



MANUFACTURER'S CERTIFICATE

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

Purchaser	: PROVEEDORA DE MATERIALES AN CER	Certificate No	: 090592
Product	: CARBON STEEL PIPE FITTINGS	Order No	: PO. 240
Specification	: ASTM A-234 WPB - 2006A	Date	: NOVEMBER 9, 2009
	: ASME SA234 WPB	L/C No	: 1878-0054/09

Raw Material Standard	Inspection Standard	Visual Inspection	Dimensional Inspection	
PIPE : ASTM A106 B / A53B / API5LB PLATE : ASTM A516 Gr 50 / 60	ANSI B16.9 ANSI B16.28	PASS	PASS	
Product & Size (inch)	Heat ID.	Quantity	Heat NO.	Raw Material Maker
1 90 ELBOW LR STD 3"	377	1500	567377	B.T.L. 65-062308/001/2634
2 90 ELBOW LR STD 4"	156	950	567156	B.T.L. 65-062308/001/2634
3 90 ELBOW LR STD 6"	138	360	567138	B.T.L. 65-062308/001/2634
4 90 ELBOW LR STD 8"	992	74	85992	S.D.C. 49488
5 90 ELBOW LR STD 12"	099	95	86099	S.D.C. 49492
6 CON RED STD 12"x10"	065	49	J338065	S.M.I. 1Y032381
7 TEE XH 20"	186	4	60417	M.N.M. 317558
8 CON RED XH 4"x2"	948	300	563948	B.T.L. 65-040166/001/2637

Standard	Chemical Composition %												Mechanical Test			Average Hardness	CE Long Formula	
	C	SI	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Al	YS	TS	E			
	x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100	x 100	x 100	x 100	x 1000	x 1000	psi	psi	%	Hb	x 100
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	16	78	9	2	9	7	9	2	1	-	-	49600	66100	38	167	30	
2	13	15	76	7	2	8	5	9	3	1	-	-	44900	61900	38	157	28	
3	13	15	77	6	2	7	5	6	1	1	-	-	48100	64500	38	162	28	
4	18	22	76	10	5	8	4	2	2	0	-	-	44236	70053	39	147	32	
5	17	25	65	12	4	8	4	3	2	0	-	-	42786	68022	38	164	30	
6	20	20	55	18	13	1	2	3	0	0	-	-	51700	71400	38	166	30	
7	15	19	89	14	1	6	4	4	1	0	-	-	44200	70450	40	147	30	
8	13	21	84	11	2	13	6	5	1	<1	-	-	42700	66300	44	138	29	

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

• Abbreviation : KSC = KAWASAKI, JAPAN 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 650-680 C x 1.0 HR.

• CE = C + (Mn/6) + (Cr + Mo + V)/5 + (Ni+Cu)/15

• ALL TEES ARE TESTED BY MAGNETIC PARTICLE EXAMINATION (MT)


 Chief of Quality Assurance Dept