

CERTIFIED MATERIAL TEST REPORT
 Trinity Industries Inc. Fitting and Flange Group
 Hackney * Ladish * Flo-Bend * CQ
 P.O. Box 568887 - 2525 Stemmons Freeway - Dallas, TX 75356 - 8887
 Phone: (214) 589-8177 Fax: (214) 589-8892

Order Number: MTY-0003727-01 (198237-002) INV #00124539 99/03/15 Date: 03/16/99

Sold to: TUVANSA S.A. DE C.V.
 GUERRERO NORTE 4100
 MONTERREY, NUEVO LEON MEXICO

Ship to: TUVANSA 0001
 C/O NARCISO GONZALEZ & CO, INC
 412 ENTERPRISE
 LAREDO TX 78045

Heat Code	Quantity	Description / Specifications	
EC98AV ✓	4	18 STD TEE 470DH 09/A43874	A/SA 234 - 96A WPB NACE MR0175
EK98AA	2	24 STD TEE WPBW API5LX42 07/L90164	A/SA 234 - 96A WPB NACE MR0175
EL98AB	2	24 STD TEE WPBW A106-B 58/7457872	A/SA 234 - 96A WPB NACE MR0175
EL98AB	2	24 STD TEE WPBW A106-B 58/7457872	A/SA 234 - 96A WPB NACE MR0175

Chemical Analysis

Heat Code	Test	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al
EC98AV	M	.170	1.020	.007	.005	.220	.020	.020	.040	.010	.0030
EK98AA	M	.220	.880	.009	.005	.260	.230	.130	.120	.030	.0031
EL98AB	M	.240	1.060	.012	.010	.248	.030	.020	.130	.060	.0038
EL98AB	M	.240	1.060	.012	.010	.248	.030	.020	.130	.060	.0038

Chemical Analysis (cont.)

Heat Code	N	V	B	Ti	Cb	Sn	W	Pb	Co	CE
EC98AV	.0006	.001	.0000		.002					.352
EK98AA	.0007	.001	.0005	.0005	.003	.011				.420
EL98AB		.003			.002					.457
EL98AB		.003			.002					.457

Physical Properties

Heat Code	Tensile KSI	Type	Thickness	Yield KSI	% Elong. (4D)	% RA	Hardness HB
EC98AV	71.7	L		46.5	49.0		141
EK98AA	80.4	L		58.3	39.2		197
EL98AB	85.0	L		56.0	25.0		197
EL98AB	85.0	L		56.0	25.0		197

Charpy Results

Heat Code	Size x 10mm	Type	Temp. (F)	Foot Pounds	Later. Expansion	% Shear
EC98AV						
EK98AA						
EL98AB						
EL98AB						

Test: M=Mill Product
 Type: L=Longitudinal

We certify that the material herein described has been manufactured, heat treated, sampled, tested, and inspected in accordance with the above standards and specifications and satisfies those requirements. We certify these flanges and fittings capable of passing a hydrostatic test compatible with their rating. The above figures are correct as contained in the records of the Company. This information has been electronically transmitted to our customer.
 /S/ Glinda LaFleur