

HT# 56E00121

PO# 131724



# INSPECTION CERTIFICATE

Purchaser: CE FRANKLIN LTD. A DIVISION OF NOV WILSON CANADA

 Thai Benkan Co., Ltd.  
 58 Soi Watkrunai, Bangkru, Prapadaeng,  
 Samutprakarn, 10130 Thailand.

TO EN10204 3.1/ISO 10474 3.1B

E-No. MD-212      Purchase Order No. P/O 3232263-OR-2100      Job No.

 D M Y Certificate No.  
 16/12/2013 T- 2013200853

No.	Hardness Actual data	MFG. No.	Specification for Material Made from Seamless Pipe		Specification for Inspection		Visual Examination	Dimensional Inspec
			ASTM A234-11/ASME SA234-10 Gr.WPB CSA Z345-11-09 Gr.241 CAT1 8S NACE MR0175/ISO 15156-2 R3-08&MR0103-12		ASME B16.9-2007 ,B16.25-2007			
			Product & Size (T:*1)			Quantity	Heat Treatment (Note 1)	Boron(%)
1	HB:123-128	56E20139-1	RC WPB 4 X 3 XS		13/150	N	0.0000	7514123
2	HB:125-132	56E20139	RC WPB 4 X 3 XS		137/150	N	0.0000	7514123
3	HB:127-130	56E00121	90 EL WPB 2 XS		482/3.000	A	<0.0001	7510900
4	HB:128-133	56E00126-2	90 EL WPB 6 XS		48/350	A	0.0002	7511035
5	HB:133-145	56E00123	90 EL WPB 3 XS		226/500	A	0.0001	7510942

Specification	Chemical Composition %												Tension Test *2			HARDNESS MAX
	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	C.E.	YS	TS	E	
	x 100	x 100	x 100	x 1000	x 1000	x 100	x 100	x 100	x 100	x 1000	x 1000	x 100	MPa.		%	
Min.													240	415	30	197 HBW : GOOD
Max.		10	29													
Base Material Heat No.	30		106	50	58	40	40	40	15	80	20	42		655		
1	J3L2464	20	17	85	12	7	1	0	4	1	TR	1	35	312	477	41
2	J2LA443	18	17	82	11	5	2	2	4	1	TR	TR	33	305	475	40
3	980430	15	18	77	13	3	16	9	12	5	TR	TR	33	307	480	34
4	29412	16	23	84	13	1	9	3	5	2	2	1	33	287	457	40
5	J2KC037	20	16	80	17	7	1	2	5	1	TR	TR	35	281	479	55

(Note 1) A : Hot formed with final temperature between 620 °C-980°C, Air Cooling N : Normalizing 910°Cx0.5 HR. Air Cooling

The fittings was manufactured, sampled, tested, and inspected in accordance with the specification, and was found to meet the requirements.

C.E. = C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15

MAGNETIC PARTICLE EXAMINATION FOR TEE ONLY :

\* 1 : "T" symbolized wall thickness in mm. \* 2 : YS Yield strength TS = Tensile strength E = Elongation

We hereby certify that the product described herein has been manufactured in accordance with the specifications concerned and also with the purchaser's requirements and that the test results shown herein are correct.

Note for WPB: For each reduction of 0.01% below the specified carbon maximum, an increase of 0.06% manganese above the specified maximum will be permitted, up to a maximum of 1.35%

  
Rungnara Kompiranon

 Quality Assurance Manager  
 Thai Benkan Co., Ltd.