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An Inshore Company

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2010 SURVEY OF OFFSHORE NON-CHEMICAL FLOW ASSURANCE SOLUTIONS

Products & Systems Methodologies

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For additional paper copies or comments E-mail: posters@penwell.com
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ABBREVIATIONS: F: Flowline; R: Risor; W: Well; T: Tree; JPR: Jumper; J: Joint; M: Manifold; HTMP: High Pressure / High Temperature; PL: Pipeline; CD: Date/Dimension; PIP: Pipe-in-Pipe; CAPEX: Capital Expenditure; OPEX: Operating Expenditure; Installation Expenditure; Presently Used in Field; PROTOTYPE: Past/Under Test Program; CONCEPTUAL: Design Only; U-VALUE: Overall Heat Transfer Coefficient

CONVERSION FACTORS: Length: 1 in. = 25.4 mm; 1 ft. = 0.305 m; 1 mile = 1.609 km; Thermal Conductivity: 1 Btu/(hr·ft·°F) = 0.173 W/(m·K); U-Value: 1 Btu/(hr·ft²·°F) = 5.67 W/(m²·K)

NOTES: A: Specific heat and density of materials are not provided. These characteristics have a strong influence on cost/downtime. B: Although extremely important to flow assurance, pigging issues, though not included in these classifications.



WATER DEPTH (ft)	U-VALUE (Btu/hr-ft²-°F) Based on R10
1	0.000
2	0.000
3	0.000
4	0.000
5	0.000
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000
18	0.000
19	0.000
20	0.000
21	0.000
22	0.000
23	0.000
24	0.000
25	0.000
26	0.000
27	0.000
28	0.000
29	0.000
30	0.000
31	0.000
32	0.000
33	0.000
34	0.000
35	0.000
36	0.000
37	0.000
38	0.000
39	0.000
40	0.000
41	0.000
42	0.000
43	0.000
44	0.000
45	0.000
46	0.000
47	0.000
48	0.000
49	0.000
50	0.000
51	0.000
52	0.000
53	0.000
54	0.000
55	0.000
56	0.000
57	0.000
58	0.000
59	0.000
60	0.000
61	0.000
62	0.000
63	0.000
64	0.000
65	0.000
66	0.000
67	0.000

PHOTO NUMBER	VENDORS	ISSUES	ACTIVE SYSTEMS		PASSIVE SYSTEMS		OTHER INNOVATIVE METHODS		DETECTION SYSTEMS	CONNECTION METHOD	EXPERIENCE	APPLICATION
			TYPE	CHARACTERISTICS	TYPE	CHARACTERISTICS	TYPE	ADVANTAGES				
1	SpaceRAM - Subsea Armor Pipe-in-Pipe (PIP) Insulation	Control Term CSS-750 Phosphate Based Pack-in-Place Synthetic Foam Subsea Insulation	Control Term CSS-750 Phosphate Based Pack-in-Place Synthetic Foam Subsea Insulation	Control Term CSS-750 Phosphate Based Pack-in-Place Synthetic Foam Subsea Insulation	Control Term CSS-750 Phosphate Based Pack-in-Place Synthetic Foam Subsea Insulation	Control Term CSS-750 Phosphate Based Pack-in-Place Synthetic Foam Subsea Insulation	Control Term CSS-750 Phosphate Based Pack-in-Place Synthetic Foam Subsea Insulation	Control Term CSS-750 Phosphate Based Pack-in-Place Synthetic Foam Subsea Insulation	Control Term CSS-750 Phosphate Based Pack-in-Place Synthetic Foam Subsea Insulation	Control Term CSS-750 Phosphate Based Pack-in-Place Synthetic Foam Subsea Insulation	Control Term CSS-750 Phosphate Based Pack-in-Place Synthetic Foam Subsea Insulation	Control Term CSS-750 Phosphate Based Pack-in-Place Synthetic Foam Subsea Insulation
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www.worldenergycongress.com

Oil & Gas Maintenance Technology North America
Conference & Exhibition
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www.ogmta.com

2010 PETROLEUM EVENTS CALENDAR

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Offshore Middle East Conference & Exhibition
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www.offshoremideast.com

Deep Offshore Technology International Conference & Exhibition - Amsterdam
Nov 30 - Dec 2, 2010 | Amsterdam, Netherlands
www.deepoffshoretotechnology.com

Unconventional Gas International Conference & Exhibition
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www.unconventionalgas.net

Deepwater Operations Forum & Exhibition
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