



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 : **140014**
 Product : **CARBON STEEL FITTINGS MADE FROM SEAMLESS PIPES** Order No : **PO. 17201**
 Specification : **ASTM A-234 WPB - 2011A** Date : **DECEMBER 28, 2013**
ASME SA234 WPB L/C No : **M830449**

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 90 ELBOW LR SCH80 8"	41816	30	1107010	2554-816
2 45 ELBOW LR SCH80 18"	41441	2	83441	HSG - 001232-7
3 45 ELBOW LR SCH80 3"	41805	50	321843	2554-805
4 TEE SCH80 3"	41681	50	11-101208	2554-681
5 TEE SCH80 12"	41514	3	1036740	2554-514

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 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	20	24	50	10	8	9	7	7	-	-	-	-	46100	70000	37	152	31
2	20	27	86	9	7	3	1	4	-	-	-	-	40325	71455	32/33	164	35
3	20	22	43	16	10	2	1	1	-	-	-	-	42500	72100	34	167	38
4	20	22	51	14	3	1	1	1	<1	<1	-	-	47900	72900	30	170	29
5	22	29	41	13	7	8	3	5	1	<1	2	1	38400	66700	37	145	31

COUNTRY OF EXPORT : THAILAND
 COUNTRY OF ORIGIN : THAILAND
 VALUE OF THE PO 17201 - US\$94,159.70

* We hereby certify that the products described herein have been manufactured, inspected and conform to standard as specified above.
 * ALL FITTINGS ARE HEAT TREATED TO MEET NACE MR0175-03 STANDARD SPECIFICATION AT 550-600 C x 1.0 HR.
 * CE = C + (Mn/8) + (Cr + Mo + V/5) + Ni + Cu/15
 * ALL TEES ARE TESTED BY MAGNETIC PARTICLE EXAMINATION (MT).

[Signature]
 Chief of Quality Assurance Dept
 TTU INDUSTRIAL CORP.