

Tuesday, December 13, 2022, Time 10:37

Wintherm32v3 Version 3.31.143 Uni

Instrument: F200s

Instrument Program Version 290

Instrument Serial Number: 2520

Sample Name: M3-3-20221213

Thickness: 28.47mm

Rear Left : 28.45 mm

Rear Right : 28.73 mm

Front Left: 28.22 mm

Front Right: 28.50 mm

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Thickness obtained : from instrument

TEST RUN

Calibration used : User Type

Calibration File Id: IRMMCalibration_sn2520

Number of transducers per plate: 1

Number of transducers used per plate: 1

Number of Setpoints: 3

Setpoint duration: 42 min

Block Averages for setpoint 1 in SI units

| | Tupper [°C] | Tlower [°C] | Qupper [μV] | Qlower [μV] | Lambda [W/mK] |
|------|----------------|----------------|----------------|----------------|------------------|
| -ne- | 15.48 | 24.06 | -8291 | 8154 | 0.7088 |
| -ne- | 15.01 | 24.99 | -6481 | 4944 | 0.4235 |
| -te- | 15.01 | 25.01 | -6033 | 5000 | 0.4077 |
| -te- | 15.00 | 25.01 | -5895 | 5057 | 0.4047 |
| -te- | 15.01 | 25.02 | -5834 | 5086 | 0.4035 |
| -te- | 15.01 | 25.02 | -5810 | 5091 | 0.4029 |
| -pe- | 15.00 | 25.02 | -5801 | 5100 | 0.4027 |
| -pe- | 15.00 | 25.01 | -5793 | 5099 | 0.4024 |
| -pe- | 15.00 | 25.01 | -5798 | 5094 | 0.4025 |
| -pe- | 15.00 | 25.01 | -5798 | 5096 | 0.4026 |

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Setpoint No. 1

Setpoint Upper: 15.00 °C

Setpoint Lower: 25.00 °C

Temperature Upper: 15.00 °C

CalibFactor Upper: 0.026016

Results Upper: 0.4290 W/mK

Temperature Lower: 25.01 °C

CalibFactor Lower: 0.025934

Results Lower: 0.3760 W/mK

Percent Difference: 13.17%

Thermal Equilibrium Criteria:

Temperature Equilibrium: 0.20

Between Block HFM Equil.: 49

HFM Percent Change: 2.00

Min Number of Blocks: 4

Calculation Blocks: 3

Setpoint duration: 63 min

Block Averages for setpoint 2 in SI units

| | Tupper [°C] | Tlower [°C] | Qupper [μV] | Qlower [μV] | Lambda [W/mK] |
|------|----------------|----------------|----------------|----------------|------------------|
| -ne- | 10.10 | 20.04 | -15601 | -1980 | 0.6619 |
| -te- | 9.99 | 20.00 | -10252 | 2703 | 0.4836 |
| -te- | 10.00 | 20.00 | -8290 | 3677 | 0.4466 |
| -te- | 10.00 | 20.00 | -7151 | 4241 | 0.4246 |
| -te- | 10.00 | 20.01 | -6510 | 4562 | 0.4124 |

| | | | | | |
|------|-------|-------|-------|------|--------|
| | 10.01 | 20.01 | -6143 | 4745 | 0.4055 |
| -te- | 10.01 | 20.01 | -5936 | 4839 | 0.4011 |
| -te- | 10.01 | 20.01 | -5809 | 4901 | 0.3987 |
| -te- | 10.01 | 20.01 | -5748 | 4926 | 0.3974 |
| -te- | 10.00 | 20.00 | -5714 | 4947 | 0.3969 |
| -pe- | 10.00 | 20.00 | -5697 | 4956 | 0.3965 |
| -pe- | 10.00 | 20.00 | -5680 | 4966 | 0.3963 |
| -pe- | 10.00 | 20.00 | -5664 | 4973 | 0.3959 |
| -pe- | 10.00 | 20.00 | -5659 | 4976 | 0.3958 |
| -pe- | 10.00 | 20.00 | -5660 | 4975 | 0.3959 |

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Setpoint No. 2
Setpoint Upper: 10.00 °C
Setpoint Lower: 20.00 °C
Temperature Upper: 10.00 °C
CalibFactor Upper: 0.026313
Results Upper: 0.4240 W/mK
Temperature Lower: 20.00 °C
CalibFactor Lower: 0.025969
Results Lower: 0.3677 W/mK
Percent Difference: 14.21%

Thermal Equilibrium Criteria:
Temperature Equilibrium: 0.20
Between Block HFM Equil.: 49
HFM Percent Change: 2.00
Min Number of Blocks: 4
Calculation Blocks: 3

Setpoint duration: 67 min

Block Averages for setpoint 3 in SI units

| | Tupper [°C] | Tlower [°C] | Qupper [μV] | Qlower [μV] | Lambda [W/mK] |
|------|----------------|----------------|----------------|----------------|------------------|
| -ne- | 5.18 | 15.05 | -15372 | -1961 | 0.6635 |
| -te- | 4.99 | 14.99 | -10089 | 2648 | 0.4799 |
| -te- | 4.99 | 15.00 | -8149 | 3589 | 0.4413 |
| -te- | 5.00 | 15.00 | -7024 | 4145 | 0.4192 |
| -te- | 5.00 | 15.01 | -6381 | 4459 | 0.4065 |
| -te- | 5.00 | 15.01 | -6022 | 4634 | 0.3994 |
| -te- | 5.00 | 15.01 | -5827 | 4729 | 0.3956 |
| -te- | 5.00 | 15.01 | -5705 | 4787 | 0.3931 |
| -te- | 5.00 | 15.00 | -5649 | 4813 | 0.3920 |
| -te- | 5.00 | 15.00 | -5601 | 4838 | 0.3911 |
| -pe- | 4.99 | 15.00 | -5601 | 4835 | 0.3910 |
| -pe- | 4.99 | 15.00 | -5590 | 4845 | 0.3910 |
| -pe- | 4.99 | 15.00 | -5575 | 4857 | 0.3908 |
| -pe- | 5.00 | 15.00 | -5562 | 4863 | 0.3904 |
| -pe- | 5.00 | 15.01 | -5555 | 4864 | 0.3902 |
| -pe- | 5.00 | 15.01 | -5556 | 4861 | 0.3902 |

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Setpoint No. 3
Setpoint Upper: 5.00 °C
Setpoint Lower: 15.00 °C
Temperature Upper: 5.00 °C
CalibFactor Upper: 0.026610
Results Upper: 0.4208 W/mK
Temperature Lower: 15.01 °C
CalibFactor Lower: 0.026002
Results Lower: 0.3598 W/mK
Percent Difference: 15.63%

Thermal Equilibrium Criteria:
Temperature Equilibrium: 0.20
Between Block HFM Equil.: 49
HFM Percent Change: 2.00
Min Number of Blocks: 4
Calculation Blocks: 3

Results Table -- SI Units

| Mean Temp | Upper Cond | Lower Cond | Average Cond |
|-----------|------------|------------|--------------|
| 20.01 | 0.4290 | 0.3760 | 0.4025 |
| 15.00 | 0.4240 | 0.3677 | 0.3959 |
| 10.00 | 0.4208 | 0.3598 | 0.3903 |