



TTU INDUSTRIAL CORP., LTD.

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TTU Fittings

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	: 130489
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 / 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 CAP SCH80 2 CAP XH 3 CAP XH 4 CAP SCH40 5 CAP SCH40 6 CAP SCH40 7 CAP SCH40 8 CAP STD 8 CAP STD 8 CAP STD 8 CAP STD 12 CAP STD	4" 10" 12" 2" 6" 8" 10" 12" 12" 12" 12" 14"	37953 37953 37398 37498 37953 37953 36442 37442 36442 35442 32442 37442	20 10 5 50 100 50 20 10 1 7 2 10	488953 594398 594398 243498 488953 488953 232442 232442 232442 232442 232442 232442	545370 619536 619536 050694 545370 545370 050696 050696 050696 050696 050696 050696

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	psi	psi	%	Hb	x 100
Min.	-	10	29	-	-	-	-	-	-	-	-	-	35,000	60,000	TRANSVERSE		
Max.	30	-	106	48	58	40	40	40	15	8	-	50	-	85,000	17	197	42
1	15	37	91	21	14	0	0	0	0	0	-	-	46900	69000	24	158	30
2	13	24	89	20	10	0	0	0	0	0	-	-	42900	65600	29	168	28
3	13	24	89	20	10	0	0	0	0	0	-	-	42900	65600	29	168	28
4	14	21	74	12	14	0	2	2	0	0	-	-	48100	71600	34	154	27
5	15	37	91	21	14	0	0	0	0	0	-	-	46900	69000	24	158	30
6	15	37	91	21	14	0	0	0	0	0	-	-	46900	69000	24	158	30
7	18	19	80	16	11	0	0	0	0	0	-	-	49300	71700	27	162	31
8	18	19	80	16	11	0	0	0	0	0	-	-	49300	71700	27	162	31
9	18	19	80	16	11	0	0	0	0	0	-	-	49300	71700	27	162	31
10	18	19	80	16	11	0	0	0	0	0	-	-	49300	71700	27	162	31
11	18	19	80	16	11	0	0	0	0	0	-	-	49300	71700	27	162	31
12	18	19	80	16	11	0	0	0	0	0	-	-	49300	71700	27	162	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