

CERTIFIED MATERIAL TEST REPORT
Hackney Ladish Inc.

708 South Elmira Avenue - Russellville, AR 72802
Phone: (800) 527-4500 Fax: (479) 964-6231

Heat Code Description / Specifications

EH99LP	5	24 X 14 STD CON RED	A/SA 234 - 99	WPB (SMLS)
		A106-B 9/B69394	AS ROLLED	NACE MR0175
EG00XC	13	10 XH CAP	A/SA 234 - 99	WPB (SMLS)
		A516-70 53/104450	NORM. 1650	NACE MR0175
EA01TG	12	10 XH CAP	A/SA 234 - 99	WPB (SMLS)
		A516-70 117/AOL170	NORM. 1650	NACE MR0175

Chemical Analysis

Heat Code	Test	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al
EH99LP	M	.160	.740	.007	.008	.220	.010	.030	.040	.020	.0340
EG00XC	M	.160	1.110	.010	.016	.200	.240	.120	.130	.050	.0250
EA01TG	M	.180	.980	.007	.003	.250	.260	.100	.190	.050	.0300

Chemical Analysis (cont.)

Heat Code	N	V	B	Ti	Cb	Sn	W	Pb	Co	CE
EH99LP	.0040	.001	.0001	.0100	.001	.001	.002	.001	.050	.30
EG00XC		.010	.0005	.0100	.010	.010	.003	.002	.050	.41
EA01TG		.010	.0005	.0300	.010	.015	.005	.002	.050	.42

Physical Properties

Heat Code	Tensile KSI	Type	Thickness	Yield KSI	% Elong. (4D)	% RA	Hardness HB
EH99LP	66.0	L		36.7	45.0		131
EG00XC	74.4	T		52.0	31.0	52.0	147
EA01TG	78.3	T		51.2	35.0	64.0	153

Charpy Results

Heat Code	Size x 10mm	Type	Temp. (F)	Foot Pounds	Later. Expansion	% Shear
EH99LP						
EG00XC						
EA01TG						

Test: M=Mill Product

Type: L=Longitudinal T=Transverse

We certify that the material herein described has been manufactured in accordance with the above standards and specifications and satisfies all the requirements of the editions specified. We certify all materials provided comply with EN 10204 paragraph 3.1. Our ISO 9001:2008 certificate number is CERT-11763-2007-USA-RvA/ANAB. We certify all NACE MR0175 certified material complies with MR0175/ISO 15156. We certify these fittings capable of passing 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.

Stephen Baker / QA Manager