



MILL TEST CERTIFICATE

PANTECH STEEL INDUSTRIES SDN. BHD. (50731-A)

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Quality Management System is certified under ISO 9001. Cert. No.: 10000750
ISO 9001:2008/CEI Annex 1, Clause 4.3
Cert. No.: 02558701/0130404102005

WROUGHT CARBON STEEL BUTTWELDING FITTINGS

INSPECTION DOCUMENT: EN10204.2004 Type 3.1

Certificate No : PSI 133476

Date : 19-Jul-19

Purchaser :

Order No.	Invoice No.	Total Net Wt. (kg)	Starting Material	Specification for Fittings- Seamless								Specification for Inspection					
VPI-250519REV2-1	E 000014533	22751.60	Seamless Pipe	ASTM A234 - 12a WPB / ASME SA234 - 12a WPB / ASME SA234 - ED 19 / NACE MR0100-12/NACE MR017550-12/19-12*								ASME B16.9 - 18 / ASTM A960 - 14a					
Heat No.	Product & Size		Quantity (pcs)	Unit Weight (kg)	Visual Examination	Dimensional Inspection	Heat Treatment	Magnetic Particle Testing									
VF 409	18" 90 DEG LR STD ELBOW		8	116.00	GOOD	GOOD	H	N/A									
EU 103	20" 90 DEG LR STD ELBOW		8	143.30	GOOD	GOOD	H	N/A									
EU 107	24" 90 DEG LR STD ELBOW		8	207.00	GOOD	GOOD	H	N/A									
VD 205	10" 90 DEG SR STD ELBOW		30	24.00	GOOD	GOOD	H	N/A									
VE 105	20" 90 DEG LR XS ELBOW		4	190.30	GOOD	GOOD	H	N/A									
Specification	Chemical Composition (%)												Tensile Test ¹			Hardness	
	C x100	Si x100	Mn x100	P x1000	S x1000	Ni x100	Cr x100	Mo x100	Cu x100	V x1000	Pb	CE x100	YS (KSI / MPa)	TS (KSI / MPa)	E ² (%)	(HB)	
Min	-	10	29	-	-	-	-	-	-	-	-	-	240	415	-	1	2
Max	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heat No.	30	-	106	50	58	40	40	15	40	80	-	50	-	-	-	197	
VF 409	18	23	42	10	3	1	14	1	3	3	< 0.10	29	346	486	30.6	126	122
EU 103	21	23	56	15	5	4	11	0	1	0	< 0.10	33	288	474	32.0	128	126
EU 107	21	24	55	15	4	4	11	0	1	0	< 0.10	33	284	465	32.0	128	125
VD 205	23	22	43	16	3	0	2	0	1	0	< 0.10	31	277	483	32.2	133	136
VE 105	17	23	53	15	4	3	5	0	1	0	< 0.10	27	313	473	41.3	121	124

WE CERTIFY THAT ALL PRODUCTS WERE MANUFACTURED, SAMPLED, TESTED, AND INSPECTED SOLELY BY THE MANUFACTURER LISTED AT THE ADDRESS ABOVE IN ACCORDANCE WITH INDICATED SPECIFICATION AND FOUND TO MEET REQUIREMENTS. MATERIAL IS FREE FROM MERCURY AND RADIOACTIVE CONTAMINATION.

TENSILE REQUIREMENT: CONFORMS TO ASTM A370 STANDARD, LONGITUDINAL DIRECTION, GAUGE LENGTH 2" (50mm)
* HARDNESS ACCORDING TO NACE MR0100 / NACE MR017550-15156

NOTE:

- C: Cold formed at temperature below 620°C
- S: Stress relieved in temperature between 590°C - 690°C and cooled in still air
- H: Hot formed in temperature between 840°C - 945°C and cooled in still air
- N: Normalised at 910°C
- Q: Heated to 910°C and quench in water
- T: Temper between 590°C - 690°C

¹ YS = Yield strength TS = Tensile strength E = Elongation

² For thickness above 7.94 mm, the minimum elongation value, E is 30. Else, E = 48t + 19, where t = specimen thickness, in
Made in Malaysia



Quality Assurance Manager