

CERTIFIED MATERIAL TEST REPORT  
Hackney Ladish Inc.

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Heat Code Description / Specifications

L05WDS	RED-CS/18-16STD	A/SA 234 - 05A WPB (SMLS)
471-D	9 Y06247	STRESS RELIEVE NACE MR0175

Chemical Analysis

<u>Heat Code</u>	<u>Test</u>	<u>C</u>	<u>Mn</u>	<u>P</u>	<u>S</u>	<u>Si</u>	<u>Cu</u>	<u>Ni</u>	<u>Cr</u>	<u>Mo</u>	<u>Al</u>
L05WDS	M	.180	1.160	.009	.001	.200	.030	.050	.060	.020	.0340

Chemical Analysis (cont.)

<u>Heat Code</u>	<u>N</u>	<u>V</u>	<u>B</u>	<u>Ti</u>	<u>Cb</u>	<u>Sn</u>	<u>W</u>	<u>Pb</u>	<u>Co</u>	<u>CE</u>
L05WDS	.0050	.072	.0001		.001					.409

Physical Properties

<u>Heat Code</u>	<u>Tensile KSI</u>	<u>Type</u>	<u>Thickness</u>	<u>Yield KSI</u>	<u>% Elong. (4D)</u>	<u>% RA</u>	<u>Hardness HB</u>
L05WDS	82.6	L		55.1	32.0	74.0	162

Charpy Results

<u>Heat Code</u>	<u>Size x 10mm</u>	<u>Type</u>	<u>Temp. (F)</u>	<u>Foot Pounds</u>	<u>Later. Expansion</u>	<u>% Shear</u>
L05WDS						

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 ISO9001:2000 certificate number is CERT11763-2007-AQ-HOU-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.