



TTU INDUSTRIAL CORP., LTD.

TTU Fittings

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MILL CERTIFICATE / PRODUCTION CERTIFICATE

MANUFACTURER'S CERTIFICATE

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

Purchaser	: PLESA ANAHUAC Y CIAS., SA DE C.V.	Certificate No	: 120677
Product	: CARBON STEEL FITTINGS	Order No	: PO. 13745
Specification	: ASTM A-234 WPB – 2011A	Date	: AUGUST 11, 2012
	: ASME SA234 WPB	L/C No	: M928369

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 XH 1 1/2"	28346	37	208-97	2554-346
2 90 ELBOW LR XH 1 1/2"	139	3	567139	65-062308/001/2634
3 90 ELBOW LR XH 2 1/2"	28804	100	393268	2554-804
4 90 ELBOW LR XH 3"	24806	150	824162	2554-806
5 90 ELBOW LR XH 5"	28813	30	11-1-1475	2554-813
6 90 ELBOW LR XH 6"	26887	2	1107012	2554-887
7 90 ELBOW LR XH 6"	28887	11	1107012	2554-887
8 90 ELBOW LR XH 8"	284	1	J514284	BYFF8026
9 90 ELBOW LR XH 8"	19816	1	1107010	2554-816
10 90 ELBOW LR XH 8"	28816	4	1107010	2554-816
11 90 ELBOW LR SCH80 10"	28041	3	166006	2554-041

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	x	x	x	x	x	x	x	x	x	x	x	x	psi	psi	%	Hb
Min.	-	10	29	-	-	-	-	-	-	-	-	-	35,000	60,000	30	-	-
Max.	30	-	106	48	58	40	40	40	15	8	-	50	-	85,000	-	197	42
1	19	21	49	8	6	14	5	5	-	-	-	-	45400	67100	34	150	30
2	13	15	74	8	1	9	5	6	1	1	-	-	50700	67400	32	144	28
3	19	20	52	17	3	3	1	3	-	-	-	-	50400	73200	38	142	39
4	18	19	51	15	8	3	2	3	-	-	-	-	48200	70400	36	155	38
5	18	23	43	15	14	11	9	6	-	-	-	-	46100	70000	36	149	38
6	20	24	49	9	6	7	5	7	-	-	-	-	46100	70000	37	143	30
7	20	24	49	9	6	7	5	7	-	-	-	-	46100	70000	37	143	30
8	17	21	54	18	10	1	2	5	1	1	-	-	37700	63200	42	149	27
9	20	24	50	10	8	9	7	7	-	-	-	-	46100	70000	37	152	31
10	20	24	50	10	8	9	7	7	-	-	-	-	46100	70000	37	152	31
11	20	24	53	1	8	8	3	7	-	-	-	-	38200	69600	31	142	31

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