SITE survey. APP

SITE SURVEY REPORT

Thermal Imaging Survey

Prepared for	Ribbleton Cold Stores Ltd
Date	15 Oct 2026
Site	Ribbleton Cold Stores, Preston
Prepared by	W. Ashworth

FORM

Thermal Imaging Survey

1. Record details and scope

Project	Ribbleton Cold Stores, Preston: switchroom thermal imaging survey
Client or organisation	Ribbleton Cold Stores Ltd
Site or premises address	Unit 11, Ribbleton Trade Park, Preston PR2
Record date	15 Oct 2026
Person completing the record	W. Ashworth

> For competent thermographers. This records observations and interpretation, not a diagnosis from colour alone, an electrical safety certificate or permission to expose live parts.

2. Survey method

Survey purpose and agreed scope	Thermal survey of the main LV switchboard and 6 distribution boards under normal load, and of the cold store external cladding, to find hot spots and insulation defects for maintenance planning. Not an electrical inspection or test.
Camera, lens and calibration reference	Thermal camera TC-05, standard lens, calibration ref TC05-CAL-2603
Thermographer and competence reference	W. Ashworth, thermographer, competence record TH-WA-0331
Weather, ambient conditions and operating loads	Switchroom ambient 19 °C, weekday 10:00 to 12:30 with the cold store plant running. Site electrician estimated loads at 60 to 70% of normal peak. Cladding scanned at 07:00 before sunrise, 6 °C outside, dry, light wind, cold store at -22 °C.

3. Thermograms

Thermal observation 1: Main LV switchboard MSB-1, incoming cables

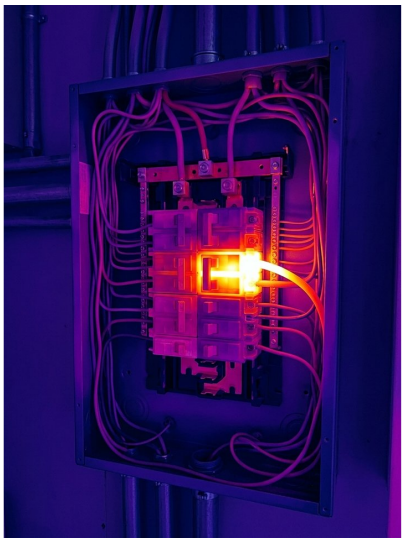
Asset or location	Main LV switchboard MSB-1, incoming cables
Type of asset	Electrical equipment
Original radiometric file reference	IR_0924_001
Emissivity, reflected temperature, distance and other settings	Emissivity 0.95 on cable insulation, reflected 19 °C, distance 1.5 m

Measured temperatures, units and comparison point	Max 34 °C on L1, compared with 33 °C on L2 and L3
Hot spot or anomaly temperature (°C)	34
Comparison point temperature (°C)	33
Temperature difference, ΔT (°C)	1
Load at the time of the image (% of rated)	65
Interpretation, basis and uncertainty	Even across phases. No anomaly found under the load on the day.
Priority set by the thermographer	No action

Thermal observation 2: DB-3 (compressor feeds), way 4, L2 cable termination

Asset or location	DB-3 (compressor feeds), way 4, L2 cable termination
Type of asset	Electrical equipment
Original radiometric file reference	IR_0924_014
Emissivity, reflected temperature, distance and other settings	Emissivity 0.95 on insulation next to the lug, reflected 20 °C, distance 0.8 m
Measured temperatures, units and comparison point	68 °C on L2, compared with 41 °C on L1 and L3 of the same circuit
Hot spot or anomaly temperature (°C)	68
Comparison point temperature (°C)	41
Temperature difference, ΔT (°C)	27
Load at the time of the image (% of rated)	65
Interpretation, basis and uncertainty	27 °C above the other phases on the same circuit. Pattern suggests a high-resistance connection at the L2 termination. Load balance not confirmed with a clamp meter and bare metal not measured because of low emissivity.
Priority set by the thermographer	Urgent

Thermal export and corresponding visible image



Thermal observation 3: DB-5 lighting board

Asset or location	DB-5 lighting board
Type of asset	Electrical equipment
Original radiometric file reference	IR_0924_021
Emissivity, reflected temperature, distance and other settings	Emissivity 0.95 on breaker bodies, reflected 19 °C, distance 1.0 m
Measured temperatures, units and comparison point	Max 29 °C, compared with 27 °C on the other breakers
Hot spot or anomaly temperature (°C)	29
Comparison point temperature (°C)	27
Temperature difference, ΔT (°C)	2
Load at the time of the image (% of rated)	25

> Light load. Below about 40% of rated load a fault may not show as hot. Record it in the limitations, and repeat at a higher load if you can.

Interpretation, basis and uncertainty	No anomaly found, but lighting load was low in daylight so this is of limited value.
Priority set by the thermographer	Monitor

Thermal observation 4: Cold store 2, east elevation cladding beside the personnel door

Asset or location	Cold store 2, east elevation cladding beside the personnel door
Type of asset	Building fabric

Position on site	East elevation, cold store 2 personnel door · 53.775210, -2.668940 (SD 56011 31193, ±5 m)
Original radiometric file reference	IR_1015_031 and DC_1015_031
Emissivity, reflected temperature, distance and other settings	Emissivity 0.90 on the painted cladding, reflected -2 °C (sky), distance 6 m
Measured temperatures, units and comparison point	-11.8 °C over the patch, compared with 3.2 °C on the same panel 2 m away
Hot spot or anomaly temperature (°C)	-11.8
Comparison point temperature (°C)	3.2
Temperature difference, ΔT (°C)	-15
Width of the anomaly (m)	0.73

Width of the anomaly (m): measuring photo



Height of the anomaly (m)	1.69

Height of the anomaly (m): measuring photo



Anomaly area (m²)	1.23
Interpretation, basis and uncertainty	A cold patch on the outside face beside the door, sharp edged and following the panel joint. Pattern fits missing or slumped insulation, or air leaking out of the cold store at the joint. Not confirmed from inside.
Priority set by the thermographer	Planned

Thermal export and corresponding visible image





Observations	4
Immediate	0
Urgent	1
Planned or monitor	2
Largest ΔT recorded (°C)	27

Electrical images at under 40% load	1

4. Limitations and follow-up

Access, loading, surface and environmental limitations	DB-2 cover not removed, no safe access. Loads below peak; DB-5 at about 25% load. Bare busbars not measured because of low emissivity. Cladding scanned from outside only. Survey shows surface temperatures only.
Confirmatory testing or specialist investigation	Electrician to isolate DB-3 way 4, check and re-terminate L2, then rescan under similar load. Cladding contractor to open the joint by the cold store 2 door and check the insulation.
Urgent concern and person informed	DB-3 way 4 L2 hot spot reported to site electrician T. Cain at 11:20
Technical reviewer	H. Moorcroft, senior thermographer

5. Actions and review

Are further actions required?	Yes

Further action 1: Isolate DB-3 way 4, check the L2 termination and remake it. Job RCS-E-0927.

Action and evidence reference	Isolate DB-3 way 4, check the L2 termination and remake it. Job RCS-E-0927.
Person responsible	T. Cain, site electrician
Target date	17 Oct 2026
Action status	Completed
Completion evidence	L2 lug found loose and remade under isolation on 16 October. Job sheet RCS-E-1016.

Further action 2: Rescan DB-3 way 4 under similar load to confirm the repair.

Action and evidence reference	Rescan DB-3 way 4 under similar load to confirm the repair.
Person responsible	W. Ashworth
Target date	24 Oct 2026
Action status	Open

Further action 3: Arrange safe access to DB-2 for the next survey.

Action and evidence reference	Arrange safe access to DB-2 for the next survey.
Person responsible	T. Cain
Target date	31 Oct 2026

Action status	Open

Further action 4: Open the cladding joint beside the cold store 2 personnel door and check the insulation and seals.

Action and evidence reference	Open the cladding joint beside the cold store 2 personnel door and check the insulation and seals.
Person responsible	Fylde Cladding Ltd
Target date	6 Nov 2026
Action status	Open
Open actions	3
Outstanding limitations and information to pass on	DB-2 not surveyed. Repair to DB-3 way 4 not yet confirmed by rescan.
Record status	Further work needed
Reviewed by	H. Moorcroft
Review date	17 Oct 2026
Author signature	

Signing records the information entered. It does not itself certify legal compliance, remove a limitation or authorise unsafe work.