

Test Certificate

EN 10204 3.1

Customer	PROVEEDORA DE MATERIALES ANGER, S.A DE C.V.,- 330	Certificate No.	6313
P.O.No		Certificate Date	05/07/2016
P.O.Date	19/10/2015	Inspection By	AEL
Material Spec.	ASTM A234 Gr. WPB ED.2013 ADD.2011	Dimensional Standard	ASME B16.9 ED.2012

Sr No	Party Code	Size (Inch)	Item	Sch	Qty	ID No.	HT	Hardness (BHN)	Remarks
1		4	90 Deg. LR ELBOW	STD	150	E287	HF	132-138	
2		6	TEE	XH	120	E264	SR	130-138	
3		6	45 Deg. LR ELBOW	STD	250	E289	HF	128-140	
4		8	90 Deg. LR ELBOW	STD	384	E260	HF	132-142	
5		8	90 Deg. LR ELBOW	STD	48	E277	HF	136-140	
6		3	90 Deg. LR ELBOW	STD	1640	E281	HF	128-144	

ID NO.	Chemical Composition (%)														Physical Properties(Product)			
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Cb	Ti	Nb	V	C.E	UTS MPa	0.2% Proof Stress Mpa	EL %	RA %
E287	0.2130	0.4800	0.0110	0.0050	0.2280	0.0140	0.0110	0.0200	0.0020	-	-	-	0.0010	0.299	459.00	311.00	30.22	-
E264	0.2470	0.3990	0.0080	0.0110	0.2500	0.0050	0.0030	0.0090	0.0010	-	-	-	0.0010	0.316	458.00	323.00	28.76	-
E289	0.2240	0.3800	0.0020	0.0100	0.2200	0.0150	0.0080	0.0350	0.0010	-	-	-	0.0010	0.296	466.00	361.00	29.06	-
E280	0.2230	0.3890	0.0060	0.0100	0.2190	0.0170	0.0120	0.0430	0.0020	-	-	-	0.0010	0.299	416.00	274.00	29.67	-
E277	0.2200	0.4100	0.0180	0.0030	0.2400	0.0200	0.0020	0.0500	0.0030	-	-	-	0.0020	0.301	422.00	321.00	30.70	-
E281	0.2200	0.4930	0.0080	0.0050	0.2310	0.0130	0.0090	0.0260	0.0020	-	-	-	0.0010	0.309	439.00	304.00	30.10	-

Heat Treatment	
Heat Treatment Code	Heat Treatment Particulars
HF SR	Hot formed at 620°C to 980°C and subsequently cooled in still air. Stress Relieved at 675°C & subsequently cooled in still air.

REMARKS: 1) Material was manufactured, sample tested and inspected in accordance with indicated specifications and was found to meet the requirements. (2) Test Specimens :- Transverse (3) Starting Material :- Carbon Steel Seamless Pipe ASTM A106 Gr. B ED.2013 (4) No weld repair was performed. (5) Material Conforms to NACE MR0175-2007 / NACE MR103-2007 Only Hardness.

MARKING DETAILS: COMPANY LOGO, SIZE, SCH., MATERIAL GRADE, HEAT NO., COUNTRY OF ORIGIN

We here by certify that the products enlisted above have been supplied in accordance with the purchaser's requirement and the test results mentioned above are correct.


Engineer (Quality Assurance).