

57B20088

INSPECTION CERTIFICATE

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

TO EN10204 3.1/ISO 10474 3.1B

Thai Benkan Co., Ltd.

58 Soi Watkrunai, Bangkru, Prapadaeng,

Samutprakarn, 10130 Thailand.

E-No. Purchase Order No. Job No.

D M Y Certificate No.

MD-348

PO3358102-OR-2100

14/08/2014 T. 2014200482

No.	Hardness Actual data	MFG. No.	Specification for Material Made from Seamless Pipe			Specification for Inspection		Visual Examination	Dimensional Inspection
			ASTM A234-13/ASME SA234-13 Gr. WPB			ASME B16.9-2012, B16.25-2012		Good	Good
			CSA Z245-11-13 Gr. 241 CAT1 SS NACE MR0175/ISO 15156-2 R3-D08&MR0103-12						
			Product & Size (T+1)		Quantity	Heat Treatment (Note 1)	Boron(%)	Item No.	
1	HB:119-124	57B20088	RC WPB 8 X 6 XS		35/40	N	0.0000	7514069 1175929	
2	HB:124-129	57B20088	RC WPB 3 X 2 STD/XS		300	N	0.0001	7510428 1600912	
3	HB:127-136	57B20084-1	RC WPB 6 X 3 XS		4/40	N	0.0002	7510160 1175398	
4	HB:134-140	57B20089	RC WPB 4 X 2 STD/XS		75	N	0.0001	7510431 1628756	
5	HB:136-141	57B20084	RC WPB 6 X 3 XS		5/40	N	0.0001	7510160 1175398	

Specification		Chemical Composition %												Tension Test *2		
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	C.E.	YS	TS	E
Min		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.		%
Max			10	29										240	415	30
Base Material Heat No.		30		106	50	58	40	40	40	15	80	20	42		655	
1	J1KB093	20	19	77	24	8	2	2	5	1	TR	TR	34	310	470	45
2	113548	16	23	77	10	5	21	9	10	6	2	2	34	322	475	40
3	58905	15	23	89	9	1	11	4	7	4	2	1	33	331	476	37
4	113691	15	24	88	8	5	15	7	10	2	TR	TR	30	304	464	35
5	113137	16	25	71	7	7	20	9	7	2	1	TR	32	284	467	41

(Note 1) A : Hot formed with final temperature between 620 °C-980 °C, Air Cooling N : Normalizing 910 °C x 0.5 HR. Air Cooling

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

C.E. = $C + F(Mn/6 + Si/24 + Cu/15 + Ni/20 + (Cr + Mo + V + Nb)/5 + 3B)$ (CSA Spec.)

TR : Trace to TR < 0.0001

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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%

Form TZ-6A/5


Rungnape Kompranon
Quality Assurance Manager
Thai Benkan Co., Ltd.