

Material Test Report

B/L: 314103

4001 Philadelphia Pike, Claymont DE 19703

02/21/2013

Sold To: TRINITY INDUSTRIES, INC

MAIL STOP #7385, P.O. BOX 566028, DALLAS, TX 75356-6028

Order 241205-01 Cust PO 179431-00

Part No. P28228

Specifications:

Association of American Railroads TC128 Grade B MSRP C-III October 2007 / Carbon Equivalent 0.53 Maximum

Products Shipped for Order 241205-01 (sorted by Serial)

Serial	Heat-Slab Orig	R/R	Plate Size in Inches	Plate Size in MM	Lbs	Kg
NXEF B65130-1	2T664-402 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEF B65130-2	2T664-402 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEF B65130-3	2T664-402 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEF B65130-4	2T664-402 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEG B65131-1	2T664-403 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEG B65131-2	2T664-403 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEG B65131-3	2T664-403 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEG B65131-4	2T664-403 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEH B65132-1	2T664-304 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEH B65132-2	2T664-304 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEH B65132-3	2T664-304 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEH B65132-4	2T664-304 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEL B65134-1	2T664-203 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEL B65134-2	2T664-203 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEL B65134-3	2T664-203 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXEL B65134-4	2T664-203 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXET B65135-1	2T663-204 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXET B65135-2	2T663-204 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXET B65135-3	2T663-204 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
NXET B65135-4	2T663-204 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404

Shipment Summary of Order 241205-01: 20 pieces 61,920 lbs (28,086 kg)

Chemical Analysis for Order 241205-01 (sorted by Heat)

HeatAnlys	Heat	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn
	2T663	0.176	1.501	0.009	0.009	0.330	0.258	0.094	0.226	0.022	0.011
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.022	0.036	0.019	0.0079	0.022	0.017	0.0003			

HeatAnlys	Heat	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn
	2T664	0.190	1.430	0.009	0.009	0.299	0.243	0.095	0.225	0.020	0.012
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.023	0.032	0.018	0.0090	0.023	0.015	0.0003			

Tensile Tests for Order 241205-01 (sorted by Heat)

Serial	Heat-Slab	Gauge		Tensile		Yield		Elongation			RA %	Head Tail	Dir	Norm	S/R	Test ID
		Inches	MM	KSI	MPA	KSI	MPA	%	In.	MM						
B65135-1	2T663-204	0.6700	17.02	85	583	60	414	41	2	50			Tran	1x	1x	335361
B65130-1	2T664-402	0.6700	17.02	82	567	59	404	40	2	50			Tran	1x	1x	335356
B65131-1	2T664-403	0.6700	17.02	83	573	59	405	40	2	50			Tran	1x	1x	335357
B65132-1	2T664-304	0.6700	17.02	82	564	57	390	44	2	50			Tran	1x	1x	335358
B65134-1	2T664-203	0.6700	17.02	84	576	59	409	42	2	50			Tran	1x	1x	335360

Impact Tests for Order 241205-01 (sorted by Heat)

Serial	Heat-Slab	Gauge		Temp		Pt-Lbs			Joules			Head Tail	Dir	Norm	Stress Rel	Test ID	
		Inches	MM	°F	°C	1	2	3	1	2	3						
B65135-1	2T663-204	0.6700	17.02	-30	-34	31	38	30	43	52	41			Tran	1x	1x	133692
B65130-1	2T664-402	0.6700	17.02	-30	-34	37	37	37	49	50	50			Tran	1x	1x	133695
B65131-1	2T664-403	0.6700	17.02	-30	-34	34	37	35	46	50	48			Tran	1x	1x	133697
B65132-1	2T664-304	0.6700	17.02	-30	-34	40	36	35	55	49	48			Tran	1x	1x	133696
B65134-1	2T664-203	0.6700	17.02	-30	-34	38	39	36	51	52	48			Tran	1x	1x	133694

Unless otherwise specified, Mercury, radium or alpha source materials have not been used.

I certify the above results to be correct as contained in the records of the corporation.

Metallurgist, Ryan Carmichael

Material Test Report

B/L: 314103

4001 Philadelphia Pike, Claymont DE 19703

02/21/2013

Sold To: TRINITY INDUSTRIES, INC

MAIL STOP #7385, P.O. BOX 566028, DALLAS, TX 75356-6028


Impact Tests for Order 241205-01 Supplemental Information (sorted by Heat)

Serial	Heat-Slab	Gauge		Mil Lat Exp			Shear %			Size	Loc	Head Tail	Dir	Norm	Stress Rel	Test ID
		Inches	MM	1	2	3	1	2	3							
B65135-1	2T663-204	0.6700	17.02							Full	Std		Tran	1x	1x	133692
B65130-1	2T664-402	0.6700	17.02							Full	Std		Tran	1x	1x	133695
B65131-1	2T664-403	0.6700	17.02							Full	Std		Tran	1x	1x	133697
B65132-1	2T664-304	0.6700	17.02							Full	Std		Tran	1x	1x	133696
B65134-1	2T664-203	0.6700	17.02							Full	Std		Tran	1x	1x	133694

Other Information for Order 241205-01

Material is 100% melted and manufactured in the USA. No weld repair has been performed. PLATES ARE FURNISHED IN THE AS-ROLLED CONDITION. MILL TEST SPECIMENS ARE PREPARED AS FOLLOWS: NORMALIZE SPECIMENS BY HEATING TO A TEMP BETWEEN 1550 DEG F AND 1700 DEG F, HOLDING FOR 1/2 HOUR PER INCH OF THICKNESS AND COOLING TO AMBIENT TEMP IN STILL AIR. STRESS RELIEVE BY PLACING SPECIMENS IN A FURANCE NO HOTTER THAN 800 DEG F, HEATING AT A RATE NO GREATER THAN 400 DEG F PER HOUR TO A TEMPERATURE BETWEEN 1100 DEG F AND 1250 DEG F HOLDING AT TEMPERATURE FOR A MIN OF ONE HOUR PER INCH OF THICKNESS (ONE HOUR MIN), COOLING IN THE ENCLOSED FURNANCE AT A RATE NO GREATER THAN 500 DEG F PER HOUR TO A TEMPERATURE NO GREATER THAN 800 DEG F AND COOLING TO AMBIENT TEMP IN STILL AIR. TANSVERSE TENSILE AND TRANVERSE CHRAPY IMPACT TEST REQUIRED. CHARPY TEST TEMP IS -30 F. REQUIRED CHRAPY VALUES ARE 15 FT LBS AVERAGE FOR 3 SPECIMENS WITH NO SINGLE VALUE BELOW 10 FT LB AND NO 2 VALUES BELOW 15 FT LB

Shipment Grand Totals of B/L 314103: 43 pieces 137,350 lbs (62,301 kg)

	HT.#	000
	MTR APPROVED	
	DATE	2/20/13
	ISP	
QUALITY CONTROL DEPT.		

Unless otherwise specified, Mercury, radium or alpha source materials have not been used.

I certify the above results to be correct as contained in the records of the corporation.

Metallurgist, Ryan Carmichael

Sold To: **TRINITY INDUSTRIES, INC**

MAIL STOP #7385, P.O. BOX 566028, DALLAS, TX 75356-6028

**Carolyn Busse Jan-18-
2013 01:44:18 PM**

Order 238184-01 Cust PO 171090-00

Part No. P28228

Specifications:

Association of American Railroads TC128 Grade B MSRP C-III October 2007 / Carbon Equivalent 0.53 Maximum

Products Shipped for Order 238184-01 (sorted by Serial)

Serial	Heat-Slab Orig	R/R	Plate Size in Inches	Plate Size in MM	Lbs	Kg
B37346-2	2R485-303 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B38625-1	2R454-205 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B38631-1	2R483-101 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B38633-1	2R483-103 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B39422-4	2R594-202 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B39825-2	2R592-103 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B44109-2	2R756-204 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B44109-4	2R756-204 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B44677-1	2R741-101 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B44677-3	2R741-101 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B48646-2	2R970-404 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B48736-4	2R972-404 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49687-2	2T016-305 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49688-1	2T009-902 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49688-2	2T009-902 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49688-3	2T009-902 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49689-1	2T016-505 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49689-2	2T016-505 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49689-3	2T016-505 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49690-1	2T009-405 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49690-2	2T009-405 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49690-3	2T009-405 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49693-1	2T017-105 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49693-2	2T017-105 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49694-1	2T015-105 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49694-2	2T015-105 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49694-3	2T015-105 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49695-1	2T008-902 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49695-2	2T008-902 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B49695-3	2T008-902 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50803-1	2T054-103 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50803-3	2T054-103 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50803-4	2T054-103 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50804-2	2T054-104 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50804-3	2T054-104 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50804-4	2T054-104 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50805-1	2T054-405 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50805-3	2T054-405 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50805-4	2T054-405 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50806-1	2T055-505 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50806-3	2T055-505 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50806-4	2T055-505 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50808-2	2T055-605 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404
B50810-2	2T054-102 USA	14.4	0.6700 x 144.0000 x 113.1647	17.02 x 3657.60 x 2874.38	3,096	1,404

Shipment Summary of Order 238184-01: 45 pieces 139,320 lbs (63,194 kg)

Chemical Analysis for Order 238184-01 (sorted by Heat)

Heat	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn
2R454	0.187	1.544	0.014	0.009	0.307	0.228	0.076	0.248	0.017	0.013
	Al	V	Nb/Cb	N	Alsol	Ti	B			
	0.035	0.034	0.018	0.0090	0.034	0.004	0.0000			

Unless otherwise specified, Mercury, radium or alpha source materials have not been used.

I certify the above results to be correct as contained in the records of the corporation

Metallurgist, Ryan Carmichael

Sold To: TRINITY INDUSTRIES, INC

MAIL STOP #7385, P.O. BOX 566028, DALLAS, TX 75356-6028

Chemical Analysis for Order 238184-01 (sorted by Heat)

HeatAnlys	Heat	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn
	2R483	0.188	1.508	0.012	0.001	0.348	0.257	0.083	0.216	0.020	0.013
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.033	0.033	0.018	0.0095	0.032	0.003	0.0002			
	2R485	0.184	1.435	0.013	0.004	0.336	0.260	0.082	0.210	0.022	0.012
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.041	0.039	0.018	0.0076	0.038	0.004	0.0004			
	2R592	0.184	1.468	0.011	0.008	0.280	0.261	0.076	0.196	0.019	0.012
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.025	0.042	0.019	0.0093	0.025	0.003	0.0003			
	2R594	0.187	1.478	0.009	0.006	0.264	0.254	0.077	0.247	0.019	0.012
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.031	0.033	0.018	0.0093	0.031	0.003	0.0004			
	2R741	0.190	1.477	0.007	0.009	0.328	0.254	0.085	0.213	0.018	0.014
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.026	0.041	0.019	0.0083	0.026	0.003	0.0003			
	2R756	0.181	1.541	0.009	0.009	0.324	0.268	0.085	0.185	0.018	0.013
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.025	0.035	0.017	0.0079	0.025	0.001	0.0002			
	2R970	0.187	1.478	0.008	0.005	0.284	0.250	0.089	0.215	0.034	0.014
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.027	0.027	0.020	0.0094	0.026	0.002	0.0001			
	2R972	0.186	1.501	0.008	0.009	0.346	0.243	0.091	0.207	0.022	0.014
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.027	0.032	0.018	0.0084	0.026	0.002	0.0003			
	2T008	0.180	1.474	0.009	0.004	0.382	0.222	0.080	0.259	0.021	0.012
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.027	0.034	0.011	0.0088	0.026	0.006	0.0004			
	2T009	0.184	1.554	0.008	0.007	0.240	0.273	0.084	0.213	0.020	0.012
		Al	V	Nb/Cb	N	Alsol	Ti	B			
		0.021	0.032	0.024	0.0074	0.019	0.001	0.0003			

Unless otherwise specified, Mercury, radium or alpha source materials have not been used.

I certify the above results to be correct as contained in the records of the corporation.

Metallurgist, Ryan Carmichael

Revision:

Sold To: TRINITY INDUSTRIES, INC

MAIL STOP #7385, P.O. BOX 566028, DALLAS, TX 75356-6028

Chemical Analysis for Order 238184-01 (sorted by Heat)

Heat	Anly	Heat	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn
2T015			0.188	1.412	0.010	0.011	0.346	0.279	0.080	0.216	0.021	0.013
	Al	V		Nb/Cb	N	Alsol	Ti	B				
			0.026	0.034	0.016	0.0085	0.026	0.002	0.0005			

Heat	Anly	Heat	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn
2T016			0.185	1.462	0.009	0.004	0.352	0.291	0.088	0.203	0.025	0.013
	Al	V		Nb/Cb	N	Alsol	Ti	B				
			0.028	0.033	0.019	0.0086	0.028	0.002	0.0004			

Heat	Anly	Heat	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn
2T017			0.182	1.457	0.010	0.007	0.340	0.277	0.087	0.210	0.022	0.014
	Al	V		Nb/Cb	N	Alsol	Ti	B				
			0.025	0.038	0.017	0.0079	0.022	0.002	0.0003			

Heat	Anly	Heat	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn
2T054			0.177	1.489	0.009	0.010	0.262	0.301	0.085	0.209	0.021	0.014
	Al	V		Nb/Cb	N	Alsol	Ti	B				
			0.024	0.032	0.016	0.0072	0.024	0.002	0.0004			

Heat	Anly	Heat	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn
2T055			0.187	1.494	0.008	0.004	0.358	0.307	0.086	0.190	0.021	0.017
	Al	V		Nb/Cb	N	Alsol	Ti	B				
			0.022	0.033	0.018	0.0088	0.022	0.003	0.0004			

Tensile Tests for Order 238184-01 (sorted by Heat)

Serial	Heat-Slab	Gauge		Tensile		Yield		Elongation		RA %	Head Tail	Dir	Norm	S/R	Test ID
		Inches	MM	KSI	MPA	KSI	MPA	%	In.						
B38625-1	2R454-205	0.6700	17.02	85	589	60	413	41	2	50		Tran	1x	1x	323601
B38631-1	2R483-101	0.6700	17.02	82	567	57	392	43	2	50		Tran	1x	1x	323607
B38633-1	2R483-103	0.6700	17.02	84	579	58	402	42	2	50		Tran	1x	1x	323609
B37346-1	2R485-303	0.6700	17.02	83	575	61	419	42	2	50		Tran	1x	1x	322896
B39825-1	2R592-103	0.6700	17.02	82	568	61	418	40	2	50		Tran	1x	1x	324205
B39422-1	2R594-202	0.6700	17.02	84	576	60	410	40	2	50		Tran	1x	1x	324051
B44677-1	2R741-101	0.6700	17.02	85	585	61	423	38	2	50		Tran	1x	1x	326462
B44109-1	2R756-204	0.6700	17.02	84	580	63	434	42	2	50		Tran	1x	1x	326163
B48646-1	2R970-404	0.6700	17.02	84	581	63	433	40	2	50		Tran	1x	1x	328364
B48736-1	2R972-404	0.6700	17.02	82	564	59	404	40	2	50		Tran	1x	1x	328428
B49695-1	2T008-902	0.6700	17.02	84	578	60	411	42	2	50		Tran	1x	1x	329045
B49688-1	2T009-902	0.6700	17.02	82	565	62	427	42	2	50		Tran	1x	1x	329035
B49690-1	2T009-405	0.6700	17.02	81	559	59	410	40	2	50		Tran	1x	1x	329037
B49694-1	2T015-105	0.6700	17.02	82	565	59	406	45	2	50		Tran	1x	1x	329044
B49687-1	2T016-305	0.6700	17.02	83	572	58	400	40	2	50		Tran	1x	1x	329034
B49689-1	2T016-505	0.6700	17.02	82	564	59	405	39	2	50		Tran	1x	1x	329036
B49693-1	2T017-105	0.6700	17.02	82	565	60	413	43	2	50		Tran	1x	1x	329043
B50803-1	2T054-103	0.6700	17.02	81	561	61	423	42	2	50		Tran	1x	1x	329584
B50804-1	2T054-104	0.6700	17.02	82	565	61	421	39	2	50		Tran	1x	1x	329585
B50805-1	2T054-405	0.6700	17.02	82	563	61	420	39	2	50		Tran	1x	1x	329586
B50810-1	2T054-102	0.6700	17.02	82	565	60	416	43	2	50		Tran	1x	1x	329591
B50806-1	2T055-505	0.6700	17.02	85	583	64	443	43	2	50		Tran	1x	1x	329587
B50808-1	2T055-605	0.6700	17.02	84	578	62	430	45	2	50		Tran	1x	1x	329589

Unless otherwise specified, Mercury, radium or alpha source materials have not been used.

I certify the above results to be correct as contained in the records of the corporation.

Metallurgist, Ryan Carmichael

Revision:

Material Test Report

4001 Philadelphia Pike, Claymont DE 19703

Sold To: TRINITY INDUSTRIES, INC
MAIL STOP #7385, P.O. BOX 566028, DALLAS, TX 75356-6028

Impact Tests for Order 238184-01 (sorted by Heat)

Serial	Heat-Slab	Gauge		Temp		Ft-Lbs			Joules			Head Tail	Dir	Norm	Stress Rel	Test ID
		Inches	MM	*F	*C	1	2	3	1	2	3					
B38625-1	2R454-205	0.6700	17.02	-30	-34	45	39	45	60	52	61		Tran	1x	1x	127815
B38631-1	2R483-101	0.6700	17.02	-30	-34	58	40	50	78	54	68		Tran	1x	1x	127821
B38633-1	2R483-103	0.6700	17.02	-30	-34	60	70	68	81	95	93		Tran	1x	1x	127823
B37346-1	2R485-303	0.6700	17.02	-30	-34	79	82	88	107	111	119		Tran	1x	1x	127428
B39825-1	2R592-103	0.6700	17.02	-30	-34	44	50	43	60	68	58		Tran	1x	1x	128172
B39422-1	2R594-202	0.6700	17.02	-30	-34	42	39	42	57	53	57		Tran	1x	1x	128778
B44677-1	2R741-101	0.6700	17.02	-30	-34	50	43	44	68	59	60		Tran	1x	1x	129297
B44109-1	2R756-204	0.6700	17.02	-30	-34	51	49	50	69	66	68		Tran	1x	1x	129154
B48646-1	2R970-404	0.6700	17.02	-30	-34	75	66	69	102	89	93		Tran	1x	1x	130114
B48736-1	2R972-404	0.6700	17.02	-30	-34	44	52	50	60	70	67		Tran	1x	1x	130156
B49695-1	2T008-902	0.6700	17.02	-30	-34	65	82	70	89	112	95		Tran	1x	1x	130411
B49688-1	2T009-902	0.6700	17.02	-30	-34	61	64	51	83	87	70		Tran	1x	1x	130401
B49690-1	2T009-405	0.6700	17.02	-30	-34	68	78	70	93	106	94		Tran	1x	1x	130403
B49694-1	2T015-105	0.6700	17.02	-30	-34	50	56	51	68	75	69		Tran	1x	1x	130410
B49687-1	2T016-305	0.6700	17.02	-30	-34	71	63	75	96	85	102		Tran	1x	1x	130400
B49689-1	2T016-505	0.6700	17.02	-30	-34	66	92	86	89	125	117		Tran	1x	1x	130402
B49693-1	2T017-105	0.6700	17.02	-30	-34	70	47	59	94	64	80		Tran	1x	1x	130409
B50803-1	2T054-103	0.6700	17.02	-30	-34	65	68	62	88	92	84		Tran	1x	1x	130527
B50804-1	2T054-104	0.6700	17.02	-30	-34	52	52	55	71	70	75		Tran	1x	1x	130528
B50805-1	2T054-405	0.6700	17.02	-30	-34	56	64	55	76	87	75		Tran	1x	1x	130529
B50810-1	2T054-102	0.6700	17.02	-30	-34	75	84	83	102	114	112		Tran	1x	1x	130534
B50806-1	2T055-505	0.6700	17.02	-30	-34	74	88	83	100	119	113		Tran	1x	1x	130530
B50808-1	2T055-605	0.6700	17.02	-30	-34	101	102	93	137	139	126		Tran	1x	1x	130532

Impact Tests for Order 238184-01 Supplemental Information (sorted by Heat)

Serial	Heat-Slab	Gauge		Mil Lat Exp			Shear %			Size	Loc	Head Tail	Dir	Norm	Stress Rel	Test ID
		Inches	MM	1	2	3	1	2	3							
B38625-1	2R454-205	0.6700	17.02							Full	Std		Tran	1x	1x	127815
B38631-1	2R483-101	0.6700	17.02							Full	Std		Tran	1x	1x	127821
B38633-1	2R483-103	0.6700	17.02							Full	Std		Tran	1x	1x	127823
B37346-1	2R485-303	0.6700	17.02							Full	Std		Tran	1x	1x	127428
B39825-1	2R592-103	0.6700	17.02							Full	Std		Tran	1x	1x	128172
B39422-1	2R594-202	0.6700	17.02							Full	Std		Tran	1x	1x	128778
B44677-1	2R741-101	0.6700	17.02							Full	Std		Tran	1x	1x	129297
B44109-1	2R756-204	0.6700	17.02							Full	Std		Tran	1x	1x	129154
B48646-1	2R970-404	0.6700	17.02							Full	Std		Tran	1x	1x	130114
B48736-1	2R972-404	0.6700	17.02							Full	Std		Tran	1x	1x	130156
B49695-1	2T008-902	0.6700	17.02							Full	Std		Tran	1x	1x	130411
B49688-1	2T009-902	0.6700	17.02							Full	Std		Tran	1x	1x	130401
B49690-1	2T009-405	0.6700	17.02							Full	Std		Tran	1x	1x	130403
B49694-1	2T015-105	0.6700	17.02							Full	Std		Tran	1x	1x	130410
B49687-1	2T016-305	0.6700	17.02							Full	Std		Tran	1x	1x	130400
B49689-1	2T016-505	0.6700	17.02							Full	Std		Tran	1x	1x	130402
B49693-1	2T017-105	0.6700	17.02							Full	Std		Tran	1x	1x	130409
B50803-1	2T054-103	0.6700	17.02							Full	Std		Tran	1x	1x	130527
B50804-1	2T054-104	0.6700	17.02							Full	Std		Tran	1x	1x	130528
B50805-1	2T054-405	0.6700	17.02							Full	Std		Tran	1x	1x	130529
B50810-1	2T054-102	0.6700	17.02							Full	Std		Tran	1x	1x	130534
B50806-1	2T055-505	0.6700	17.02							Full	Std		Tran	1x	1x	130530
B50808-1	2T055-605	0.6700	17.02							Full	Std		Tran	1x	1x	130532

Unless otherwise specified, Mercury, radium or alpha source materials have not been used.

I certify the above results to be correct as contained in the records of the corporation

Metallurgist, Ryan Carmichael

Revision:

Material Test Report

B/L: 312148

4001 Philadelphia Pike, Claymont DE 19703

12/20/2012

Sold To: TRINITY INDUSTRIES, INC

MAIL STOP #7385, P.O. BOX 566028, DALLAS, TX 75356-6028

Other Information for Order 238184-01

Material is 100% melted and manufactured in the USA. No weld repair has been performed. PLATES ARE FURNISHED IN THE AS-ROLLED CONDITION. MILL TEST SPECIMENS ARE PREPARED AS FOLLOWS: NORMALIZE SPECIMENS BY HEATING TO A TEMP BETWEEN 1550 DEG F AND 1700 DEG F, HOLDING FOR 1/2 HOUR PER INCH OF THICKNESS AND COOLING TO AMBIENT TEMP IN STILL AIR. STRESS RELIEVE BY PLACING SPECIMENS IN A FURNACE NO HOTTER THAN 800 DEG F, HEATING AT A RATE NO GREATER THAN 400 DEG F PER HOUR TO A TEMPERATURE BETWEEN 1100 DEG F AND 1250 DEG F HOLDING AT TEMPERATURE FOR A MIN OF ONE HOUR PER INCH OF THICKNESS (ONE HOUR MIN), COOLING IN THE ENCLOSED FURNANCE AT A RATE NO GREATER THAN 500 DEG F PER HOUR TO A TEMPERATURE NO GREATER THAN 800 DEG F AND COOLING TO AMBIENT TEMP IN STILL AIR. TANSVERSE TENSILE AND TRANVERSE CHRAPY IMPACT TEST REQUIRED. CHARPY TEST TEMP IS -30 F. REQUIRED CHRAPY VALUES ARE 15 FT LBS AVERAGE FOR 3 SPECIMENS WITH NO SINGLE VALUE BELOW 10 FT LB AND NO 2 VALUES BELOW 15 FT LB

Shipment Grand Totals of B/L 312148: 45 pieces 139,320 lbs (63,194 kg)

HT.#	606
MTR APPROVED	
DATE	1/11/12
ISP	
QUALITY CONTROL DEPT.	

Unless otherwise specified, Mercury, radium or alpha source materials have not been used.

I certify the above results to be correct as contained in the records of the corporation.

Metallurgist, Ryan Carmichael

Revision:

ArcelorMittal Burns Harbor Plate

QUALITY ASSURANCE
REPORT OF TEST AND ANALYSES

US HWY 12 Burns Harbor, Indiana

SHIPMENT NO. 802-32570		DATE SHIPPED 09-18-13	CAR OR VEHICLE NO. CN-CHTS-UP		TTPX 081875	PAGE 8
S O L D I D I O	TRINITY INDUSTRIES INC RAIL CAR PURCHASING STE 625 PO BOX 568887 DALLAS TX 75356-8887			S H I P T O	TRINITY INDUSTRIES INC-200 RAIL CAR DIV PLANT 200 ZTS 0278900 LONGVIEW TX 75604	

N O T E	SERIAL NUMBER	PAT NO.	HEAT NUMBER	NO. PCS.	SIZE AND QUANTITY				YIELD POINT	TENSILE STRENGTH	ELONG.	RED.
					THICKNESS	WIDTH OR DIA.	LENGTH	WEIGHT				

PLATES - AAR TC128 GR B PVQ (CPC-1169)
 CU+NI+CR+MO=.65X CB+V+TI=.11X TI/N
 RATIO 4.0 XMOD S.010 MAX CE=.53X
 PER IIW FORMULA, CH-V A20S5 PLT T
 15/10 FTLBS AT -30F --- PLT
 NORMALIZED & COOLED IN STILL AIR
 MILL TEST PCS SR 1150/1200F FOR
 1HR/IN HT & CL RT PER AAR W17.00 1
 HR MIN
 NO WELD REPAIR WAS PERFORMED ON BELOW PLATE(S)

CO# 202116 GH 843-4761A

PLATES HEAT TREATED - TEST SPECIMENS ATTACHED & YIELD STRENGTH @ .5% EUL
 S931982 357P06930 1 .623 116 7/8 368 7599 58800 83700 8 21
 N 1650 DEG F - 32 MIN

(M55)MFST REF#:P29762

S931999 357P06990 1 .623 116 7/8 368 7599 60200 84500 8 29
 N 1650 DEG F - 32 MIN

(M55)MFST REF#:P29762

Q-QUENCH TEMPERATURE	T-TEMPER TEMPERATURE	N-NORMALIZE TEMPERATURE
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SERIAL NUMBER	PAT NO.	HEAT NUMBER	HARD BHN	BEND	THICKNESS INCHES	TYPE	SIZE	DIR	TEST TEMP F	CHARPY IMPACT									
										ENERGY FT LBS			SHEAR(%)			LAT. EXP MILS			
										1	2	3	1	2	3	1	2	3	
S931982		357P06930			.623	V FULL T	-30		40	43	42								
S931999		357P06990			.623	V FULL T	-30		66	69	63								

HEAT NUMBER	CHEMICAL ANALYSIS																MQUAID GRAIN SIZE
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N	Sn	
357P06930	.22	1.36	.009	.003	.350	.011	.01	.18	.052	.054	.003	.032	.0001	.001	.004	.001	
	CE																
	.50																
357P06990	.21	1.41	.013	.002	.345	.011	.02	.18	.059	.056	.003	.033	.0001	.001	.005	.001	
	CE																
	.51																

I certify that the above results are a true and correct copy of actual results contained in records maintained by ArcelorMittal Burns Harbor and are in full compliance with the requirements of the specification cited above. This test report cannot be altered and must be transmitted intact with any subsequent third party test reports, if required.

D. W. ELWOOD PER WNK

BHPLTRPT.TIF

SUPV. QUALITY ASSURANCE

ArcelorMittal Burns Harbor Plate

US HWY 12 Burns Harbor, Indiana

QUALITY ASSURANCE
REPORT OF TEST AND ANALYSES

SHIPMENT NO. 802-32581	DATE SHIPPED 09-21-13	CAR OR VEHICLE NO. CN-CHTS-UP	TPPX 804118	PAGE 1
S O L D T O TRINITY INDUSTRIES INC RAIL CAR PURCHASING STE 625 PO BOX 568887 DALLAS TX 75356-8887		S H I P T O TRINITY INDUSTRIES INC-200 RAIL CAR DIV PLANT 200 ZTS 0278900 LONGVIEW TX 75604		

N O T E	SERIAL NUMBER	PAT NO.	HEAT NUMBER	NO. PCS.	SIZE AND QUANTITY				YIELD POINT	TENSILE STRENGTH	ELONG.	RED.
					THICKNESS	WIDTH OR DIA.	LENGTH	WEIGHT				

PLATES - AAR TC128 GR B PVQ (CPC-1169)
 CU+NI+CR+MO=.65X CB+V+TI=.11X TI/N
 RATIO 4.0 XMOD S.010 MAX CE=.53X
 PER IIW FORMULA, CH-V A20S5 PLT T
 15/10 FTLBS AT -30F --- PLT
 NORMALIZED & COOLED IN STILL AIR
 MILL TEST PCS SR 1150/1200F FOR
 1HR/IN HT & CL RT PER AAR W17.00 1
 HR MIN
 NO WELD REPAIR WAS PERFORMED ON BELOW PLATE(S)

RECEIVED BY PLANT 200 AND
 ACCEPTED Sep-23-2013 BY
 STEVEN PARSONS

CO# 203098 GH 843-4783

SERIAL NUMBER	PAT NO.	HEAT NUMBER	NO. PCS.	THICKNESS	WIDTH OR DIA.	LENGTH	WEIGHT	YIELD POINT	TENSILE STRENGTH	ELONG.	RED.
PLATES HEAT TREATED - TEST SPECIMENS ATTACHED & YIELD STRENGTH @ .5% EUL											
S931807		357P05040	1	.623	116	7/8	368	7599	60500	83700	8 22
N 1650 DEG F - 32 MIN (M55)MFST REF#:P29762											
S931808		357P05060	2	.623	116	7/8	368	15198	59900	83100	8 22
N 1650 DEG F - 32 MIN (M55)MFST REF#:P29762											

Q-QUENCH TEMPERATURE	T-TEMPER TEMPERATURE	N-NORMALIZE TEMPERATURE
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SERIAL NUMBER	PAT NO.	HEAT NUMBER	HARD BHN	BEND	THICKNESS INCHES	TYPE	SIZE	DIR	TEST TEMP F	CHARPY IMPACT								
										ENERGY FT LBS			SHEAR(%)			LAT. EXP MILLS		
S931807		357P05040			.623	V	FULL	T	-30	91	84	73	1	2	3	1	2	3
S931808		357P05060			.623	V	FULL	T	-30	59	65	66						

HEAT NUMBER	CHEMICAL ANALYSIS															MQUAID GRAIN SIZE	
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N		Sn
√357P05040	.21	1.31	.009	.004	.353	.016	.02	.19	.059	.060	.002	.035	.0001	.001	.004	.001	
	CE																
	.49																
357P05060	.21	1.35	.010	.003	.340	.015	.01	.19	.062	.055	.003	.038	.0001	.001	.005	.001	
	CE																
	.50																

I certify that the above results are a true and correct copy of actual results contained in records maintained by ArcelorMittal Burns Harbor and are in full compliance with the requirements of the specification cited above. This test report cannot be altered and must be transmitted intact with any subsequent third party test reports, if required.

D. W. ELWOOD PER **WNK**

BHPLTRPT.TIF SUPV. QUALITY ASSURANCE

ArcelorMittal Burns Harbor Plate

US HWY 12 Burns Harbor, Indiana

QUALITY ASSURANCE
REPORT OF TEST AND ANALYSES

SHIPMENT NO. 802-32537	DATE SHIPPED 09-18-13	CAR OR VEHICLE NO. CN-CHTS-UP	TTPX 805162	PAGE 3
S O L D T O	TRINITY INDUSTRIES INC RAIL CAR PURCHASING STE 625 PO BOX 568887 DALLAS TX 75356-8887		TRINITY INDUSTRIES INC-200 RAIL CAR DIV PLANT 200 ZTS 0278900 LONGVIEW TX 75604	

SERIAL NUMBER	PAT NO.	HEAT NUMBER	NO. PCS.	SIZE AND QUANTITY				YIELD POINT	TENSILE STRENGTH	ELONG.	RED.
				THICKNESS	WIDTH OR DIA.	LENGTH	WEIGHT				

PLATES - AAR TC128 GR B PVQ (CPC-1169)
 CU+NI+CR+MO=.65X CB+V+TI=.11X TI/N
 RATIO 4.0 XMOD S.010 MAX CE=.53X
 PER IIW FORMULA, CH-V A20S5 PLT T
 15/10 FTLBS AT -30F --- PLT
 NORMALIZED & COOLED IN STILL AIR
 MILL TEST PCS SR 1150/1200F FOR
 1HR/IN HT & CL RT PER AAR W17.00 1
 HR MIN

NO WELD REPAIR WAS PERFORMED ON BELOW PLATE(S)

CO# 202116 GH 843-4761A

PLATES HEAT TREATED - TEST SPECIMENS ATTACHED & YIELD STRENGTH @ .5% EUL

S931896	357P06530	1	.623	116	7/8	368	7599	58700	85900	8	21
N 1650 DEG F - 32 MIN											

(M55)MFST REF#:P29762

S931898	357P06530	1	.623	116	7/8	368	7599	59700	84100	8	22
N 1650 DEG F - 32 MIN											

(M55)MFST REF#:P29762

S931899	357P06530	1	.623	116	7/8	368	7599	59700	84000	8	22
N 1650 DEG F - 32 MIN											

(M55)MFST REF#:P29762

Q-QUENCH TEMPERATURE	T-TEMPERATURE	N-NORMALIZE TEMPERATURE
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SERIAL NUMBER	PAT NO.	HEAT NUMBER	HARD BHN	BEND	THICKNESS INCHES	TYPE	SIZE	DIR	TEST TEMP F	CHARPY IMPACT									
										ENERGY FT LBS			SHEAR(%)			LAT. EXP MILS			
										1	2	3	1	2	3	1	2	3	
S931896		357P06530			.623	V	FULL	T	-30	97	76	76							
S931898		357P06530			.623	V	FULL	T	-30	74	58	73							
S931899		357P06530			.623	V	FULL	T	-30	26	52	44							

HEAT NUMBER	CHEMICAL ANALYSIS																MQUAID GRAIN SIZE
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N	Sn	
357P06530	.22	1.39	.009	.002	.334	.011	.01	.17	.059	.055	.003	.031	.0001	.001	.003	.001	
	CE																
	.51																

I certify that the above results are a true and correct copy of actual results contained in records maintained by ArcelorMittal Burns Harbor and are in full compliance with the requirements of the specification cited above. This test report cannot be altered and must be transmitted intact with any subsequent third party test reports, if required.

D. W. ELWOOD PER WNK

BHPLTRPT.TIF

SUPV. QUALITY ASSURANCE

ArcelorMittal Burns Harbor Plate

QUALITY ASSURANCE
REPORT OF TEST AND ANALYSES

US HWY 12 Burns Harbor, Indiana

SHIPMENT NO. 802-32599	DATE SHIPPED 09-24-13	CAR OR VEHICLE NO. CN-CHTS-UP	TTPX 811279	PAGE 2
S O L D I D O T R I N I T Y I N D U S T R I E S I N C R A I L C A R P U R C H A S I N G S T E 6 2 5 P O B O X 5 6 8 8 8 7 D A L L A S T X 7 5 3 5 6 - 8 8 8 7		S H I P T O T R I N I T Y I N D U S T R I E S I N C - 2 0 0 R A I L C A R D I V P L A N T 2 0 0 Z T S 0 2 7 8 9 0 0 L O N G V I E W T X 7 5 6 0 4		

N O T E	SERIAL NUMBER	PAT NO.	HEAT NUMBER	NO. PCS.	SIZE AND QUANTITY				YIELD POINT	TENSILE STRENGTH	ELONG.	RED.
					THICKNESS	WIDTH OR DIA.	LENGTH	WEIGHT				

RECEIVED BY PLANT 200 AND
ACCEPTED Sep-26-2013 BY
STEVEN PARSONS

PLATES - AAR TC128 GR B PVQ (CPC-1169)
 CU+NI+CR+MO=.65X CB+V+TI=.11X TI/N
 RATIO 4.0 XMOD S.010 MAX CE=.53X
 PER IIW FORMULA, CH-V A20S5 PLT T
 15/10 FTLBS AT -30F --- PLT
 NORMALIZED & COOLED IN STILL AIR
 MILL TEST PCS SR 1150/1200F FOR
 1HR/IN HT & CL RT PER AAR W17.00 1
 HR MIN

NO WELD REPAIR WAS PERFORMED ON BELOW PLATE(S)

CO# 203098 GH 843-4783

PLATES HEAT TREATED - TEST SPECIMENS ATTACHED & YIELD STRENGTH @ .5% EUL

S931809	357P05060	2	.623	116	7/8	368	15198	61500	85300	8	23
N 1650 DEG F - 32 MIN											

(M55)MFST REF#:P29762

S931811✓	357P05060	1	.623	116	7/8	368	7599	60100	83500	8	23
N 1650 DEG F - 32 MIN											

(M55)MFST REF#:P29762

S931812	357P05070	2	.623	116	7/8	368	15198	61900	85000	8	22
N 1650 DEG F - 32 MIN											

(M55)MFST REF#:P29762

Q-QUENCH TEMPERATURE

T-TEMPERATURE

N-NORMALIZE TEMPERATURE

SERIAL NUMBER	PAT NO.	HEAT NUMBER	HARD BHN	BEND	THICKNESS INCHES	TYPE	SIZE	DIR	TEST TEMP	CHARPY IMPACT										
										ENERGY FT LBS			SHEAR(%)			LAT. EXP MILS				
										1	2	3	1	2	3	1	2	3		
S931809		357P05060			.623	V	FULL	T	-30	61	65	61								
S931811		357P05060			.623	V	FULL	T	-30	47	45	55								
S931812		357P05070			.623	V	FULL	T	-30	61	75	59								

HEAT NUMBER	CHEMICAL ANALYSIS																	MQUAID GRAIN SIZE
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N	Sn		
✓357P05060	.21	1.35	.010	.003	.340	.015	.01	.19	.062	.055	.003	.038	.0001	.001	.005	.001		
	CE																	
	.50																	
✓357P05070	.22	1.33	.012	.001	.341	.012	.01	.19	.062	.062	.003	.030	.0001	.001	.004	.001		
	CE																	
	.50																	

I certify that the above results are a true and correct copy of actual results contained in records maintained by ArcelorMittal Burns Harbor and are in full compliance with the requirements of the specification cited above. This test report cannot be altered and must be transmitted intact with any subsequent third party test reports, if required.

D. W. ELWOOD PER WNK

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SUPV. QUALITY ASSURANCE

PER

ArcelorMittal Burns Harbor Plate

US HWY 12 Burns Harbor, Indiana

QUALITY ASSURANCE
REPORT OF TEST AND ANALYSES

SHIPMENT NO. 802-32539		DATE SHIPPED 09-18-13	CAR OR VEHICLE NO. CN-CHT'S-UP		TTPX 806598	PAGE 8
S O L D T O	TRINITY INDUSTRIES INC RAIL CAR PURCHASING STE 625 PO BOX 568887 DALLAS TX 75356-8887			S H I P T O	TRINITY INDUSTRIES INC-200 RAIL CAR DIV PLANT 200 ZTS 0278900 LONGVIEW TX 75604	

N O T E	SERIAL NUMBER	PAT NO.	HEAT NUMBER	NO. PCS.	SIZE AND QUANTITY				YIELD POINT	TENSILE STRENGTH	ELONG.	RED.
					THICKNESS	WIDTH OR DIA.	LENGTH	WEIGHT				

PLATES - AAR TC128 GR B PVQ (CPC-1169)
 CU+NI+CR+MO=.65X CB+V+TI=.11X TI/N
 RATIO 4.0 XMOD S.010 MAX CE=.53X
 PER IIW FORMULA, CH-V A20S5 PLT T
 15/10 FTLBS AT -30F --- PLT
 NORMALIZED & COOLED IN STILL AIR
 MILL TEST PCS SR 1150/1200F FOR
 1HR/IN HT & CL RT PER AAR W17.00 1
 HR MIN
 NO WELD REPAIR WAS PERFORMED ON BELOW PLATE(S)

CO# 202116 GH 843-4761A

PLATES HEAT TREATED - TEST SPECIMENS ATTACHED & YIELD STRENGTH @ .5% EUL
 S931636 357P06730 1 .623 116 7/8 368 7599 59900 84300 8 23
 N 1650 DEG F - 32 MIN

(M55)MFST REF#:P29762

S931637 357P06750 1 .623 116 7/8 368 7599 61000 85800 8 22
 N 1650 DEG F - 32 MIN

(M55)MFST REF#:P29762

Q-QUENCH TEMPERATURE

T-TEMPER TEMPERATURE

N-NORMALIZE TEMPERATURE

SERIAL NUMBER	PAT NO.	HEAT NUMBER	HARD BHN	BEND	THICKNESS INCHES	TYPE	SIZE	DIR	TEST TEMP F	CHARPY IMPACT ENERGY FT LBS			SHEAR(%)			LAT. EXP MILS		
										1	2	3	1	2	3	1	2	3
S931636		357P06730			.623	V	FULL T		-30	64	65	72						
S931637		357P06750			.623	V	FULL T		-30	71	24	63						

HEAT NUMBER	CHEMICAL ANALYSIS																MOQUAD GRAIN SIZE
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N	Sr	
357P06730	.21	1.42	.010	.002	.352	.011	.02	.18	.061	.056	.003	.025	.0001	.001	.004	.001	
	CE																
	.51																
357P06750	.21	1.40	.014	.001	.356	.011	.02	.18	.056	.057	.002	.034	.0001	.001	.005	.001	
	CE																
	.50																

I certify that the above results are a true and correct copy of actual results contained in records maintained by ArcelorMittal Burns Harbor and are in full compliance with the requirements of the specification cited above. This test report cannot be altered and must be transmitted intact with any subsequent third party test reports, if required.

D. W. ELWOOD PER WNK

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SUPV. QUALITY ASSURANCE

ArcelorMittal Burns Harbor Plate

QUALITY ASSURANCE
REPORT OF TEST AND ANALYSES

US HWY 12 Burns Harbor, Indiana

SHIPMENT NO. 802-31796		DATE SHIPPED 06-19-13	CAR OR VEHICLE NO. CN-CHTS-UP		TTPX 804351	PAGE 8
S O L D I E	TRINITY INDUSTRIES INC RAIL CAR PURCHASING STE 625 PO BOX 568887 DALLAS TX 75356-8887			S H I P T O	TRINITY INDUSTRIES INC RAIL CAR DIV PLANT 200 ZTS 0278900 LONGVIEW TX 75604	

SERIAL NUMBER	PAT NO.	HEAT NUMBER	NO. PCS.	SIZE AND QUANTITY				YIELD POINT	TENSILE STRENGTH	ELONG.	RED.
				THICKNESS	WIDTH OR DIA.	LENGTH	WEIGHT				
				INCHES	INCHES	INCHES	POUNDS	PSI	PSI	IN	%

QUALITY STEEL MELTED & MANUFACTURED IN THE U. S. A.

PLATES - AAR TC128 GR B PVQ (CPC-1169)
 CU+NI+CR+MO=.65X CB+V+TI=.11X TI/N
 RATIO 4.0 XMOD S.010 MAX CE=.53X
 PER IIW FORMULA, CH-V A20S5 PLT T
 15/10 FTLBS AT -30F --- PLT
 NORMALIZED & COOLED IN STILL AIR
 MILL TEST PCS SR 1150/1200F FOR
 1HR/IN HT & CL RT PER AAR W17.00 1
 HR MIN

NO WELD REPAIR WAS PERFORMED ON BELOW PLATE(S)

CO# 188512 GH 843-4538

PLATES HEAT TREATED - TEST SPECIMENS ATTACHED & YIELD STRENGTH @ .5% EUL

P934901	813B63710	1	.623	116	7/8	368	7599	62100	87200	8	21
N 1650 DEG F - 32 MIN											
(M55)MFST REF#:P29762											
P934878	823B63640	2	.623	116	7/8	368	15198	65400	90300	8	23
N 1650 DEG F - 32 MIN											
(M55)MFST REF#:P29762											

Q-QUENCH TEMPERATURE	T-TEMPER TEMPERATURE	N-NORMALIZE TEMPERATURE
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SERIAL NUMBER	PAT NO.	HEAT NUMBER	HARD BHN	BEND	THICKNESS INCHES	TYPE	SIZE	DIR	TEST TEMP F	CHARPY IMPACT									
										ENERGY FT LBS			SHEAR(%)			LAT. EXP MILS			
										1	2	3	1	2	3	1	2	3	
P934901		813B63710			.623	V	FULL	T	-30	38	36	33							
P934878		823B63640			.623	V	FULL	T	-30	77	58	30							

HEAT NUMBER	CHEMICAL ANALYSIS																MQUAID GRAIN SIZE
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N	Sn	
813B63710	.21	1.32	.012	.004	.321	.028	.02	.16	.056	.057	.002	.038	.0002	.002	.006	.003	
823B63640	.21	1.32	.013	.004	.342	.022	.01	.15	.061	.063	.002	.044	.0002	.002	.009	.001	

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D. W. ELWOOD PER WNK

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