



TTU INDUSTRIAL CORP., LTD.

TTU Fittings

Head Office : 395/5 Silom Road, Bang Rak, Bangkok 10500, Thailand. Tel: (662)-2377230-40 Fax : (662)-2366627, 2377241
 Production Plant : 33/3 GP, 7, Soi Pon-Chareon, K.M. 16.5 Bangna-Trad Road, Bangplee, Samutprakarn 10540, Thailand
 website : www.ttu.co.th email address : sale001.ttu@ttugroup.com, chris.ws@ttugroup.com

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	: 140013
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	: M930449

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 CON RED SCH40 6"x4"	41931	200	11102288	2554-931
2 CON RED SCH40 10"x8"	41605	30	1130716	2554-605
3 CON RED SCH40 10"x6"	41805	30	1130716	2554-605
4 CON RED STD 16"x12"	41861	10	208-15	2554-861
5 CON RED STD 18"x12"	41871	2	710A-36	2554-871
6 CON RED STD 18"x10"	41871	3	710A-36	2554-871
7 CON RED STD 20"x18"	41872	3	710A-38	2554-872
8 CON RED STD 20"x12"	41872	1	710A-38	2554-872
9 CON RED STD 24"x14"	41862	3	208-15	2554-862
10 ECC RED STD 14"x12"	4949A	10	1031434	2554-49A
11 90 ELBOW LR SCH80 3"	41806	50	824162	2554-806

Standard	Chemical Composition %												Mechanical Test			Average Hardness	CE Long Formula x 100
	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	22	51	13	6	6	2	3	1	1	-	-	46400	67100	35	140	30
2	23	25	88	12	8	8	3	7	1	<1	1	3	57300	81200	44	147	40
3	23	25	88	12	8	8	3	7	1	<1	1	3	57300	81200	44	147	40
4	19	21	52	14	10	14	6	6	-	-	-	-	46400	67900	34	172	30
5	18	25	50	8	6	11	5	5	<1	<1	-	-	48200	69300	34	171	28
6	18	25	50	8	6	11	5	5	<1	<1	-	-	48200	69300	34	171	28
7	19	22	50	10	7	11	5	5	<1	<1	-	-	45700	69600	40	142	29
8	19	22	50	10	7	11	5	5	<1	<1	-	-	45700	69600	40	142	29
9	19	21	52	14	10	14	6	6	-	-	-	-	46800	68200	35	160	30
10	17	40	95	15	3	8	2	3	1	1	1	3	53700	76900	40	150	36
11	18	19	51	15	8	3	2	3	-	-	-	-	48200	70400	36	155	38

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 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