



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. : 4275Sv07 Page: 1 / 5 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
3		Item 50 Ref. No COA AS4100 Part No 6262399	OD 2 in x Min. WT 0.32 in	Fixed length 43 Ft + 0.43 in - 0 in
5		Item 52 Ref. No COA AS4100 Part No 6262512	OD 2 in x Min. WT 0.32 in	Fixed length 33.75 Ft + 0.31 in - 0 in
6		Item 53 Ref. No COA AS4100 Part No 6262304	OD 2 in x Min. WT 0.32 in	Fixed length 35.75 Ft + 0.43 in - 0 in

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(A13) V&M Item	(A09) Cust. Item	(B07.1) Heat	(B08) Quantity	(B11) Total length m	(B13) Weight kg
3		38975	31 ✓	406,28	3.745
5		39226	9	92,58	853
		42679	15	154,30	1.423
			24 ✓	246,88	2.276
6		38975	38	414,08	3.824
		39226	241	2.626,14	24.245
			279 ✓	3.040,22	28.069

(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
38975	Electric (EAF)	0,11	0,32	0,48	0,014	0,002	8,4	0,96	0,14	0,01	0,07
39226	Electric (EAF)	0,11	0,30	0,54	0,014	0,002	8,6	0,97	0,13	0,01	0,06
42679	Electric (EAF)	0,09	0,30	0,44	0,016	0,001	8,2	0,96	0,16	0,01	0,07

(B07.1) Heat	V %	N %	2432 -								
min	0,18	0,030	2,000								
max	0,25	0,070	-								
38975	0,21	0,045	3,717								
39226	0,23	0,045	5,000								
42679	0,22	0,045	4,540								

2432	N/AL
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Heats fully killed

(c72)

PRODUCT CHEMICAL ANALYSIS

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(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
38975	01KL859	0,10	0,32	0,47	0,014	0,001	8,4	0,95	0,15	0,01	0,07
39226	01KL858	0,09	0,29	0,54	0,013	0,002	8,7	0,94	0,13	0,01	0,06
42679	01LB035	0,09	0,30	0,43	0,015	0,001	8,3	0,95	0,15	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	-							
38975	01KL859	0,21	0,045	3,750							
39226	01KL858	0,23	0,045	5,000							
42679	01LB035	0,21	0,045	4,500							

2432	N/AL
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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

V&M FRANCE (A01)
 TUBERIE SAINT SAULVE
 SAINT SAULVE
 ZONE INDUSTRIELLE
 59880 SAINT SAULVE




VALLOUREC & MANNESMANN TUBES
 Vallourec Group

MATERIAL TEST REPORT - (A02)
 INSPECTION CERTIFICATE
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TENSILE TEST RESULTS

(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		-	-	-	-						
38975	01KL859	18,50x9,10 174,82	538	690	26						
38975	02KL859	18,50x9,00 172,85	488	697	25						
39226	01KL858	18,90x8,70 170,87	528	705	26						
39226	02KL858	18,80x8,60 167,90	539	720	25						
42679	01LB035	20,10x8,60 181,67	485	652	27						
42679	02LB035	20,10x9,00 190,31	510	666	27						

(C10.2) Dimension	Test piece dimensions Test piece area
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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	-						
38975	01KL859	207,0	207,0	202,0	205,3						
38975	02KL858	207,0	207,0	207,0	207,0						
38975	02KL859	207,0	211,0	211,0	209,7						
39226	01KL858	211,0	211,0	211,0	211,0						
42679	01LB035	185,0	185,0	187,0	185,7						
42679	02LB035	189,0	191,0	191,0	190,3						

(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 LONG	100% each lot	Satisfactory
Appearance & Dimensions		100% each lot	Satisfactory
Eddy Current test	E309 + NORME	100% each lot	Satisfactory
Positive Material Identification		100% each lot	Satisfactory

(A04, B06)

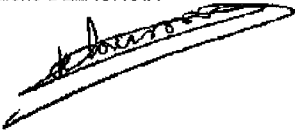


MARKING, IDENTIFICATION

Paint stenciled on one side	 V & M FRANCE A/SA213 T91 HF US HT HEAT NUMBER 50.80 X 8.13 LENGTH 43-044654 BAX062314 / CONTRACT 354-0153 ITEM 50 REF. NO COA AS4100 PART NO 6262399
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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 Valérie DELACROIX 
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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.