

V&M FRANCE TUBERIE SAINT SAULVE SAINT SAULVE ZONE INDUSTRIELLE 59880 SAINT SAULVE 	 VALLOUREC & MANNESMANN TUBES Vallourec Group	MATERIAL TEST REPORT - INSPECTION CERTIFICATE 3.1 EN 10204 : 2004 No. : 4273Sv07 Page: 1 / 4 Date: 26.03.2007
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(A01) V&M FRANCE	(A08.1) V&M-Order-No. BK0128 (A08.2) Suborder
(A06.1) Customer BABCOCK & WILCOX CO INC BABCOCK & WILCOX CO INC 44203 BARBERTON (OHIO) 44203-P.O. BOX 351	(A07.1) Order-No. 43-044654
(A06.2) Orderer /	(A07.2) Order-No. 43-044654 Date 17.07.2006
(A06.3) Client's Client BABCOCK & WILCOX CO INC	(A07.3) Order-No. BAX062314 / Contract 354-0153
(B01, B02, B04) Description of the product	Hot finished seamless steel tubes Ends plain, square to tube axis Inside without rust protection - Outside dry varnish ASME SA 213, Edition 2004 ASME SA 450, Edition 2004 ASME Boiler and Pressure Vessel Code, Sect. II, Part. A, Edition 2004, Addenda 2005 Spec. C030000, HF=CF + D031247 V&M comments PTV/F/98001, Rev. 2, dated 07-03-02 Grade T91
MERCHANDISE IS FREE OF MERCURY CONTAMINATION AND NO WELD REPAIR WAS PERFORMED	

(A13) V&M Item	(A09) Cust. Item	(B14) Item text	(B09) Dimensions	(B10) Single length
21		Item 142 Ref. No COA AS3900 Part No 6264098	OD 2.25 in x Min. WT 0.35 in	Fixed length 25 Ft + 0.31 in - 0 in

(A13) V&M Item	(A09) Cust. Item	(B07.1) Heat	(B08) Quantity	(B11) Total length m	(B13) Weight kg
21		40896	20 ✓	152,40	1.713

(C71)
HEAT CHEMICAL ANALYSIS

V&M FRANCE TUBERIE SAINT SAULVE SAINT SAULVE ZONE INDUSTRIELLE 59880 SAINT SAULVE 	 VALLOUREC & MANNESMANN TUBES Vallourec Group	MATERIAL TEST REPORT - INSPECTION CERTIFICATE 3.1 EN 10204 : 2004 No. : 4273Sv07 Page: 2 / 4 Date: 26.03.2007
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(C71)

HEAT CHEMICAL ANALYSIS

(B07.1) Heat	(B15) Process	C %	Si %	Mn %	P %	S %	Cr %	Mo %	Ni %	Al %	Nb/Cb %
min	-	0,07	0,20	0,30	-	-	8,0	0,85	-	-	0,06
max	-	0,14	0,50	0,60	0,020	0,010	9,5	1,05	0,40	0,04	0,10
40896	Electric (EAF)	0,11	0,32	0,45	0,016	0,003	8,2	0,94	0,17	0,01	0,06

(B07.1) Heat	V %	N %	2432 -								
min	0,18	0,030	2,000								
max	0,25	0,070	-								
40896	0,23	0,046	3,569								

2432	N/AL
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Heats fully killed

(C72)

PRODUCT CHEMICAL ANALYSIS


(B07.1) Heat	(C00.1) Test Piece	C %	Si %	Mn %	P %	S %	Cr %	Mo %	Ni %	Al %	Nb/Cb %
min		0,07	0,20	0,30	-	-	8,0	0,85	-	-	0,06
max		0,14	0,50	0,60	0,020	0,010	9,5	1,05	0,40	0,04	0,10
40896	01KL089	0,09	0,32	0,44	0,013	0,002	8,5	0,94	0,17	0,01	0,06

(B07.1) Heat	(C00.1) Test Piece	V %	N %	2432 -							
min		0,18	0,030	2,000							
max		0,25	0,070	-							
40896	01KL089	0,21	0,047	3,917							

2432	N/AL
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(B04)

HEAT TREATMENT

V&M FRANCE TUBERIE SAINT SAULVE SAINT SAULVE ZONE INDUSTRIELLE 59880 SAINT SAULVE 	 VALLOUREC & MANNESMANN TUBES Vallourec Group	MATERIAL TEST REPORT - INSPECTION CERTIFICATE 3.1 EN 10204 : 2004 No. : 4273Sv07 Page: 3 / 4 Date: 26.03.2007
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(B04)

HEAT TREATMENT

Heat treatment type	Temperature	Soaking time	Cooling
Normalising	1060 °C	20 min	Air
Tempering	780 °C	40 min	Air

TENSILE TEST RESULTS

Type (C10.1)	Tube strip specimen
Test temperature (C03)	Room temperature
Direction (C02)	longitudinal

(B07.1) Heat	(C00.1) Test Piece	(C10.2) Dimension	(C11) YS	(C12) TS	(C13.2) Elong.						
		mm / mm2	R _{p0,2} MPa	R _m MPa	2" %						
min		-	415	586	20						
max		-	-	-	-						
40896	01KL089	17,90x9,20 168,95	556	727	25						
40896	02KL089	17,90x9,20 168,95	563	737	26						

(C10.2)	Dimension	Test piece dimensions
		Test piece area


HARDNESS TEST RESULTS

Method of test (C30)	Brinell
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(B07.1) Heat	(C00.1) Test Piece	(C31.1) HB	(C31.1) HB	(C31.1) HB	(C32.1) Mean						
min		-	-	-	-						
max		250,0	250,0	250,0	-						
40896	01KL089	215,0	215,0	217,0	215,7						
40896	02KL089	211,0	215,0	211,0	212,3						

(C50)

TECHNOLOGICAL AND OTHER TESTS ON SPECIMENS

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(C50)

TECHNOLOGICAL AND OTHER TESTS ON SPECIMENS

Test	Conditions	Test rate	Result
Drift expanding test / Flaring test			Satisfactory
Flattening test			Satisfactory


(D54)

OTHER TESTS ON PIPE

Test	Conditions	Test rate	Result
UT longitudinal	ASTM E213 S1 + SA450	100% each lot	Satisfactory
Appearance & Dimensions		100% each lot	Satisfactory
Eddy Current test		100% each lot	Satisfactory
Positive Material Identification		100% each lot	Satisfactory

(A04, B06)

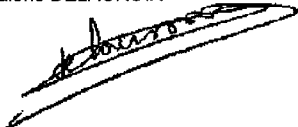


MARKING, IDENTIFICATION

Paint stenciled on one side	 V & M FRANCE A/SA213 T91 HF HT HEAT NUMBER 57.15 X 8.89 LENGTH 43-044654 BAX062314 / CONTRACT 354-0153 TXU ITEM 142 REF. NO C OA AS3900 PART NO 6264098
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(Z01)

The supplied products are in compliance with the requirements of the order

(A05, Z02, Z03)

Date	26.03.2007
Validated by	Inspection Representative
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Stamp	

This testimonial and certification respectively may neither be modified nor used for other products. Offences are regarded as falsification of documents and will be subject to criminal prosecution.