CERTIFIED MATERIAL TEST REPORT Hackney Ladish Inc.

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Heat Code Description / Specifications

RED-ES-8-4STD A08XMS

TM47 57 37098

A/SA 234 - 07 WPB (SMLS)

STRESS RELIEVED

NACE MR0175

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<u> Heat Code</u>	<u>Test</u>	_C	_Mn	_P	S	<u></u>	<u>Cu</u>	<u> </u>	<u>Cr</u>	Mo	<u> </u>
A08XMS	M	.170	1.100	.015	.002	.240	.131	.070	.070	.031	.0250

Chemical Analysis (cont.)

<u> Heat Code</u>	N		В	<u>Ti</u>	<u>Cb</u>	_Sn	W	Pb	Co	CE
A08XMS	.0071	.000	.0000	.0000	.000	.008				.386

Physical Properties _

<u> Heat Code</u>	Tensile KSI	<u>Type</u>	<u>Thickness</u>	<u>Yield KSI</u>	% Elong.	(4D) % RA	<u> Hardness HB</u>
A08XMS	76.0	L		51.0	31.0	68.0	153

Charpy Results

Heat Code Size x 10mm Type Temp. (F) Foot Pounds Later. Expansion % Shear A08XMS

Test: M=Mill Product Type: L=Longitudinal

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 ISO 10204 paragraph. 3.1 which replaces type 3.1.B of the 1991 edition of EN 10204. Our ISO 9001:2008 certificate number is CERT-11763-2007-USA-RvA/ANAB. 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.