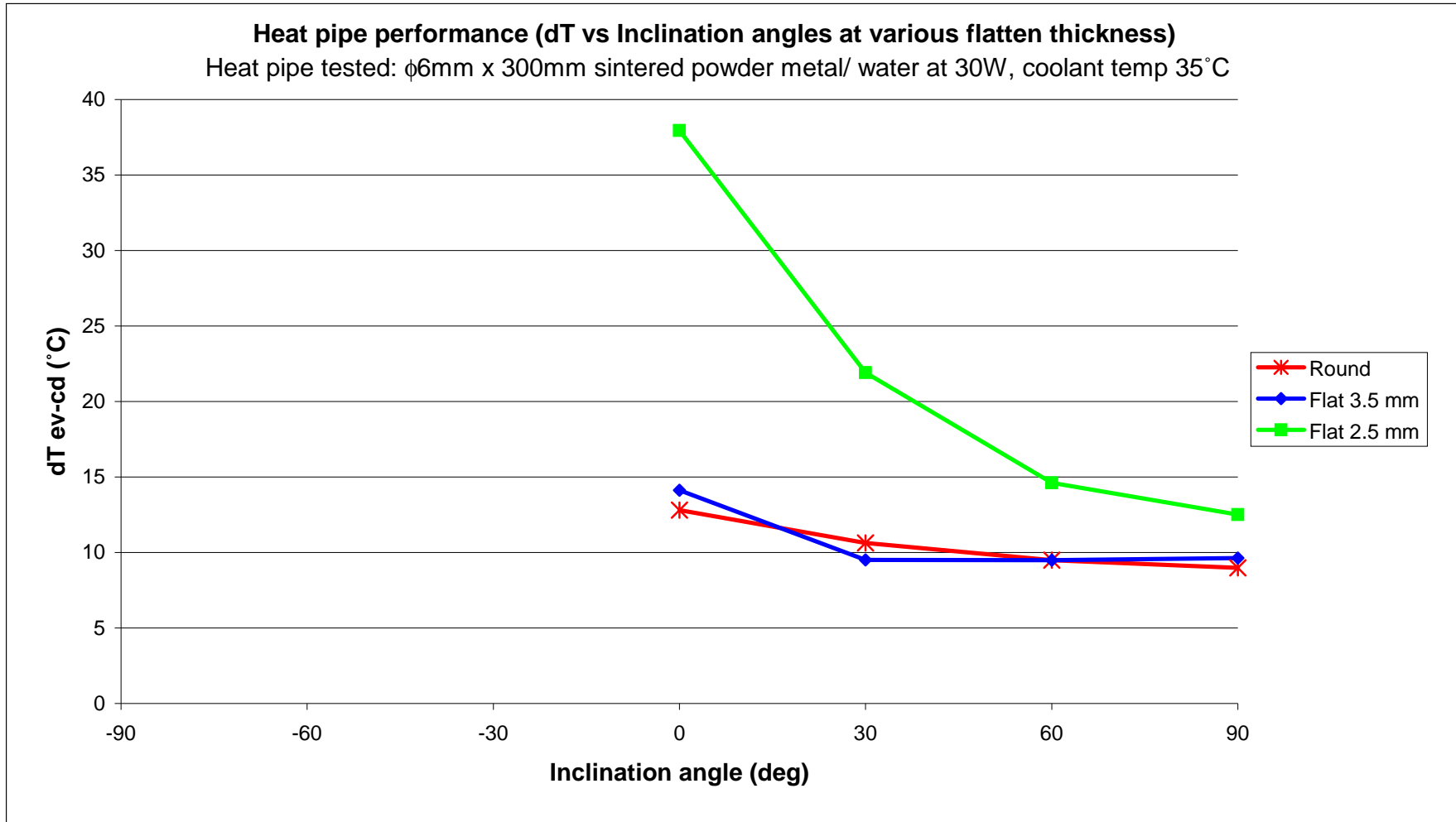


Heat Pipe Test Report

Manufacturer		Enertron				Test conditions			Test date		11/7/2011		
Wick structure/ Working fluid		Sintered Powder Metal/ Water				Effective area (m2)		2.83E-05	Note:				
Pipe specification		C110 Copper 0.3mm thickness				Heat load (W)		30	ev-		Evaporator of heat pipe		
Diameter (mm)		6				Contact length of ev/cd (mm)		50	cd-		Condenser of heat pipe		
Length (mm)		300				Coolant Temperature		35	eb-		Evaporator Block		
Flatten thickness (mm)		Round/ 3.5/ 2.5				At 90° the evaporator is directly below the condenser; 0° is horizontal.			cb-		Condenser Block		
Bend angle (deg)		n/a											
Inclination Angle (°)	Flatten thickness (mm)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/m°C)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/m°C)	Measured Temperature T (°C)					
								ev	cd	eb1	eb2	cb1	cb2
90	Round	8.98	0.30	29539	10.51	0.35	25246	48.80	39.82	49.54	49.37	38.81	39.07
	3.5	9.64	0.32	27528	13.12	0.44	20215	50.17	40.53	52.30	52.00	38.99	39.07
	2.5	12.51	0.42	21204	15.22	0.51	17429	53.15	40.64	53.86	54.47	38.26	39.63
60	Round	9.49	0.32	27951	11.13	0.37	23826	49.34	39.85	50.14	50.00	38.83	39.04
	3.5	9.49	0.32	27940	13.10	0.44	20256	49.99	40.50	52.24	51.88	38.92	39.00
	2.5	14.61	0.49	18161	17.29	0.58	15343	55.32	40.71	55.76	56.81	38.22	39.77
30	Round	10.64	0.35	24930	12.40	0.41	21387	50.51	39.87	51.23	51.43	38.80	39.06
	3.5	9.51	0.32	27881	13.13	0.44	20210	50.03	40.51	52.29	51.97	38.95	39.07
	2.5	21.91	0.73	12107	25.76	0.86	10298	63.50	41.59	63.90	65.60	37.92	40.07
0	Round	12.81	0.43	20707	14.72	0.49	18026	52.62	39.81	53.37	53.88	38.75	39.07
	3.5	14.13	0.47	18774	17.75	0.59	14948	54.58	40.45	56.81	56.52	38.14	39.70
	2.5	37.94	1.26	6991	41.24	1.37	6432	78.88	40.93	79.18	81.04	37.63	40.11



Heat Pipe Test Report

Manufacturer		Enertron				Test conditions				Test date		11/10/2011	
Wick structure/ Working fluid		Sintered Powder Metal/ Water				Effective area (m2)		5.03E-05		Note:			
Pipe specification		C110 Copper 0.3mm thickness				Heat load (W)		50		ev-		Evaporator of heat pipe	
Diameter (mm)		8				Contact length of ev/cd (mm)		50		cd-		Condenser of heat pipe	
Length (mm)		300				Coolant Temperature		35		eb-		Evaporator Block	
Flatten thickness (mm)		Round/ 4/ 3				At 90° the evaporator is directly below the condenser; 0° is horizontal.				cb-		Condenser Block	
Bend angle (deg)		n/a											
Inclination Angle (°)	Flatten thickness (mm)	dT ev-cd (°C)	Thermal resistance ev-cd (°C/W)	Thermal conductivity ev-cd (W/m°C)	dT eb-cb (°C)	Thermal resistance eb-cb (°C/W)	Thermal Conductivity eb-cb (W/m°C)	Measured Temperature T (°C)					
								ev	cd	eb1	eb2	cb1	cb2
90	Round	5.77	0.12	43099	12.02	0.24	20694	59.19	53.42	63.01	62.08	50.39	50.67
	4	10.79	0.22	23058	17.55	0.35	14169	54.60	43.81	58.78	57.90	40.70	40.87
	3	11.78	0.24	21112	19.92	0.40	12484	58.61	46.83	61.36	60.66	40.42	41.76
60	Round	5.79	0.12	42987	12.04	0.24	20656	59.16	53.37	62.96	62.03	50.26	50.64
	4	10.96	0.22	22684	17.73	0.35	14030	54.78	43.81	59.03	57.96	40.75	40.79
	3	12.02	0.24	20697	19.97	0.40	12452	58.70	46.69	61.41	60.73	40.47	41.74
30	Round	5.94	0.12	41851	12.14	0.24	20491	59.11	53.16	62.84	61.94	50.08	50.43
	4	11.00	0.22	22613	17.77	0.36	13993	54.92	43.92	59.12	58.06	40.77	40.87
	3	11.90	0.24	20890	19.98	0.40	12446	58.71	46.80	61.49	60.78	40.51	41.80
0	Round	15.15	0.30	16414	22.57	0.45	11016	67.19	52.04	71.31	73.16	49.23	50.09
	4	14.03	0.28	17729	20.92	0.42	11889	58.02	44.00	62.07	61.05	40.02	41.26
	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

