



MANUFACTURER'S CERTIFICATE

(Mill Test Certificate) DIN 50049-3 / B / EN 10204-3.1

Purchaser	: PROVEEDORA DE MATERIALES ANGER SA DE CV	Certificate No	: 100605
Product	: CARBON STEEL PIPE FITTINGS	Order No	: PO. 249
Specification	: ASTM A-234 WPB - 2006A	Date	: OCTOBER 25, 2010
	: ASME SA234 WPB	L/C No	: Y000398

Raw Material Standard	Inspection Standard	Visual Inspector	Dimensional Inspection
PIPE : ASTM A106 B / A53B / API 5L PLATE : ASTM A516 Gr 50 / 50	ANSI B16.9 ANSI B16.28	PASS	PASS

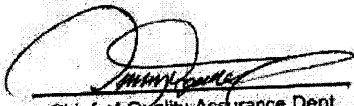
Product & Size (Inch)	Heat ID.	Quantity	Heat NO.	Raw Material Maker
PTU-MXPMS-10-0813BA (PO.249)				
1 90 ELBOW LR STD 1/2"	181	800	567181	B.T.L. 41-059900/001/2634
2 90 ELBOW LR STD 1 1/4"	293	1000	564293	B.T.L. 41-059900/001/2634
3 90 ELBOW LR STD 3"	377	200	567377	B.T.L. 65-062308/001/2634
4 90 ELBOW LR STD 12"	099	10	86099	S.D.C. 49492
5 45 ELBOW LR STD 1"	472	500	566472	B.T.L. 41-059900/001/2634
6 45 ELBOW LR STD 12"	099	25	86099	S.D.C. 49492
7 TEE STD 6"	989	75	85989	S.D.C. 49490
8 TEE STD 18"	738	4	996738	D.L.M. 00/05468
9 CON RED STD 8"x6"	682	100	86682	S.D.C. 49491
10 CON RED STD 12"x8"	065	60	J338065	S.M.I. 1Y032381

Standard	Chemical Composition %													Mechanical Test			Average	CE Long Formula x 100
	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Al	YS	TS	E	Hardness Hb		
	x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100	x 100	x 100	x 1000	x 1000	psi	psi	%			
Min.	-	10	29	-	-	-	-	-	-	-	-	-	35,000	60,000	30	-		
Max.	30	-	106	48	58	40	40	40	15	8	-	50	-	85,000	-	197	42	
1	14	17	76	6	2	10	6	5	2	1	-	-	58000	72000	46	144	29	
2	13	16	76	10	1	11	7	6	2	1	-	-	48000	69000	50	157	29	
3	14	16	78	9	2	9	7	9	2	1	-	-	49600	66100	38	167	30	
4	17	25	65	12	4	8	4	3	2	0	-	-	42786	69022	38	164	30	
5	14	16	76	7	1	11	6	4	2	1	-	-	54000	72000	46	169	29	
6	17	25	65	12	4	8	4	3	2	0	-	-	42786	68022	38	164	30	
7	17	23	77	10	4	5	3	5	0	0	-	-	44381	69763	41	165	32	
8	11	34	84	11	2	12	9	10	0	3	-	-	46300	60200	40	171	35	
9	16	24	76	11	4	14	6	6	0	0	-	-	43076	69183	43	152	32	
10	20	20	55	18	13	1	2	3	0	0	-	-	51700	71400	38	166	30	

We hereby certify that the products described herein have been manufactured, inspected and conforms to standard as specified above.

Abbreviation: JFE = JFE STEEL CORP BTL = BENTELER, GERMANY SDC = SIDERCA, ARGENTINA
 SMI = SUMITOMO, JAPAN DLM = DALMINE, ITALY MNM = MANNESMANN

• ALL FITTINGS ARE HEAT TREATED TO MEET NACE MR0175-03 STANDARD SPECIFICATION AT 650-660°C x 1.5 HR.
 • CE = C + (Mn/8) + (Cr + Mo + V/5) + (Ni-Cu/15)
 • ALL TEES ARE TESTED BY MAGNETIC PARTICLE EXAMINATION (MT)


 Chief of Quality Assurance Dept