

CERT. # 11393.

**Certified Material Test Report**

Certificate No.  
**11393**

Company: **Canada Pipeline Accessories Co. Ltd.**

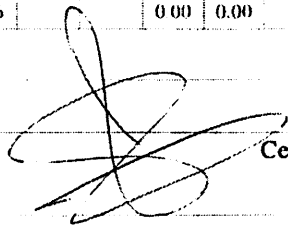
Address: **10653 - 46th Street S.E.  
Calgary, AB T2C 5C2**

Alloy **CF8M - SA-351**

Specification: **ASME SA-351**

**Section A: Chemical Analysis and Mechanical Properties**

C	Si	Mn	P	S	Cr	Ni	Mo	Cu	Cb	Co	Fe	Al	Pb	N	W	V	Sb	Mg	Sn	Ti	Zn	YS*	UTS*	%E	RIA	Hardness	Scale
0.03	1.32	0.70	0.02	0.01	18.77	9.46	2.18	0.27	0.03	0.09	67.00	0.01		0.02	0.03	0.06			0.00	0.00		41700	81500	40			
<b>Heat#: DPB1</b>																											
0.03	1.40	0.69	0.02	0.01	18.26	9.40	2.12	0.22	0.02	0.06	67.68	0.01		0.03	0.02	0.06			0.00	0.00		39600	78500	48			
<b>Heat#: EPB1</b>																											
0.02	1.48	0.76	0.02	0.01	18.60	9.34	2.07	0.22	0.01	0.05	67.31	0.01		0.02	0.02	0.05			0.00	0.00		40200	79500	46			
<b>Heat#: FPB1</b>																											
0.04	1.24	0.73	0.02	0.01	18.67	9.74	2.18	0.26	0.02	0.10	66.88	0.01		0.02	0.03	0.05			0.00	0.00		38700	78000	41			
<b>Heat#: IPB1</b>																											
0.02	1.35	0.68	0.02	0.02	18.89	9.62	2.09	0.27	0.01	0.07	66.82	0.01		0.04	0.03	0.05			0.00	0.00		42200	82000	42			
<b>Heat#: KPB1</b>																											
0.03	1.28	0.74	0.02	0.01	18.79	9.68	2.17	0.28	0.02	0.12	66.73	0.01		0.03	0.05	0.05			0.00	0.00		41006	78889	48			
<b>Heat#: GQB1</b>																											
0.03	1.36	0.74	0.02	0.01	19.13	9.54	2.15	0.27	0.02	0.11	66.49	0.01		0.03	0.04	0.05			0.00	0.00		35134	82247	54			
<b>Heat#: JQB1</b>																											
0.03	1.40	0.77	0.02	0.01	19.08	9.75	2.18	0.30	0.02	0.10	66.20	0.01		0.03	0.04	0.05			0.00	0.00		35903	79639	49			
<b>Heat#: LQB1</b>																											
0.03	1.49	0.91	0.02	0.01	19.07	9.79	2.24	0.29	0.02	0.11	65.85	0.01		0.04	0.04	0.06			0.00	0.00		39017	80351	39			
<b>Heat#: IRB1</b>																											
0.03	1.34	0.70	0.03	0.01	18.84	9.65	2.48	0.30	0.02	0.12	66.33	0.00		0.04	0.04	0.06			0.00	0.00		40908	78104	32			
<b>Heat#: DSB1</b>																											

Signature		Certifying Authority
		Position    Quality Assurance Manager
Name	Donald J. Shantz	Date                    26-Jun-12

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0.05	1.33	0.83	0.02	0.01	19.02	9.78	2.17	0.29	0.02	0.11	66.28	0.01	0.01	0.04	0.06	0.00	0.00	38048	80207	54
<b>Heat#: FSB1</b>																				
0.05	1.43	0.88	0.02	0.01	19.10	9.68	2.22	0.29	0.02	0.12	66.06	0.01	0.03	0.04	0.06	0.00	0.00	36860	82596	50
<b>Heat#: HSB1</b>																				

## Section B: Additional information / attachments

**This Certified Material Test Report is issued to certify that the castings listed herein were made in accordance with all mentioned specifications.**

**Comments:**

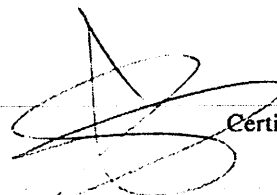
This material has been manufactured in accordance to PED Annex I, clause 4.3 certification allowing the issue of an EN 10204 type 3.1 certificate for material being supplied specifically for use in pressure equipment in accordance with PED.

The casting(s) covered by this report have been manufactured and found to be acceptable to the NACE MR0175/ISO 15156-3:2003 Annex A Sub-Section A.2.2 - Table A.2 and have been Solution Heat Annealed.

HARDNESS TEST RESULT: RC 17

**Attached Documents:**

Charpy Test Results, PED Certificate

		
Signature	Certifying Authority	
	Donald J. Shantz	Position Quality Assurance Manager
	Date	26-Jun-12