMPQA-723

We hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with the applicable specifications, including customer specifications.

*T. A. Depretis*

T. A. Depretis, Metallurgist

09/10/2014 10:47:20 AM

Issuing Date : 09/03/2014      B/L No. : 396485      Load No. : 401187      Our Order No. : 118317/38      Cust. Order No. : 17531  
 Vehicle No: TTPX 82217      Sold To : PLESA ANAHUAC Y CIAS SA DE CV      Ship To : ALMACEN FERROVIARIO ROAN SA DE CV  
 Specification : 11.1mm x 2514.6mm x 8813.8mm      PERIFERICO MTY ALLENDE KM 34.1  
 AAR TC128-B Normalized Plate CPC-1154 (6-20-03) CPC-1241 (6/20/13).      ESCOBEDO,NL 66050  
 M-1002 App M Sec 5      PERIFERICO MTY-ALLENDE KM 34.1  
 KCSM  
 NUEVO LEON  
 ESCOBEDO,NL 66050

Marking :

Heat No	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	Ti	N	Ca	B	Sn	Al(sol)	CEQ	PCM
4506283	0.21	1.44	0.009	0.002	0.19	0.26	0.09	0.12	0.03	0.032	0.005	0.002	0.0087	0.0001	0.0000	0.011	0.03	0.5107	0.3157

Metric Results			Tensile Test				Heat Treat				Charpy Impacts							BHN						
Plate Serial No	Pieces	Tons	Dir.	Yield (psi)	Tensile (psi)	Elong. % in 2"	Elong. % in 8"	Norm °C	Time (min)	Temper °C	Time (min)	Absorbed Energy (Ft-lbs)				Lateral Expansion (in.)			Temp °C					
												Dir.	1	2	3	Ave	Min	1	2	3	Ave	Min		
4506283-01	7	13.53	T	441	614	29.2		899	21															
4506283-02	1	1.93	T	449	637	31.5		899	21															
4506283-03	3	5.80	T	455	643	30.5		899	21															
4506283-04	2	3.86	T	421	600	34.1		899	21															
4506283-10	1	1.93	T	456	636	30.0		899	21															

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Yield by 0.5EUL method unless otherwise specified.  $Ceq = C + (Mn/6) + ((Cr+Mo+V)/5) + ((Cu+Ni)/15)$

$Pcm = C + (Si/30) + (Mn/20) + (Cu/20) + (Ni/60) + (Cr/20) + (Mo/15) + (V/10) + 5B$

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Metric Results			Tensile Test				Heat Treat				Charpy Impacts							BHN						
Plate Serial No	Pieces	Tons	Dir.	Yield (psi)	Tensile (psi)	Elong. % in 2"	Elong. % in 8"	Norm °C	Time (min)	Temper °C	Time (min)	-----Absorbed Energy (Ft-lbs)-----				-----Lateral Expansion (in.)-----			Temp °C					
												Dir.	1	2	3	Ave	Min	1	2	3	Ave	Min		
4506283-08	3	5.80	T	510	676	35.1		899	21															
4506283-09	7	13.53	T	448	614	30.6		899	21															
4506283-10	2	3.86	T	456	636	30.0		899	21															

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