Vallourec Tubos do Brasil S.A.
BARREIRO PLANT - Belo Horizonte - MG - Brazil
CEP: 30161-970 - PO BOX: 1453

ISO 9001
ISO 14001
ISO/TS 16949
OHSAS 18001
ISO 50001
BUREAU VERITAS
Certification

Inspection Certificate

(According to DIN EN 10204.3.1)

N°.: 0030032067

Customer: SUMITOMO CORPORATION OF AMERICA

Country: CAMEROON

Material Number: 314980
Work Order: 365839 / 60
Customer Order: 4500301107

Inspection: Vallourec Tubos do Brasil S.A.

PRODUCT: SEAMLESS STEEL PIPE, HOT FINISHED , BUTTRESS THREAD AND COUPL , NORMALIZED
DIMENSIONS: 9.5/8" X 0.39 " **GRADE:** GR N80 Type 1
STANDARD: API SPEC 5CT, 07.2011, 9TH EDITION - PSL 1
CUSTOMER SPECIFICATION: CHAD - ATTACHMENT 5-D , 16.11.2000
SURFACE PROTECTION: EXTERNAL: LACQUER **PIPE ENDS PROTECTOR:** COMPOSITE CLOSED LIFTABLE
TOLERANCES: OUTSIDE DIAMETER (PIPE BODY): -0.048 " / + 0.096 " **WALL THICKNESS:** -0.049 "
LENGTH: RANDOM 38.0 FT - 42.0 FT
STANDARD MARKING: Paint stenciled in the pipe body: 365839/60 MANUFACTURER 5CT-0186.4 API MONOGRAM YEAR/QUARTER 9.5/8 40.00 N1 S S1 P 5300 BC DA8.800 LENGTH HEAT NUMBER
SHIPPING MARKING: MADE IN BRAZIL * SCOA * ESSO PO #450101155,SCOA PO #4500301107 * ESSO EXPLORATION AND PRODUCTION CHAD INC.

Heat	Pieces
130995	19
130996	5
131569	12
131571	3
Total	**39**

PIPES

THE PRODUCT IS SATISFACTORY IN THE FOLLOWING TESTS / INSPECTIONS: DIMENSIONAL # VISUAL # HYDROSTATIC TEST: 5300.0 PSI 5 S # ELECTROMAGNETIC TEST : SR1-L4(N12.5), LONG, OUT/INS # ULTRASONIC TEST FOR WALL THICKNESS MEASUREMENT: VERIFIED HELICAL OR LONG. PATH # DRIFT TEST: DIAMETER 8.80 " LENGTH 12 " #

Chemical Composition (%)

Process: Basic Oxygen Furnace, heats fully killed

		C	Mn	P	S	Si	Ni	Cr	Mo	Al	V	Nb	B	Ti
Heat Analisys	**Min**													
	Max			0.015	0.010									
Product Analisys	**Min**													
	Max			0.015	0.010									
Heat	**Control Lot**													
130995	030002445405	0.36	1.55	0.011	0.002	0.20	0.01	0.04	0.16	0.024	0.010	0.031	0.0004	0.001
	Check 1	0.35	1.53	0.010	0.002	0.20	0.01	0.04	0.15	0.021	0.009	0.029	0.0002	0.001
	Check 2	0.35	1.57	0.011	0.002	0.20	0.01	0.04	0.16	0.021	0.009	0.033	0.0002	0.001
130996	030002429682	0.36	1.56	0.010	0.003	0.20	0.01	0.06	0.17	0.028	0.007	0.032	0.0004	0.001
	Check 1	0.36	1.57	0.011	0.003	0.21	0.01	0.05	0.16	0.026	0.006	0.036	0.0002	0.002

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Chemical Composition (%)

Process: Basic Oxygen Furnace, heats fully killed

		C	Mn	P	S	Si	Ni	Cr	Mo	Al	V	Nb	B	Ti
Heat Analisys	**Min**													
	Max			0.015	0.010									
Product Analisys	**Min**													
	Max			0.015	0.010									
Heat	**Control Lot**													
	Check 2	0.35	1.55	0.011	0.003	0.20	0.01	0.06	0.16	0.026	0.006	0.031	0.0003	0.001
131569	030002444292	0.36	1.56	0.010	0.004	0.20	0.01	0.06	0.16	0.028	0.005	0.033	0.0004	0.002
	Check 1	0.35	1.58	0.010	0.002	0.19	0.01	0.06	0.16	0.025	0.006	0.032	0.0003	0.002
	Check 2	0.35	1.58	0.010	0.002	0.19	0.01	0.06	0.16	0.025	0.006	0.031	0.0004	0.002
131571	030002444368	0.36	1.56	0.011	0.004	0.22	0.01	0.05	0.16	0.027	0.006	0.031	0.0004	0.002
	Check 1	0.36	1.58	0.011	0.002	0.20	0.01	0.06	0.17	0.026	0.006	0.034	0.0004	0.002
	Check 2	0.36	1.54	0.010	0.002	0.21	0.00	0.04	0.17	0.026	0.007	0.029	0.0003	0.002

Tensile Test

Specimen Direction: Longitudinal **Temperature:** Room Temperature **Gage Length:** L0= 2" **YS Method:** 0,50 %

			Type of Specimen	Area (Sqin)	YS (PSI)	TS (PSI)	E (%)
		Required: Min			80000	100000	18
		Max			110000		
Heat	**Control Lot**						
130995	030002429566		STRIP WIDTH 38,1 MM	0.6	85572	114579	20
	030002429567		STRIP WIDTH 38,1 MM	0.6	86297	115740	20
	030002445405		STRIP WIDTH 38,1 MM	0.6	83686	111533	24
130996	030002429682		STRIP WIDTH 38,1 MM	0.6	86442	116465	20
			STRIP WIDTH 38,1 MM	0.6	83396	111388	25
131569	030002444292		STRIP WIDTH 38,1 MM	0.6	84702	115159	25
131571	030002444368		STRIP WIDTH 38,1 MM	0.6	86732	115449	25

YS-Yield Strength; TS-Tensile Strength; E-Elongation;

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Impact Test

Test Specimen: CHARPY 10X55X7.5 V NOTCH **Direction:** Longitudinal **Temperature:** 32℉ **Striking tup:** 0.315"

		AE1 (Ftlb)	AE2 (Ftlb)	AE3 (Ftlb)	AE4 (Ftlb)	AE5 (Ftlb)	AE Avg (Ftlb)
Required:	**Min**	11	11	11			16
	Max						
Heat	**Control Lot**						
130995	030002429566	16	16	18			17
	030002429567	18	17	18			17
	030002445405	15	21	16			17
130996	030002429682	19	19	19			19
		22	16	18			19
131569	030002444292	19	16	19			18
131571	030002444368	21	16	15			17

AE - Absorbed Energy;

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COUPLINGS

THE PRODUCT IS SATISFACTORY IN THE FOLLOWING TESTS / INSPECTIONS: DIMENSIONAL # VISUAL # MPI ON COUPLING: API 5CT WET MPI L/T,OUT/INS #

Chemical Composition (%)

Process: Basic Oxygen Furnace, heats fully killed

		C	Mn	P	S	Si	Ni	Cr	Mo	Al	V	Nb	B	Ti
Product Analisys	**Min**													
	Max			0.015	0.010									
Heat	**Control Lot**													
130493	030002425889	0.40	1.67	0.013	0.002	0.20	0.02	0.07	0.17	0.026	0.007	0.031	0.0004	0.001
	Check 1	0.42	1.66	0.013	0.001	0.20	0.01	0.06	0.18	0.023	0.006	0.031	0.0002	0.002
	Check 2	0.41	1.65	0.013	0.002	0.20	0.01	0.06	0.17	0.023	0.006	0.031	0.0002	0.002

Tensile Test

Specimen Direction: Longitudinal **Temperature:** Room Temperature **YS Method:** 0,50 %

					Type of Specimen	Area	YS	TS	E	Required Min % E
						(Sqin)	(PSI)	(PSI)	(%)	
		Required: Min					80000	100000		
		Max					110000			
Heat	**Control Lot**	**Heat Tr.Lot**	**Pipe N°**	**Position**						
130493	030002425889	B	01	Bottom	ROUND BAR DIAMETER 12,7 MM	0.2	87602	113709	20	14.0

YS-Yield Strength; TS-Tensile Strength; E-Elongation;

Impact Test

Test Specimen: CHARPY 10X55X10 V NOTCH **Direction:** Transverse **Temperature:** 32℉ **Striking tup:** 0.315"

				AE1 (Ftlb)	AE2 (Ftlb)	AE3 (Ftlb)	AE4 (Ftlb)	AE5 (Ftlb)	AE Avg (Ftlb)
		Required: Min		11	11	11			17
		Max							
Heat	**Control Lot**	**Heat Tr.Lot**	**Pipe N°**	**Position**					
130493	030002425889	B	01	Bottom	19	20	21		20

AE - Absorbed Energy;

Remarks:

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We hereby certify that this product has been manufactured and examined in accordance with all requirements of the standards and specifications and all the results are found to be satisfactory. This testimonial and certificate respectively is recorded by a computer system and is valid without signature. Alteration or use for others products are regarded as falsification of documents and will be subject to criminal jurisdiction.

QUALITY CONTROL DEPARTMENT
FAX: (55-31) 3328-2632

e-mail:sergio.lopes@vallourec.com

SÉRGIO RICARDO SILVA LOPES - CREA/MG 60498
TECHNICAL RESPONSIBLE

DATE
11.17.2014

ECO TUBES: The tubes from Vallourec do Brasil S.A. are manufactured with steel which uses charcoal as a source of energy in its production. This coal comes from more than 100,000 ha of forest planted by Vallourec Florestal Ltda.. With the acquisition of 28.9 ton(s) os steel tubes from Vallourec do Brasil S.A., your company contributed to the reduction of the greenhouse effect, avoiding the accumulation of 52.0 ton(s) of Carbon Dioxide CO2 in the atmosphere.