

Wednesday, October 27, 2021, Time 10:46

Wintherm32v3 Version 3.31.143 Uni

Instrument: F200s

Instrument Program Version 290

Instrument Serial Number: 2520

Sample Name: RE\_OSa.44.56.0#1

Thickness: 35.39mm

Rear Left : 34.82 mm

Rear Right : 35.23 mm

Front Left: 35.56 mm

Front Right: 35.97 mm

[ ]

[ ]

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: 110 min

Block Averages for setpoint 1 in SI units

|      | Tupper<br>[°C] | Tlower<br>[°C] | Qupper<br>[μV] | Qlower<br>[μV] | Lambda<br>[W/mK] |
|------|----------------|----------------|----------------|----------------|------------------|
| -ne- | 16.14          | 24.91          | -5783          | 1379           | 0.3748           |
| -ne- | 14.97          | 24.96          | -3110          | 1360           | 0.2059           |
| -te- | 14.96          | 24.96          | -2684          | 1547           | 0.1946           |
| -te- | 14.99          | 24.99          | -2569          | 1776           | 0.1999           |
| -te- | 15.00          | 25.01          | -2486          | 1949           | 0.2038           |
| -te- | 15.00          | 25.01          | -2424          | 2081           | 0.2069           |
| -te- | 15.00          | 25.01          | -2374          | 2180           | 0.2092           |
| -te- | 15.00          | 25.01          | -2335          | 2263           | 0.2112           |
| -te- | 15.00          | 25.01          | -2305          | 2322           | 0.2125           |
| -te- | 15.00          | 25.01          | -2282          | 2369           | 0.2136           |
| -se- | 15.00          | 25.01          | -2267          | 2397           | 0.2143           |
| -pe- | 15.00          | 25.00          | -2250          | 2432           | 0.2151           |
| -pe- | 15.00          | 25.01          | -2237          | 2459           | 0.2157           |
| -pe- | 15.00          | 25.01          | -2228          | 2478           | 0.2161           |
| -pe- | 15.00          | 25.01          | -2221          | 2493           | 0.2165           |
| -pe- | 15.00          | 25.01          | -2215          | 2504           | 0.2167           |
| -pe- | 15.00          | 25.01          | -2211          | 2511           | 0.2169           |
| -pe- | 15.00          | 25.01          | -2207          | 2518           | 0.2170           |
| -pe- | 15.00          | 25.01          | -2205          | 2522           | 0.2171           |
| -pe- | 15.00          | 25.01          | -2203          | 2525           | 0.2171           |
| -pe- | 15.00          | 25.01          | -2201          | 2530           | 0.2173           |
| -pe- | 15.00          | 25.01          | -2200          | 2532           | 0.2173           |
| -pe- | 15.00          | 25.01          | -2199          | 2532           | 0.2173           |
| -pe- | 15.00          | 25.01          | -2199          | 2534           | 0.2173           |
| -pe- | 15.01          | 25.01          | -2198          | 2534           | 0.2173           |
| -pe- | 15.01          | 25.01          | -2198          | 2533           | 0.2173           |

Wednesday, October 27, 2021, Time 12:37

Setpoint No. 1

Setpoint Upper: 15.00 °C

Setpoint Lower: 25.00 °C

Temperature Upper: 15.01 °C

CalibFactor Upper: 0.026016

Results Upper: 0.2023 W/mK

Temperature Lower: 25.01 °C

CalibFactor Lower: 0.025934

Results Lower: 0.2324 W/mK

Percent Difference: 13.85%

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: 110 min

Block Averages for setpoint 2 in SI units

|      | Tupper<br>[°C] | Tlower<br>[°C] | Qupper<br>[μV] | Qlower<br>[μV] | Lambda<br>[W/mK] |
|------|----------------|----------------|----------------|----------------|------------------|
| -ne- | 10.13          | 20.05          | -6114          | -4534          | 0.4972           |
| -te- | 10.00          | 20.00          | -3651          | -573           | 0.1964           |
| -te- | 10.00          | 20.01          | -3346          | -5             | 0.1560           |
| -te- | 10.00          | 20.00          | -3092          | 503            | 0.1671           |
| -te- | 10.00          | 20.00          | -2888          | 919            | 0.1767           |
| -te- | 10.00          | 20.00          | -2726          | 1244           | 0.1841           |
| -te- | 10.00          | 20.00          | -2599          | 1508           | 0.1903           |
| -te- | 10.00          | 20.00          | -2498          | 1711           | 0.1950           |
| -te- | 10.00          | 20.01          | -2420          | 1875           | 0.1988           |
| -te- | 10.00          | 20.01          | -2359          | 1995           | 0.2015           |
| -te- | 10.00          | 20.00          | -2310          | 2098           | 0.2040           |
| -te- | 10.00          | 20.01          | -2272          | 2175           | 0.2057           |
| -te- | 10.00          | 20.01          | -2244          | 2233           | 0.2071           |
| -te- | 10.00          | 20.01          | -2220          | 2279           | 0.2081           |
| -se- | 10.00          | 20.00          | -2205          | 2304           | 0.2086           |
| -pe- | 10.00          | 20.00          | -2189          | 2340           | 0.2096           |
| -pe- | 10.00          | 20.00          | -2176          | 2367           | 0.2101           |
| -pe- | 10.00          | 20.00          | -2166          | 2392           | 0.2108           |
| -pe- | 10.00          | 20.00          | -2160          | 2403           | 0.2110           |
| -pe- | 10.00          | 20.00          | -2154          | 2413           | 0.2112           |
| -pe- | 10.00          | 20.00          | -2149          | 2423           | 0.2114           |
| -pe- | 10.00          | 20.00          | -2146          | 2428           | 0.2115           |
| -pe- | 10.00          | 20.00          | -2142          | 2436           | 0.2117           |
| -pe- | 10.00          | 20.00          | -2142          | 2440           | 0.2119           |
| -pe- | 10.00          | 20.00          | -2141          | 2438           | 0.2117           |
| -pe- | 10.00          | 20.00          | -2142          | 2440           | 0.2118           |

Wednesday, October 27, 2021, Time 14:27

Setpoint No. 2  
Setpoint Upper: 10.00 °C  
Setpoint Lower: 20.00 °C  
Temperature Upper: 10.00 °C  
CalibFactor Upper: 0.026313  
Results Upper: 0.1995 W/mK  
Temperature Lower: 20.00 °C  
CalibFactor Lower: 0.025969  
Results Lower: 0.2242 W/mK  
Percent Difference: 11.68%

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: 131 min

Block Averages for setpoint 3 in SI units

|      | Tupper<br>[°C] | Tlower<br>[°C] | Qupper<br>[μV] | Qlower<br>[μV] | Lambda<br>[W/mK] |
|------|----------------|----------------|----------------|----------------|------------------|
| -ne- | 5.21           | 15.07          | -5931          | -4490          | 0.4927           |
| -te- | 4.99           | 15.00          | -3564          | -583           | 0.1946           |
| -te- | 5.00           | 15.00          | -3262          | -37            | 0.1553           |
| -te- | 5.00           | 15.00          | -3016          | 458            | 0.1630           |
| -te- | 5.00           | 15.00          | -2819          | 866            | 0.1725           |
| -te- | 5.00           | 15.01          | -2660          | 1188           | 0.1799           |
| -te- | 5.00           | 15.00          | -2537          | 1443           | 0.1858           |
| -te- | 5.00           | 15.01          | -2439          | 1646           | 0.1905           |
| -te- | 5.00           | 15.00          | -2362          | 1804           | 0.1942           |
| -te- | 5.00           | 15.00          | -2300          | 1933           | 0.1972           |

|      |      |       |       |      |        |
|------|------|-------|-------|------|--------|
|      | 5.00 | 15.01 | -2252 | 2029 | 0.1993 |
| -te- | 5.00 | 15.01 | -2217 | 2103 | 0.2011 |
| -te- | 5.00 | 15.01 | -2186 | 2164 | 0.2024 |
| -te- | 5.00 | 15.01 | -2166 | 2210 | 0.2036 |
| -se- | 5.00 | 15.00 | -2151 | 2235 | 0.2041 |
| -pe- | 5.00 | 15.00 | -2135 | 2266 | 0.2048 |
| -pe- | 5.00 | 15.00 | -2124 | 2294 | 0.2055 |
| -pe- | 5.00 | 15.00 | -2115 | 2312 | 0.2059 |
| -pe- | 5.00 | 15.00 | -2108 | 2327 | 0.2063 |
| -pe- | 5.00 | 15.00 | -2104 | 2335 | 0.2065 |
| -pe- | 5.00 | 15.00 | -2100 | 2344 | 0.2067 |
| -pe- | 5.00 | 15.00 | -2097 | 2350 | 0.2068 |
| -pe- | 5.00 | 15.00 | -2095 | 2356 | 0.2070 |
| -pe- | 5.00 | 15.00 | -2093 | 2361 | 0.2072 |
| -pe- | 5.00 | 15.00 | -2092 | 2364 | 0.2072 |
| -pe- | 5.00 | 15.00 | -2093 | 2364 | 0.2073 |
| -pe- | 5.00 | 15.00 | -2094 | 2364 | 0.2073 |
| -pe- | 5.00 | 15.00 | -2091 | 2369 | 0.2074 |
| -pe- | 5.00 | 15.00 | -2091 | 2370 | 0.2074 |
| -pe- | 5.00 | 15.00 | -2089 | 2373 | 0.2075 |
| -pe- | 5.00 | 15.01 | -2090 | 2373 | 0.2075 |

Wednesday, October 27, 2021, Time 16:39

Setpoint No. 3  
Setpoint Upper: 5.00 °C  
Setpoint Lower: 15.00 °C  
Temperature Upper: 5.00 °C  
CalibFactor Upper: 0.026610  
Results Upper: 0.1967 W/mK  
Temperature Lower: 15.00 °C  
CalibFactor Lower: 0.026003  
Results Lower: 0.2182 W/mK  
Percent Difference: 10.35%

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     | 0.2023     | 0.2324     | 0.2173       |
| 15.00     | 0.1995     | 0.2242     | 0.2118       |
| 10.00     | 0.1967     | 0.2182     | 0.2075       |