



- 9 MAY 2008

 BRENDA ROAD
 HARTLEPOOL
 CLEVELAND
 TS25 2BP

CTT Metalab
Material Test Certificate : E30695/1A

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CUSTOMER CLEVELAND STEEL & TUBES LTD DALTON THIRSK NORTH YORKSHIRE YO7 3JN SAMPLES SUBMITTED ON BEHALF OF :-	CUSTOMER ORDER NO.	Date Items Received	24.4.08
	121105 (26)	Date Items Tested	27/28.4.08
	REFERENCE	QUANTITY	
	CAST NO./CAST CODE	BATCH NO.	
INSPECTION	DESCRIPTION	HEAT TREATMENT NO.	MATERIAL SUPPLIED
NONE	508mm OD x 16.0mm WT		3 TEST PIECES
SPECIFICATION			
API 5L GR. X56/ S355 J2H			

MECHANICAL TESTS (Test Proc: ASTM A370-07A, BS EN10002-1:2001, BS EN10045-1:1990)

SPECIMEN REF	Test Piece Dimensions mm			Stress MPA		RED of AREA %	ELONG %		IMPACT TESTS CHARPY 300J		BEND/ HARDNESS
	WIDTH	DIAM or THICK	AREA	MAX TENSILE	YIELD		A4	A5	10x10x55mm 2mm V NOTCH	TEST TEMP -20°C (JOULES)	
128932	20.00	16.40	328.0	562	491	40	32	250 - 241 - 257		N/A	
129006	20.00	16.30	326.0	556	494	39	29	264 - 259 - 230			
129035	20.00	16.30	326.0	579	510	40	32	256 - 229 - 224			
SPECIFICATION (S355)				490-630	345 MIN	22	MIN	27J MIN AVE			
(X56)				489 MIN	386 MIN	24	MIN				

OTHER TESTS (Test Proc:

NOT APPLICABLE

CHEMICAL ANALYSIS (Test Proc: MSP 15)

SPECIMEN	C%	Si%	Mn%	S%	P%	Ni%	Cr%	Mo%	Cu%	Sn%	Nb%	V%
128932	0.08	0.23	1.39	<0.005	0.019	0.05	0.07	0.01	0.02	<0.03	0.044	0.010
129006	0.07	0.26	1.42	<0.005	0.013	0.05	0.07	0.01	0.02	<0.03	0.039	0.009
129035	0.06	0.24	1.39	<0.005	0.015	0.05	0.07	0.02	0.03	<0.03	0.043	0.009

END OF TEST REPORT

The results obtained conform/do not conform to specification. The Results Relate Only To Test Items Supplied

COMMENTS

THE RESULTS OF THE ABOVE TESTS CONFORM TO API 5L GR. X56/ S355 J2H

DATE CERTIFIED

1.5.08

FOR CLYDESDALE METALAB

ROB WATERS
 TEST ENGINEER

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