



TTU INDUSTRIAL CORP., LTD.

TTU Fittings

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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	: 130487
Product	: CARBON STEEL FITTINGS	Order No	: PO. 16082
Specification	: ASTM A-234 WPB – 2011A	Date	: AUGUST 5, 2013
	: ASME SA234 WPB	L/C No	: M929849

Raw Material Standard	Inspection Standard	Visual Inspection		Dimensional Inspection
PIPE : ASTM A106 B / A53B / API5L B 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 ECC RED SCH40 10"x8"	37605	10	1130716	2554-605
2 ECC RED SCH40 10"x6"	37605	10	1130716	2554-605
3 ECC RED STD 12"x10"	37497	10	1031436	2554-497
4 ECC RED STD 14"x12"	3749A	3	1031434	2554-49A
5 ECC RED STD 14"x10"	3749A	1	1031434	2554-49A
6 ECC RED STD 14"x8"	3749A	3	1031434	2554-49A
7 ECC RED STD 16"x14"	37861	1	208-15	2554-861
8 ECC RED STD 16"x10"	37861	3	208-15	2554-861
9 90 ELBOW LR SCH80 6"	37887	50	1107012	2554-887
10 90 ELBOW LR SCH80 8"	37816	50	1107010	2554-816
11 45 ELBOW LR SCH80 6"	37887	50	1107012	2554-887

Standard	Chemical Composition %													Mechanical Test			Average Hardness Hb	CE Long Formula x 100
	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Al	YS	TS	E			
	x 100	x 100	x 100	x 10000	x 10000	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	23	25	88	12	8	8	3	7	1	<1	1	3	57300	81200	44	147	40	
2	23	25	88	12	8	8	3	7	1	<1	1	3	57300	81200	44	147	40	
3	14	37	96	18	3	5	2	3	1	1	1	4	47900	63800	48	140	33	
4	17	40	95	15	3	8	2	3	1	1	1	3	53700	76900	40	150	36	
5	17	40	95	15	3	8	2	3	1	1	1	3	53700	76900	40	150	36	
6	17	40	95	15	3	8	2	3	1	1	1	3	53700	76900	40	150	36	
7	19	21	52	14	10	14	6	6	-	-	-	-	46400	67900	34	172	30	
8	19	21	52	14	10	14	6	6	-	-	-	-	46400	67900	34	172	30	
9	20	24	49	9	6	7	5	7	-	-	-	-	46100	70000	37	143	30	
10	20	24	49	9	6	7	5	7	-	-	-	-	46100	70000	37	143	30	
11	20	24	49	9	6	7	5	7	-	-	-	-	46100	70000	37	143	30	

- 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 650-650 C x 1.0 HR.
- CE = C + (Mn/8) + (Cr + Mo + V)/5 + (P+S)/2
- ALL TEES ARE TESTED BY MAGNETIC PARTICLE EXAMINATION (MT)

[Handwritten Signature]
 Chief of Quality Assurance Dept.