



Head Office : 395/5 Silom Road, BangRak, Bangkok 10500, Thailand. Tel: (662)-2377230-40 Fax: (662)-2386627, 2377241
 Production Plant : 33/3 GP. 7, Soi Pon-Chareon, K.M. 16.5 Bangna-Trad Road, Bangplee, Samutprakan 10540, Thailand
 website : www.ttu.co.th email address : sale001.ttu@ttugroup.com, chris.ws@ttugroup.com

MANUFACTURER'S CERTIFICATE

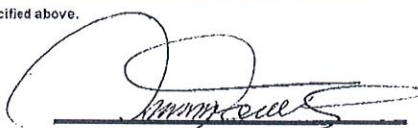
(Mill Test Certificate) DIN 50049-3.1-B / EN 10204-3.1

Purchaser : PLESA ANAHUAC Y CIAS., SA DE C.V. Certificate No : 130485
 Product : CARBON STEEL FITTINGS Order No : PO. 16082
 Specification : ASTM A-234 WPB / NACE MR-01-75 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 45 ELBOW LR SCH40 8"	37814	100	1107015	2554-814
2 45 ELBOW LR SCH40 10"	37815	89	1107003	2554-815
3 45 ELBOW LR SCH40 10"	36815	11	1107003	2554-815
4 45 ELBOW LR STD 12"	37807	50	671365	2554-807
5 45 ELBOW LR STD 14"	37315	10	0844607	2554-315
6 45 ELBOW LR SCH40 20"	3749C	1	1030864	2554-49C
7 45 ELBOW LR SCH40 24"	37831	2	83078	2554-831
8 TEE SCH40 2"	37891	50	104A-291	2554-891
9 TEE STD 12"	37497	20	1031436	2554-497
10 TEE SCH40 20"	37993	2	1114088	YZL - 11317B-18
11 TEE SCH40 24"	37841	1	73-05766	2554-841

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	30	-	-
Max.	30	-	106	48	58	40	40	40	15	8	-	50	-	85,000	-	197	42
1	19	25	50	15	9	7	4	9	-	-	-	-	47500	70700	35	147	30
2	19	24	51	14	7	11	10	9	-	-	-	-	47100	69600	37	141	39
3	19	24	51	14	7	11	10	9	-	-	-	-	47100	69600	37	141	39
4	19	21	57	16	7	6	2	4	-	-	-	-	40400	65400	38	164	30
5	20	23	50	12	10	10	4	4	-	-	-	-	45700	67900	33	132	36
6	17	37	95	18	6	8	3	8	1	1	1	2	47900	68900	42	155	37
7	18	22	72	12	3	-	2	1	4	-	-	2	46400	65100	44	164	31
8	19	23	49	9	8	<1	<1	2	<1	<1	-	-	46800	69600	33	155	28
9	14	37	96	18	3	5	2	3	1	1	1	4	47900	63800	48	140	33
10	21	25	49	15	7	14	11	8	6	2	-	-	51490	73970	35	174	34
11	20	18	72	8	13	9	5	2	-	-	1	-	39000	66700	45	162	33

- 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