



**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 : 120006  
 Product : CARBON STEEL FITTINGS Order No : PO. 13712  
 Specification : ASTM A-234 WPB - 2011A Date : AUGUST 11, 2012  
ASME SA234 WPB L/C No : M928366

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 XH80 10"	24041	4	166006	2554-041
2 90 ELBOW LR SCH80 12"	33181	9	1-61430	2554-181

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	%		
Min.	-	10	29	-	-	-	-	-	-	-	-	-	35,000	60,000	30	-	-
Max.	30	-	106	48	58	40	40	40	15	8	-	50	-	85,000	-	197	42
1	20	24	53	1	8	8	3	7	-	-	-	-	38200	69600	31	142	31
2	15	26	78	17	14	<1	1	3	<1	2	-	-	49500	71200	40	145	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 650-680 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