

Strain Gauge and Extensometer Calibration Factors from MEDOF Panels

Calibration analysis event number	Time period for analysis		File name	Direction of loading (degrees to)	Loaded face(s)	Ice thickness	Average temperature for 72 hours leading up to event	Extensometer Calibration Factor [MN/mm] (R ² value)		Strain Gauge Calibration factor [kN/microstrain] (R ² value)						Comments
	Start	End						N-S	E-W	N1	N2	N3	E1	E2	E3	
1	25-Mar-86 08:30:39	25-Mar-86 09:44:13	F603250801	200 to 220	NW, N, NE, E (partially contacted)	2.5 - 3 m, with rubble pile on North	-24	-8.24 (0.980)			-21.53 (0.966)	-14.52 (0.943)				Pseudopanel analysis done for North
1A	25-Mar-86 08:31:00	25-Mar-86 08:40:00	F603250801	200 to 220	NW, N, NE, E (partially contacted)	2.5 - 3 m, with rubble pile on North	-24	-7.07 (0.991)			-19.19 (0.977)	-13.98 (0.989)				
1B	25-Mar-86 08:42:00	25-Mar-86 08:50:00	F603250801	200 to 220	NW, N, NE, E (partially contacted)	2.5 - 3 m, with rubble pile on North	-24	-9.26 (0.972)			-24.01 (0.979)	-14.36 (0.987)				
1C	25-Mar-86 08:53:00	25-Mar-86 09:16:00	F603250801	200 to 220	NW, N, NE, E (partially contacted)	2.5 - 3 m, with rubble pile on North	-24	-8.13 (0.972)			-22.31 (0.974)	-12.87 (0.973)				
1D	25-Mar-86 09:22:00	25-Mar-86 09:44:00	F603250801	200 to 220	NW, N, NE, E (partially contacted)	2.5 - 3 m, with rubble pile on North	-24	-9.00 (0.984)			-24.95 (0.958)	-17.45 (0.981)				
2	25-Mar-86 13:50:10	25-Mar-86 16:00:08	F603251302	200 to 220	NW, N, NE, E (partially contacted)	2.5 - 3 m, with rubble pile on North	-24	-5.55 (0.972)	-1.26 (0.497)	N/A	-18.22 (0.969)	-15.28 (0.939)	N/A	-12.57 (0.915)	N/A	Pseudopanel analysis done for East, but not North since there was no significant loading on the N2 lower panel
3	22-May-86 08:39:08	22-May-86 09:52:39	F605220801	210	N, NE, E	2 - 3 m	-9	-4.58 (0.911)	-2.99 (0.656)	-24.84 (0.919)	-19.97 (0.955)	-19.14 (0.970)	-18.25 (0.795)	-12.51 (0.830)	-13.16 (0.344)	Pseudopanel analysis done for North, but not East since there was no significant loading on the E2 lower panel
3A	22-May-86 09:37:00	22-May-86 09:52:39	F605220801	210	N, NE, E	2 - 3 m	-9		-5.49 (0.537)				-31.98 (0.812)	-15.80 (0.780)	N/A	
3B	22-May-86 08:39:08	22-May-86 09:18:00	F605220801	210	N, NE, E	2 - 3 m	-9	-6.53 (0.847)		-25.56 (0.582)	-9.13 (0.514)	-18.10 (0.981)				
3C	22-May-86 09:18:00	22-May-86 09:52:39	F605220801	210	N, NE, E	2 - 3 m	-9	-4.37 (0.934)		-25.05 (0.982)	-20.00 (0.981)	-6.36 (0.896)				
5	22-May-86 13:57:40	22-May-86 15:11:32	F605221301	240	N (50%), NE, E	3 - 4 m, with ridges up to 2 m	-9	-7.29 (0.949)	-6.33 (0.497)	-34.37 (0.778)	-41.60 (0.919)	-16.84 (0.937)	-28.44 (0.747)	-26.46 (0.723)	-24.88 (0.431)	Pseudopanel analysis done for East and North
5A	22-May-86 13:57:40	22-May-86 14:34:00	F605221301	240	N (50%), NE, E	3 - 4 m, with ridges up to 2 m	-9						-26.36 (0.735)			
5B	22-May-86 14:34:00	22-May-86 15:11:32	F605221301	240	N (50%), NE, E	3 - 4 m, with ridges up to 2 m	-9						-27.64 (0.775)			
5C	22-May-86 13:57:40	22-May-86 14:36:00	F605221301	240	N (50%), NE, E	3 - 4 m, with ridges up to 2 m	-9							-28.30 (0.654)		
5D	22-May-86 14:36:00	22-May-86 15:11:32	F605221301	240	N (50%), NE, E	3 - 4 m, with ridges up to 2 m	-9							-25.57 (0.729)		
5E	22-May-86 13:57:40	22-May-86 14:40:00	F605221301	240	N (50%), NE, E	3 - 4 m, with ridges up to 2 m	-9								-29.59 (0.547)	
5F	22-May-86 14:40:00	22-May-86 15:11:32	F605221301	240	N (50%), NE, E	3 - 4 m, with ridges up to 2 m	-9								-12.86 (0.163)	
5G	22-May-86 14:06:01	22-May-86 14:14:00	F605221301	240	N (50%), NE, E	3 - 4 m, with ridges up to 2 m	-9			-41.05 (0.905)						
5H	22-May-86 13:57:40	22-May-86 14:07:07	F605221301	240	N (50%), NE, E	3 - 4 m, with ridges up to 2 m	-9	-8.85 (0.885)			-40.96 (0.943)	-23.98 (0.924)				
5I	22-May-86 14:56:00	22-May-86 15:11:32	F605221301	240	N (50%), NE, E	3 - 4 m, with ridges up to 2 m	-9				-37.83 (0.663)					
5J	22-May-86 15:00:00	22-May-86 15:11:32	F605221301	240	N (50%), NE, E	3 - 4 m, with ridges up to 2 m	-9	-9.35 (0.861)			-25.25 (0.344)	-17.59 (0.901)				
5K	22-May-86 14:49:00	22-May-86 15:11:32	F605221301	240	N (50%), NE, E	3 - 4 m, with ridges up to 2 m	-9	-7.11 (0.940)				-22.88 (0.783)				
6	02-Jun-86 13:02:17	02-Jun-86 14:16:45	F606021301	250	E	1.8 - 2.5 m	-1	-0.05 (0.027)	-7.76 (0.245)	4.55 (0.220)	2.24 (0.099)	-0.18 (0.018)	-23.29 (0.939)	-36.75 (0.747)	-9.94 (0.223)	Pseudopanel analysis done for East face but makes only a slight difference for calibration; pseudopanel analysis not done for North face since loading is not significant for North MEDOF panels
7	02-Jun-86 20:16:33	02-Jun-86 21:24:33	F606022001	250	E	1.8 - 2.5 m	-2	-0.08 (0.405)	-5.52 (0.825)	-0.26 (0.001)	-3.37 (0.400)	-0.31 (0.049)	-22.15 (0.968)	-15.37 (0.633)	-21.60 (0.580)	Pseudopanel analysis done for East face but makes only a slight difference for calibration; pseudopanel analysis not done for North face since loading is not significant for North MEDOF panels
7A	02-Jun-86 20:40:00	02-Jun-86 20:44:00	F606022001	250	E	1.8 - 2.5 m	-2		-7.37 (0.798)					-28.32 (0.797)		Pseudopanel analysis done for North, but not East since there was no significant loading on the E2 lower panel
8	12-May-86 03:09:43	12-May-86 04:21:02	F605120301	185	N, NE, E (sliding)	1.7 - 2 m, with ridges up to 2.5 m	-6	-7.51 (0.733)	0.07 (0.0003)	-26.35 (0.817)	-26.05 (0.750)	-36.38 (0.718)	-2.49 (0.068)	-29.58 (0.877)	0.94 (0.002)	
8A	12-May-86 03:09:43	12-May-86 03:26:03	F605120301	185	N, NE, E (sliding)	1.7 - 2 m, with ridges up to 2.5 m	-6	-3.67 (0.763)								
8B	12-May-86 03:22:00	12-May-86 03:27:22	F605120301	185	N, NE, E (sliding)	1.7 - 2 m, with ridges up to 2.5 m	-6	-5.07 (0.641)								
8C	12-May-86 03:26:03	12-May-86 03:59:00	F605120301	185	N, NE, E (sliding)	1.7 - 2 m, with ridges up to 2.5 m	-6	-10.32 (0.925)								
8D	12-May-86 03:26:03	12-May-86 03:27:22	F605120301	185	N, NE, E (sliding)	1.7 - 2 m, with ridges up to 2.5 m	-6	-5.78 (0.984)								
8E	12-May-86 03:27:22	12-May-86 03:59:00	F605120301	185	N, NE, E (sliding)	1.7 - 2 m, with ridges up to 2.5 m	-6	-11.28 (0.933)								
9	12-Apr-86 11:15:59	12-Apr-86 12:29:31	F604121101	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-23		-8.04 (0.884)				-1.34 (0.040)	-35.16 (0.966)	-26.11 (0.545)	Pseudopanel analysis not done since loads on lower E2 panel were not significant
9A	12-Apr-86 11:15:59	12-Apr-86 11:28:06	F604121101	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-23		-9.22 (0.701)				-4.58 (0.203)	-42.47 (0.880)	-20.29 (0.595)	
9B	12-Apr-86 11:51:00	12-Apr-86 12:00:00	F604121101	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-23							-35.85 (0.977)		
9C	12-Apr-86 11:31:00	12-Apr-86 11:44:00	F604121101	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-23		-7.40 (0.409)						-26.04 (0.391)	
9D	12-Apr-86 11:49:00	12-Apr-86 11:59:00	F604121101	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-23		-7.67 (0.857)						-19.37 (0.261)	
10	12-Apr-86 14:19:35	12-Apr-86 14:35:50	F60412140A	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-22		-6.51 (0.742)				-27.10 (0.647)	-18.44 (0.599)	-15.31 (0.256)	Pseudopanel analysis done for East face
10A	12-Apr-86 14:19:35	12-Apr-86 14:22:00	F60412140A	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-22		-6.62 (0.757)				-31.17 (0.597)	-17.95 (0.732)	-12.35 (0.713)	
10B	12-Apr-86 14:22:00	12-Apr-86 14:35:50	F60412140A	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-22		-7.33 (0.806)				-23.54 (0.676)	-19.60 (0.565)	-19.99 (0.293)	

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11	12-Apr-86 12:47:27	12-Apr-86 14:01:04	F604121201	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-23		-5.39 (0.719)				-20.79 (0.681)	-25.29 (0.678)	-14.77 (0.386)	Pseudopanel analysis done for East face
11A	12-Apr-86 13:00:00	12-Apr-86 13:13:00	F604121201	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-23						-23.24 (0.669)	-27.14 (0.841)		
11B	12-Apr-86 13:38:00	12-Apr-86 13:53:00	F604121201	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-23		-6.91 (0.766)				-24.34 (0.712)	-27.36 (0.739)		
11C	12-Apr-86 13:12:00	12-Apr-86 13:22:00	F604121201	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-23							-25.85 (0.574)		
11D	12-Apr-86 13:31:00	12-Apr-86 13:35:00	F604121201	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-23							-32.50 (0.781)		
11E	12-Apr-86 12:59:05	12-Apr-86 13:21:00	F604121201	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-23								-10.02 (0.200)	
11F	12-Apr-86 13:00:00	12-Apr-86 13:24:00	F604121201	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-23		-4.41 (0.601)							
11G	12-Apr-86 13:30:00	12-Apr-86 13:54:00	F604121201	290	E (25%), SE, S (25%)	4 - 6 m, with extrusion up to 8m	-23		-5.46 (0.756)							

LEGEND:

5	= analysis of entire fast file
5A	= analysis of part of fast file

(0.915)

- blue double outline means pseudopanel was used in the calibration to generate lower panel load

Averages and Best Estimates of Strain Gauge and Extensometer Calibration Factors

Notes

* For events which have both full file analysis and partial file analysis, only the value(s) of the calibration factor from partial file analysis are used when calculating average CF. The only exception when the R2 value is less than 0.7 for partial file analysis - in this case the CF for full file analysis is used.

* No DAY files are used - results from DAY files may be inaccurate

EXTENSOMETERS

	<u>N-S</u>	<u>E-W</u>
Average of values with $R^2 > 0.7 \rightarrow$	-7.38	-7.23
Estimates from previous reports $\rightarrow$	-5.5 or -6	-5.5 or -6
ESTIMATES FOR THIS PROJECT:	-6	-6
(JUDGEMENT USED TO SELECT THIS VALUE)		

STRAIN GAUGES

	<u>N1</u>	<u>N2</u>	<u>N3</u>	<u>E1</u>	<u>E2</u>	<u>E3</u>
Average of values with $R^2 > 0.7$ & h = 2-5 m --->	-30.82	-24.46	-18.11	-26.28	-24.77	N/A
Average of values with $R^2 > 0.7$ & h = 5-6 m --->	N/A	N/A	N/A	-24.34	-30.55	-12.35
Estimates from previous reports --->	-24	-30	-22	-24	-30	-24
SG + 30%	-31.2	-39	-28.6	-31.2	-39	-31.2
SG - 30%	-16.8	-21	-15.4	-16.8	-21	-16.8
BEST ESTIMATES FOR THIS PROJECT:	<u>N1</u>	<u>N2</u>	<u>N3</u>	<u>E1</u>	<u>E2</u>	<u>E3</u>
Best estimates of values with ice thickness 2-5 m --->	23	26	20	23	26	23
Best estimates of values with ice thickness 5-6 m --->	27	32	24	27	32	27
(JUDGEMENT USED TO SELECT THIS VALUE)						