



Test Report

No.: 70.431.25.10795.04

Date: 2025-03-28

Applicant: SHANGHAI HUIZHOU INDUSTRIAL CO., LTD
Address: NO. 207~208, BUILDING 2, NO. 7030, EAST YINGGANG ROAD, QINGPU DISTRICT SHANGHAI CITY
Product Name: Hot/cold pack Style A , Large capacity thermos flask+ICE BOX , Small thermos flask+ICE BOX , ICE PACK (24 frames) , ICE PACK (4 grids)
Manufacturer: Shanghai Huizhou Industrial Co., Ltd
Country of Origin: China
Country of Destination: USA
Receipt Date of Sample: 2025-02-13
Date of Testing: 2025-02-13 ~ 2025-03-28
Sample Submitted: The sample(s) was (were) submitted by applicant and identified.
Test Result: Refer to the data listed in following pages
Remark: This test report is the translational version of 70.431.25.10795.03 date on 2025-03-28. If there is any discrepancy, the Chinese version shall prevail.

Test Item	Conclusion
1. Thermal insulation performance test (Hot/cold pack Style A) as request by applicant	See result 1
2. Thermal insulation performance test (Large thermos flask + ICE BOX) as request by applicant	See result 2
3. Thermal insulation performance test (Small thermos flask + ICE BOX) as request by applicant	See result 3
4. Thermal insulation performance test (ICE PACK) as request by applicant	See result 4

TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
Testing Center

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Technical Manager



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Description of Tested Subject:

Sample	Description	Photo
001	Hot/cold pack Style A	
002	Large thermos flask + ICE BOX	



Sample	Description	Photo
003	Small thermos flask + ICE BOX	

Test Report

No.: 70.431.25.10795.04
Date: 2025-03-28



Sample	Description	Photo
004	ICE PACK (24 frames), ICE PACK (4 grids)	

Test Report

No.: 70.431.25.10795.04

Date: 2025-03-28

Test Result(s):

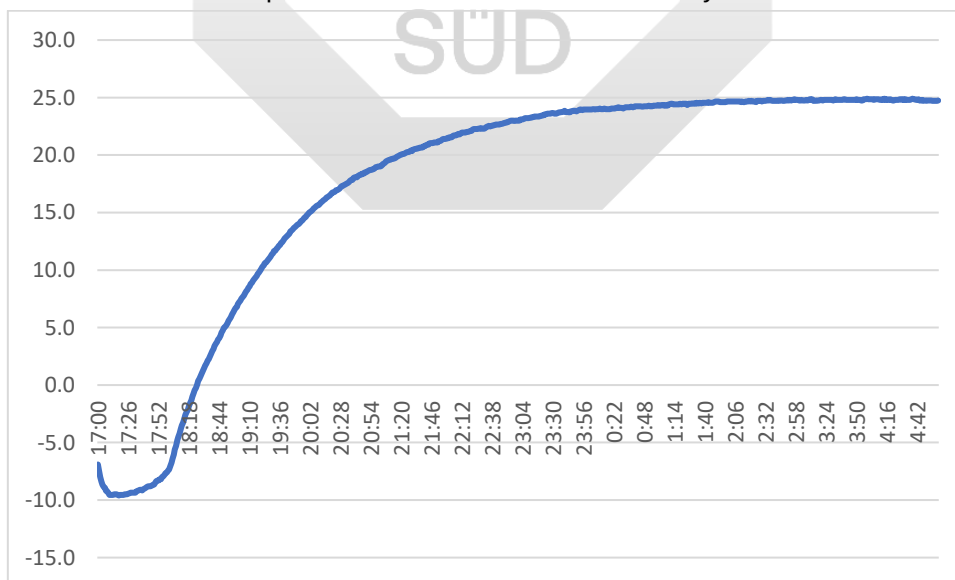
1. Thermal insulation performance test (Hot/cold pack Style A) as request by applicant

Clause	Requirement	Test Result	Conclusion
1	Thermal insulation performance test (Hot/cold pack Style A)		
	1. Put the hot and cold pack into the -15°C ($\pm 1^{\circ}\text{C}$) environment to freeze for 12 hours. 2. Set the thermometer, 1 minute 1 data. 3. Wrap the thermometer probe around the center of the frozen hot and cold packs, and place the probe face down on the pearl cotton (2mm). 4. Start the test, 25°C ($\pm 1^{\circ}\text{C}$) ambient temperature, 12 hours. 5. Give the complete test data and curve.	Refer to table 1	-

Table 1

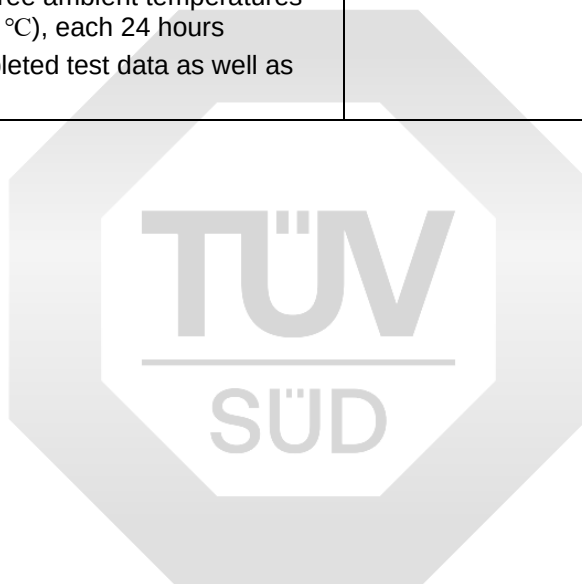
Time(Hour)	1	2	3	4	5	6
Temperature($^{\circ}\text{C}$)	-7.5	7.1	14.9	19.0	21.5	23.0
Time(Hour)	7	8	9	10	11	12
Temperature($^{\circ}\text{C}$)	24	24.4	24.7	24.8	24.9	24.8

Temperature Profile 1 – Hot/Cold Pack Style A



2. Thermal insulation performance test (Large thermos flask + ICE BOX) as request by applicant

Clause	Requirement	Test Result	Conclusion
1	Thermal insulation performance test (Large thermos flask + ICE BOX)		
	1. 10 ice boxes are frozen in -15°C (±1°C) environment for 3 hours, and the thermos is stored in 25°C (±1°C) environment. 2. Set the thermometer, 1 minute 1 data 3. put the frozen ice boxes and thermometer into the Thermos flask, divided into five groups: Thermos flask + 2 ice boxes, Thermos flask + 4 ice boxes, Thermos flask + 6 ice boxes, Thermos flask + 8 ice boxes, Thermos flask + 10 ice boxes 4. Start the test, the five groups of samples were tested at three ambient temperatures (30 °C, 35 °C, 40 °C), each 24 hours 5. Give the completed test data as well as the curve.	Ambient temperature 30°C refer to table 2 Ambient temperature 35°C refer to table 3 Ambient temperature 40°C refer to table 4 (Temperature measurement position: Bottom of the cup)	-



Test Report

No.: 70.431.25.10795.04

Date: 2025-03-28

Table 2 - Ambient temperature 30°C

Time(Hour)	Temperature(°C)				
	Thermos flask + 2 ice boxes	Thermos flask + 4 ice boxes	Thermos flask + 6 ice boxes	Thermos flask + 8 ice boxes	Thermos flask + 10 ice boxes
1	13.0	8.4	2.6	-0.3	-1.8
2	16.3	14.1	9.5	6.0	4.4
3	17.5	16.3	13.0	10.1	8.7
4	18.0	17.4	14.8	12.9	11.7
5	18.4	18.0	16.1	14.6	13.6
6	19.0	18.5	16.8	15.8	14.8
7	19.8	18.6	17.2	16.5	15.5
8	24.5	18.9	17.5	16.9	15.9
9	27.6	19.2	17.7	17.2	16.2
10	28.9	19.4	17.8	17.4	16.4
11	29.6	19.7	17.9	17.5	16.5
12	30.0	20.3	18.1	17.7	16.7
13	30.0	20.8	18.1	17.7	16.7
14	30.2	23.5	18.3	17.9	16.9
15	30.2	25.9	18.4	18.0	17.0
16	30.3	27.6	18.8	18.1	17.1
17	30.3	28.4	19.0	18.2	17.2
18	30.4	29.1	19.5	18.4	17.4
19	30.4	29.6	20.9	18.6	17.6
20	30.4	29.8	23.1	18.9	17.9
21	30.4	30.0	25.1	19.4	18.4
22	30.4	30.1	26.6	19.6	18.6
23	30.4	30.2	27.7	19.9	18.9
24	30.4	30.3	28.4	20.5	19.5

Test Report

No.: 70.431.25.10795.04

Date: 2025-03-28



Table 3 - Ambient temperature 35°C

Time(Hour)	Temperature(°C)				
	Thermos flask + 2 ice boxes	Thermos flask + 4 ice boxes	Thermos flask + 6 ice boxes	Thermos flask + 8 ice boxes	Thermos flask + 10 ice boxes
1	15.9	7.6	4.0	-0.5	-2.7
2	19.0	14.2	11.5	6.6	3.6
3	20.0	16.4	15.2	11.7	8.8
4	20.8	17.4	16.7	14.3	12.2
5	22.1	18.0	17.9	15.9	14.1
6	27.4	18.3	18.4	16.9	15.3
7	31.6	18.8	18.9	17.5	16.2
8	33.4	19.3	19.0	17.7	16.6
9	34.5	20.2	19.4	17.9	16.9
10	34.9	21.5	19.6	18.1	17.1
11	35.1	27.5	20.0	18.3	17.3
12	35.1	30.4	20.3	18.5	17.5
13	35.2	32.2	20.8	18.6	17.5
14	35.4	33.5	21.7	19.0	17.8
15	35.4	34.2	24.1	19.4	17.8
16	35.3	34.6	27.5	19.6	17.8
17	35.4	34.9	29.8	20.1	18.0
18	35.3	35.1	31.3	20.2	18.1
19	35.3	35.2	32.4	21.5	18.3
20	35.3	35.3	33.2	23.4	18.6
21	35.4	35.4	33.8	26.6	19.0
22	35.5	35.5	34.4	28.8	19.6
23	35.3	35.3	34.5	30.2	20.2
24	35.3	35.4	34.7	31.4	21.3

Test Report

No.: 70.431.25.10795.04

Date: 2025-03-28

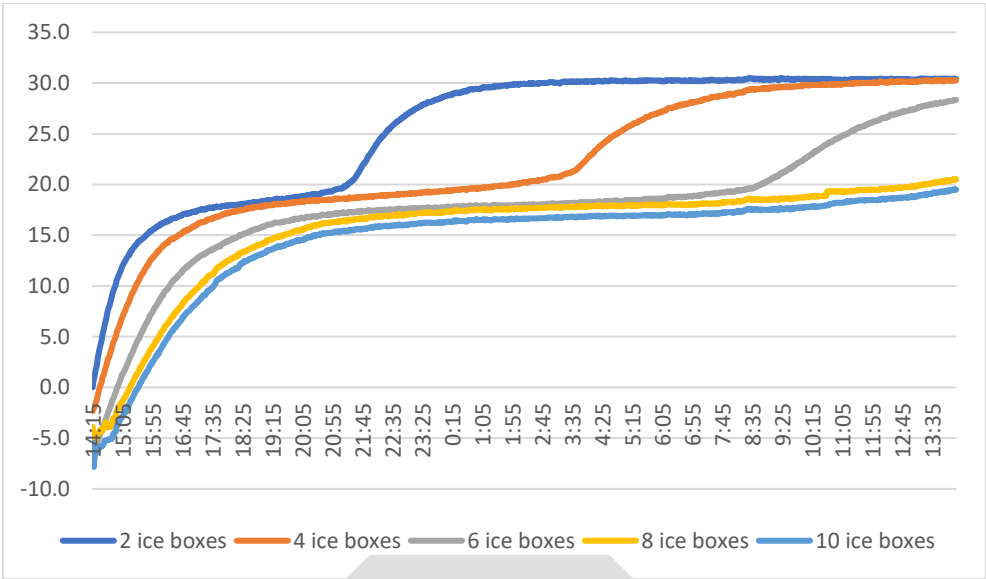


Table 4 - Ambient temperature 40°C

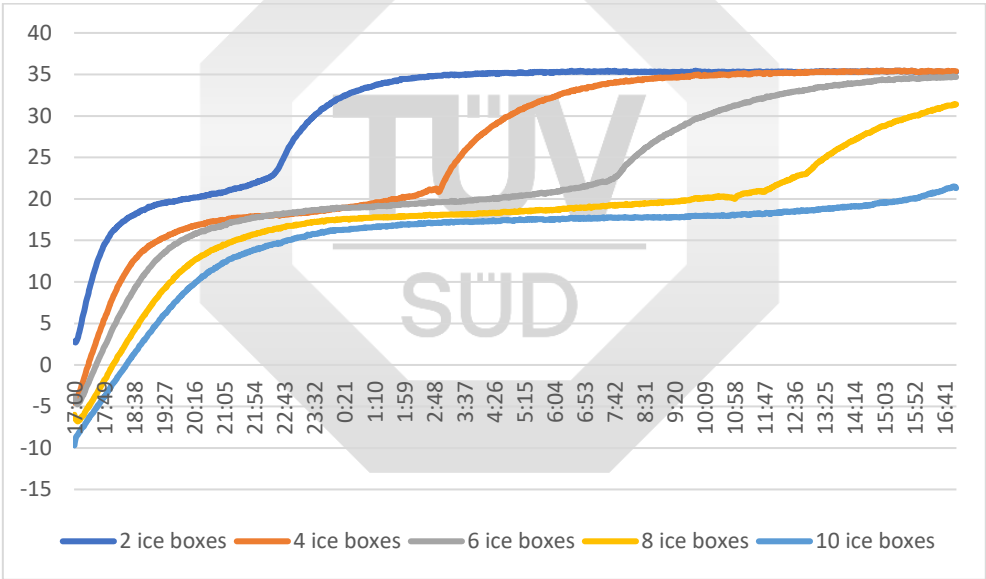
Time(Hour)	Temperature(°C)				
	Thermos flask + 2 ice boxes	Thermos flask + 4 ice boxes	Thermos flask + 6 ice boxes	Thermos flask + 8 ice boxes	Thermos flask + 10 ice boxes
1	16.5	7.5	3.6	-1.2	-3.9
2	20.5	14.2	12.0	6.9	3.3
3	21.4	16.4	15.6	12.0	9.0
4	23.4	17.3	17.4	14.3	12.5
5	32.1	17.8	18.4	15.8	14.5
6	36.8	18.1	18.9	16.7	15.9
7	38.9	19.1	19.6	17.2	16.6
8	39.9	23.6	20.0	17.5	17.1
9	40.3	30.5	20.5	17.8	17.4
10	40.5	34.4	21.2	17.9	17.6
11	40.6	36.7	21.9	18.0	17.7
12	40.7	38.2	26.2	18.3	17.9
13	40.6	39.1	30.9	18.5	17.9
14	40.6	39.7	33.7	19.3	18.1
15	40.7	40.2	35.8	21.3	18.4
16	40.7	40.3	37.2	25.2	18.5
17	40.7	40.5	38.1	29.2	18.9
18	40.8	40.6	39.0	31.9	19.1
19	40.8	40.6	39.4	33.9	19.2
20	40.7	40.6	39.7	35.4	24.5
21	40.8	40.7	40.2	36.8	28.3
22	40.6	40.6	40.2	37.6	30.7
23	40.7	40.6	40.3	38.4	32.8
24	40.7	40.7	40.5	39.0	34.3



Temperature profile 2 – Ambient temperature (30°C)

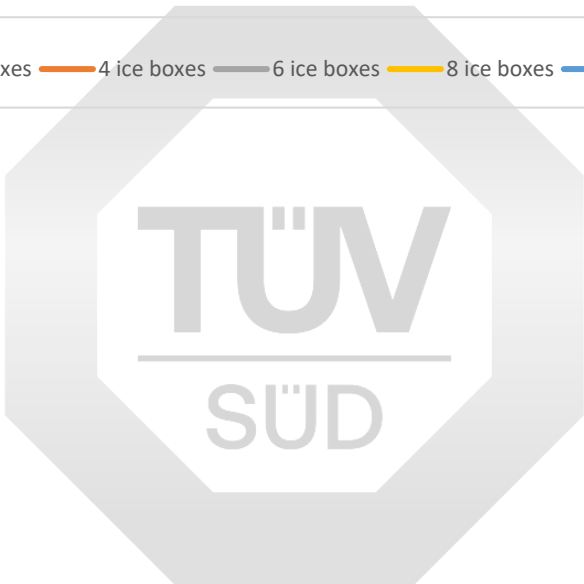
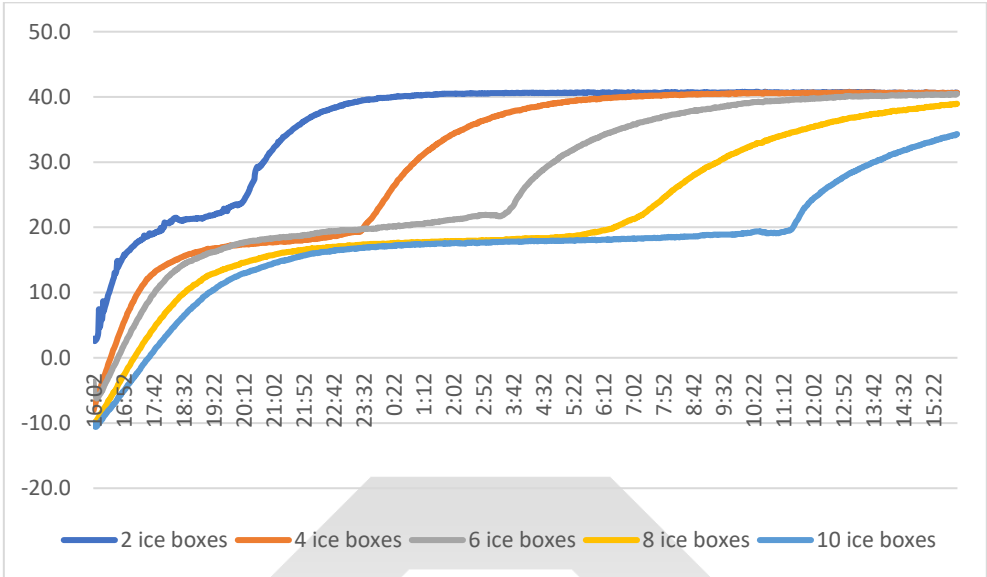


Temperature profile 3 – Ambient temperature (35°C)



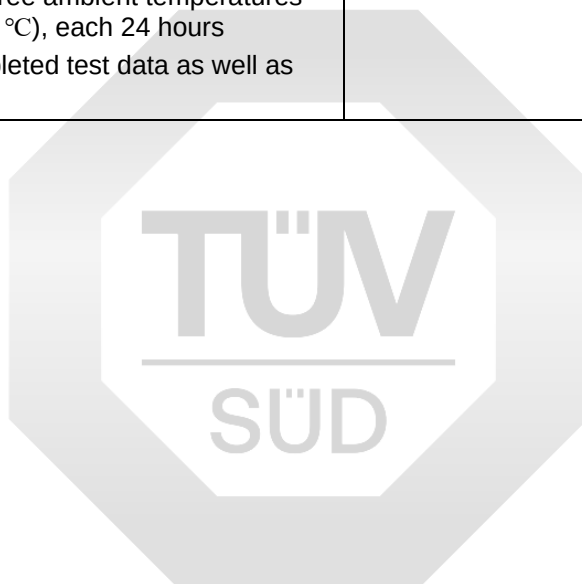


Temperature profile 4 – Ambient temperature (40°C)



3. Thermal insulation performance test (Small thermos flask + ICE BOX) as request by applicant

Clause	Requirement	Test Result	Conclusion
1	Thermal insulation performance test (Small thermos flask + ICE BOX)		
	1. 10 ice boxes are frozen in -15°C ($\pm 1^{\circ}\text{C}$) environment for 3 hours, and the thermos is stored in 25°C ($\pm 1^{\circ}\text{C}$) environment. 2. Set the thermometer, 1 minute 1 data 3. put the frozen ice boxes and thermometer into the Thermos flask, divided into five groups: Thermos flask + 1 ice box, Thermos flask + 2 ice boxes, Thermos flask + 3 ice boxes, Thermos flask + 4 ice boxes, Thermos flask + 5 ice boxes 4. Start the test, the five groups of samples were tested at three ambient temperatures (30°C , 35°C , 40°C), each 24 hours 5. Give the completed test data as well as the curve.	Ambient temperature 30°C refer to table 5 Ambient temperature 35°C refer to table 6 Ambient temperature 40°C refer to table 7 (Temperature measurement position: Bottom of the cup)	-



Test Report**No.: 70.431.25.10795.04****Date: 2025-03-28**

Table 5 - Ambient temperature 30°C

Time(Hour)	Temperature(°C)				
	Thermos flask + 1 ice boxes	Thermos flask + 2 ice boxes	Thermos flask + 3 ice boxes	Thermos flask + 4 ice boxes	Thermos flask + 5 ice boxes
1	15.7	9.9	5.6	3.2	1.3
2	18.4	14.6	12.1	9.8	7.7
3	19.2	16.5	14.6	13.2	11.6
4	19.9	17.3	16.2	14.9	13.7
5	21.1	17.8	16.9	16.2	15.2
6	26.0	18.0	17.4	16.8	16.1
7	28.6	18.2	17.6	17.1	16.6
8	29.6	18.5	17.8	17.4	17.0
9	30.0	19.0	18.0	17.6	17.1
10	30.1	23.0	18.1	17.7	17.2
11	30.2	26.5	18.2	17.8	17.3
12	30.2	28.2	18.5	18.0	17.5
13	30.2	29.1	18.8	18.0	17.4
14	30.3	29.6	20.4	18.2	17.5
15	30.3	30.0	24.5	18.4	17.6
16	30.3	30.2	26.7	18.9	17.7
17	30.3	30.3	28.0	19.2	17.8
18	30.3	30.4	28.9	21.1	17.9
19	30.4	30.5	29.5	24.2	18.0
20	30.4	30.4	29.8	26.1	18.3
21	30.3	30.4	30.0	27.4	19.8
22	30.4	30.6	30.2	28.3	23.1
23	30.4	30.5	30.3	29.0	25.1
24	30.3	30.5	30.4	29.4	26.4

Test Report

No.: 70.431.25.10795.04

Date: 2025-03-28



Table 6 - Ambient temperature 35°C

Time(Hour)	Temperature(°C)				
	Thermos flask + 1 ice boxes	Thermos flask + 2 ice boxes	Thermos flask + 3 ice boxes	Thermos flask + 4 ice boxes	Thermos flask + 5 ice boxes
1	18.0	12.5	8.0	5.3	3.0
2	20.3	17.0	14.5	12.4	9.7
3	21.6	18.5	16.7	15.4	13.3
4	24.6	19.2	17.9	16.8	15.0
5	31.4	19.8	18.5	17.8	16.2
6	33.9	20.7	18.9	18.3	16.7
7	34.8	22.1	19.3	18.7	17.1
8	35.2	28.0	19.7	18.9	17.2
9	35.3	31.4	20.6	19.2	17.4
10	35.3	33.2	21.5	19.6	17.5
11	35.3	34.2	26.4	19.9	17.7
12	35.4	34.6	29.8	20.6	17.7
13	35.3	34.9	31.9	21.5	17.9
14	35.4	35.2	33.3	26.3	18.1
15	35.5	35.3	34.1	29.1	19.5
16	35.4	35.3	34.6	31.0	23.0
17	35.4	35.3	34.9	32.4	26.7
18	35.4	35.3	35.1	33.3	28.9
19	35.4	35.3	35.3	34.0	30.7
20	35.4	35.3	35.4	34.4	32.0
21	35.4	35.4	35.5	34.8	33.0
22	35.5	35.5	35.6	35.1	33.7
23	35.4	35.3	35.5	35.0	34.0
24	35.4	35.3	35.5	35.2	34.4

Test Report

No.: 70.431.25.10795.04

Date: 2025-03-28

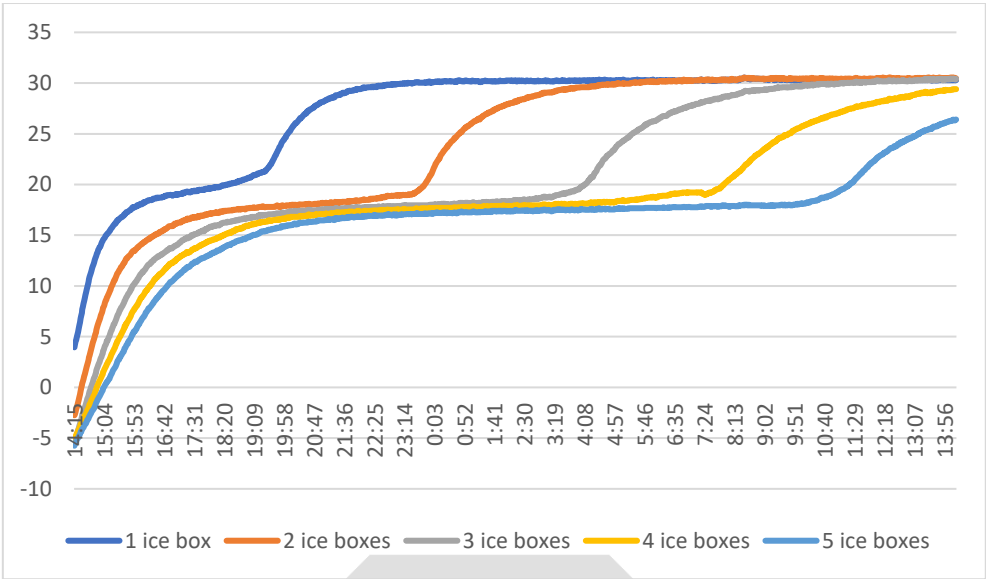


Table 7 - Ambient temperature 40°C

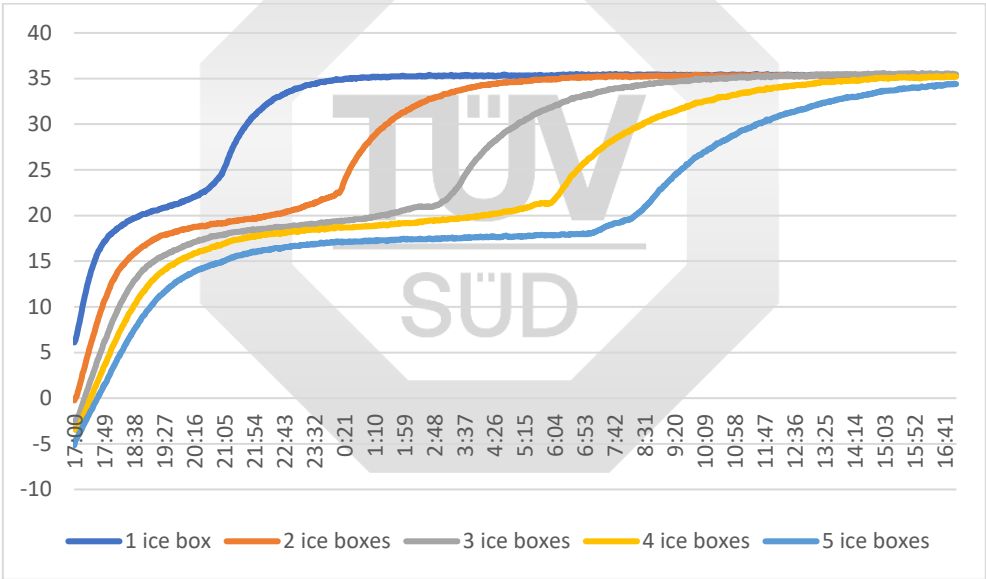
Time(Hour)	Temperature(°C)				
	Thermos flask + 1 ice boxes	Thermos flask + 2 ice boxes	Thermos flask + 3 ice boxes	Thermos flask + 4 ice boxes	Thermos flask + 5 ice boxes
1	18.3	14.4	10.0	6.8	3.0
2	20.3	18.6	16.0	14.3	10.7
3	22.8	19.8	18.1	17.0	14.4
4	33.6	20.7	18.9	18.4	16.2
5	38.1	21.8	19.4	19.1	17.2
6	39.7	28.2	20.1	19.5	17.6
7	40.3	34.2	21.2	19.9	17.8
8	40.5	37.1	23.1	20.3	18.0
9	40.6	38.6	30.2	21.2	18.1
10	40.6	39.6	34.2	22.7	18.5
11	40.6	40.1	36.6	27.3	18.9
12	40.6	40.3	38.2	31.7	19.6
13	40.6	40.4	39.2	34.5	22.2
14	40.6	40.5	39.6	36.4	28.3
15	40.6	40.6	40.1	37.7	31.8
16	40.6	40.6	40.3	38.6	34.2
17	40.7	40.6	40.5	39.3	35.9
18	40.7	40.7	40.6	39.7	37.1
19	40.7	40.6	40.6	40.0	38.0
20	40.6	40.6	40.6	40.2	38.7
21	40.7	40.6	40.8	40.5	39.3
22	40.6	40.6	40.6	40.4	39.6
23	40.6	40.6	40.6	40.4	39.7
24	40.6	40.6	40.6	40.5	40.0



Temperature profile 5 – Ambient temperature (30°C)

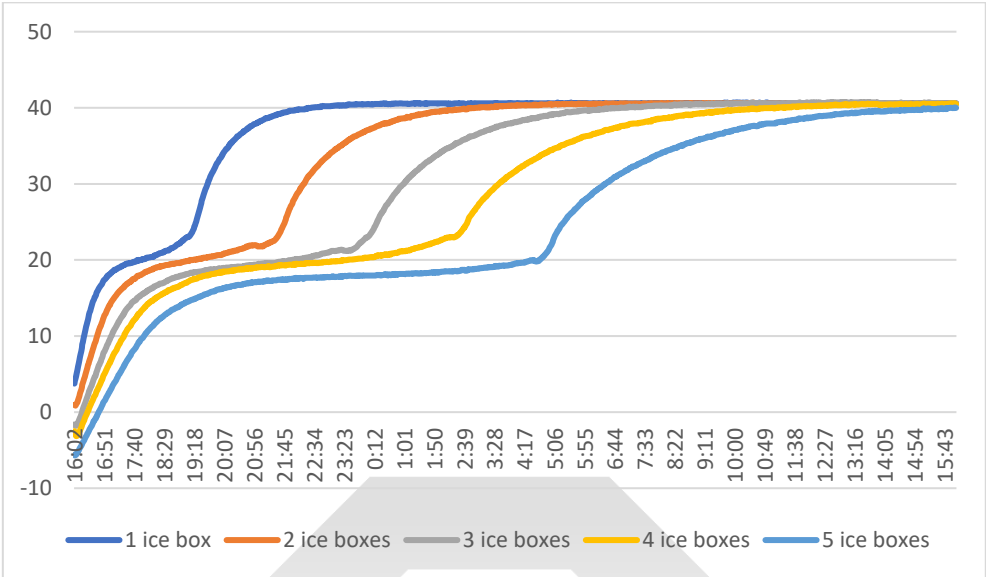


Temperature profile 6 – Ambient temperature (35°C)





Temperature profile 7 – Ambient temperature (40°C)



Test Report

No.: 70.431.25.10795.04

Date: 2025-03-28

4. Thermal insulation performance test (ICE PACK) as request by applicant

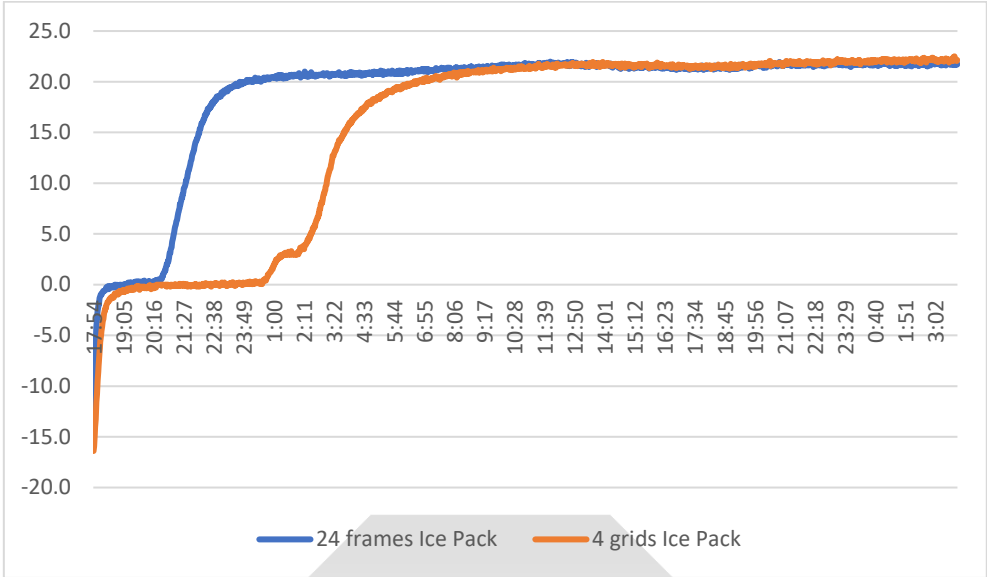
Clause	Requirement	Test Result	Conclusion
1	Thermal insulation performance test (ICE PACK)		
	1. Soak 24 frames Ice Pack and 4 grids Ice Pack in 5,000 ml of water for 15 minutes. 2. 24 frames Ice Pack and 4 grids Ice Pack are placed in -20°C ($\pm 1^\circ\text{C}$) environment and frozen for 12 hours. 3. Set up the thermometer with 1 minute of data. 4. Fold the frozen technology ice in half and wrap the thermometer probe around the center of the inside of the folded ice. 5. 5. Start the test at 25°C ($\pm 1^\circ\text{C}$) ambient temperature for 34 hours. 6. Read the data.	Refer to table 8	-

Table 8 ICE PACK

Time(Hour)	24 frames Ice Pack (°C)	4 grids Ice Pack (°C)	Time(Hour)	24 frames Ice Pack (°C)	4 grids Ice Pack (°C)
1	-0.1	-0.9	18	21.9	21.5
2	0.4	-0.2	19	21.7	21.7
3	3.1	-0.1	20	21.7	21.7
4	14.0	0.1	21	21.7	21.7
5	18.7	-0.1	22	21.4	21.5
6	20.0	0.2	23	21.5	21.5
7	20.5	1.4	24	21.2	21.4
8	20.6	3.1	25	21.2	21.4
9	20.8	8.1	26	21.6	21.8
10	20.7	15.6	27	21.7	21.9
11	20.7	18.2	28	21.7	22.0
12	21.0	19.5	29	21.8	21.6
13	21.0	20.0	30	21.7	22.0
14	21.3	20.7	31	21.8	22.1
15	21.3	21.0	32	21.7	22.0
16	21.5	21.3	33	22.0	22.4
17	21.6	21.4	34	21.7	22.2



Temperature profile 8 – 24 frames Ice Pack, 4 grids Ice Pack



-End of Test Report-

