CERTIFICATE OF TESTING
IPSCO TUBULARS (KY) INC

IPSCO

Certificate Number: 320894-2

Wednesday, January 03, 2018, 8:45:14 AM

Diameter: 12.75 in | Gage: 0.375 in | Grade: X52M | Mill Order No: 083560 | Customer PO: C0237176280B0

Specification: API 5L, FORTY-FIFTH EDITION GRADE X52M PSL2. NACE MR0175 HARDNESS ONLY, 22 HRC MAXIMUM | Customer: MRC GLOBAL (US) INC.

Heat	Product ID		Test Type / Wgt (%)	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Al	V	Cb	Ti	B	PCM
A86333			Heat	0.07	0.84	0.011	0.004	0.23	0.11	0.04	0.06	0.020	0.005	0.028	0.001	0.015	0.003	0.0001	0.13
	WL-Y14	503	Product	0.05	0.81	0.011	0.003	0.21	0.11	0.04	0.06	0.015	0.005	0.024	0.002	0.011	0.003	0.0004	0.11
	WL-Y14	503B	Product	0.05	0.81	0.010	0.003	0.21	0.11	0.04	0.06	0.016	0.005	0.025	0.002	0.011	0.003	0.0004	0.11
A86334	WL-Y14	505	MILL CONTROL			PIPE TPA				1.503		59900		70200		42.0		0.85	
	WL-Y14	505W	MILL CONTROL			PIPE TWA				1.510				73800					
			Heat	0.06	0.86	0.010	0.002	0.23	0.11	0.04	0.05	0.020	0.004	0.025	0.001	0.014	0.003	0.0001	0.12
	WL-Y14	505	Product	0.03	0.83	0.009	0.002	0.22	0.11	0.05	0.05	0.017	0.004	0.032	0.002	0.009	0.004	0.0006	0.09
	WL-Y14	505B	Product	0.03	0.84	0.009	0.002	0.22	0.11	0.05	0.05	0.017	0.004	0.027	0.002	0.010	0.003	0.0004	0.09
A86335	WL-Y14	495	MILL CONTROL			PIPE TPA				1.518		58900		69400		43.0		0.82	
	WL-Y14	495W	MILL CONTROL			PIPE TWA				1.521				73000					
			Heat	0.06	0.86	0.010	0.002	0.24	0.10	0.04	0.05	0.020	0.005	0.025	0.001	0.014	0.003	0.0002	0.12
	WL-Y14	495	Product	0.04	0.84	0.009	0.002	0.23	0.10	0.04	0.05	0.015	0.004	0.024	0.002	0.010	0.003	0.0004	0.10
	WL-Y14	495B	Product	0.04	0.84	0.009	0.002	0.23	0.10	0.04	0.05	0.014	0.004	0.024	0.002	0.011	0.003	0.0004	0.10
A86336	WL-Y14	506	MILL CONTROL			PIPE TPA				1.512		64200		73400		43.0		0.87	
	WL-Y14	506W	MILL CONTROL			PIPE TWA				1.512				76700					
			Heat	0.06	0.86	0.009	0.002	0.23	0.09	0.04	0.06	0.020	0.006	0.028	0.001	0.018	0.003	0.0002	0.12
	WL-Y14	506	Product	0.04	0.84	0.008	0.001	0.22	0.10	0.04	0.06	0.019	0.004	0.026	0.002	0.014	0.003	0.0005	0.10
	WL-Y14	506B	Product	0.04	0.84	0.008	0.001	0.22	0.10	0.04	0.06	0.019	0.004	0.026	0.002	0.014	0.004	0.0003	0.10
A86337	WL-Y14	496	MILL CONTROL			PIPE TPA				1.523		58600		70400		43.0		0.83	
	WL-Y14	496W	MILL CONTROL			PIPE TWA				1.523				73600					
			Heat	0.08	0.85	0.009	0.002	0.23	0.09	0.04	0.06	0.020	0.005	0.034	0.001	0.016	0.004	0.0001	0.14

Steel Supplier: Nucor Gallatin - 4831 US Highway 42W RR 1, Box 320 Ghent, KY 41045

TPA - Transverse Pipe Axis 180° of Weld
LPA - Longitudinal Pipe Axis 90° of Weld
TWA - Transverse Weld Axis
FST - Full Section Testing
FBN - Full Body Normalized
QST - Quenched and Tempered
SR - Stress Relieved
form CRTR3001

Hydrostatic Test Pressure: 2910 PSI for 5 sec
Minimum Weld Seam Heat Treatment Temperature: 1600 (F)

Melted and Manufactured in the USA
Flattening Test Acceptable
Ultrasonic Weld Line Inspection Acceptable
Deoxidization Practice: Aluminum Fully Killed
Maximum allowable PCM 0.25
UT Cal. to H10/D100 Holches
TWE: NRV

We certify that the product described above has been manufactured, sampled, inspected, and tested in accordance to the referenced specification. The product has been found to be in compliance with all requirements.

Mike Belfield
QA Coordinator

Wednesday, January 03, 2018, 8:45:42 AM

MILL ADDRESS - 100 STEEL PLANT RD | WILDER, KY 41071