	Doc. Ref.	PICOTEST1006066	Pages	4 Total
	Doc. Date	27th October 2011	Version #	1.0
Doc. Type	Performance Report			
Customer Defined Report	Insulated Shipping System (Frozen) 24hr Shipper / Customer Products Full Load			

PICOTEST1006066


Insulated Shipping System 24hr Shipper Trial

Customer Specified Extreme Temp. Ramp

Performance Report : 27th October 2011

Products Tested

Insulated Container	Hydropac CUIS006 (11KG)
Product Load	12 x COB 380g frozen meals
Product Conditioning	Stored and stabilized at -28°C
Cooling media	660g Hydro-Freeze 2 Pocket Packs
Quantity of cool charges and positioning	2 x ice packs under product with x3 directly on top of the product
Cooling media Conditioning	Frozen and stabilized at -28°C
Product temperature probe location	Outer edge of Product

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Objective/requirement of test

Test ref: Insulated Shipping System Frozen 24hr Shipper

Test No: PICOTEST1006066

To test customers supplied product load and achieves 24 hours at a temperature below -12°C at a customer specific, consistent and extreme ambient temperature of 20°C in our standard CUIS006 11kg shipper.

The product being an LDPE foam liner mitred corners to prevent hot spots and the cooling media being a Hydro-Freeze Blue Freezer Pack at 660g each

Equipment used

- A: In house computer controlled temperature logging interface ✓
- B: Mobile data logging, with results collated at Hydropac ✓
- C: Temperature chamber ✓
- D: Chest freezer ✓
- E: Hanna hand held digital thermometer with probe ✓

Test equipment calibration

A: Calibration No 152526


Certificate No. 3841

E: Hanna H196509

Test report by: Mick Adams

Test date and location: 27/10/2011

The test was carried out in Hydropac's testing laboratory under strict controlled conditions.

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Packing Details:

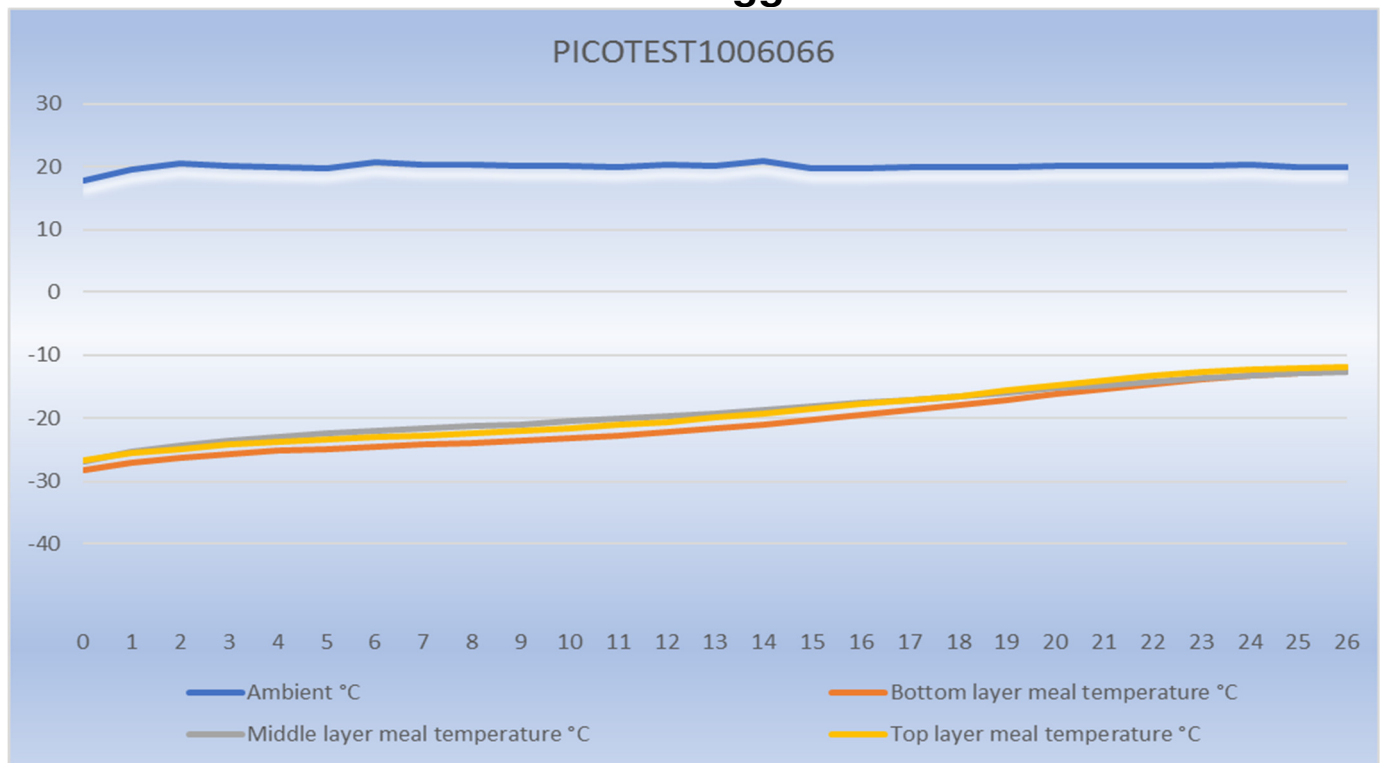
The test shipper was packed in the following way:


- A. 2 x frozen ICES021 Freezer charges were placed directly in the bottom of the shipper.
- B. The customers 12 x 380g Pre-Frozen ready meals we packed uniformly on top of the 3 Freezer Packs.
- C. 3 x frozen ICES021 cool charges were placed on top of the Ready Meals, void filled with bubble wrap

The Environmental Test Cabinet

Was pre-programmed with the Customer Specific Temperature Ramp, which was set at a constant and extreme 20°C for 48hrs and would alarm when the 1st element hit -12°C.

Test Results: **PASS** ✓ 1st Alarm triggered at 26hrs at 11.98°C



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Raw Data:

Time	Ambient °C	Bottom layer meal temperature °C	Middle layer meal temperature °C	Top layer meal temperature °C
1	19.6	-27.03	-25.38	-25.61
2	20.5	-26.22	-24.34	-24.84
3	20.1	-25.68	-23.6	-24.24
4	19.9	-25.2	-22.96	-23.81
5	19.8	-24.84	-22.4	-23.44
6	20.8	-24.52	-22	-23.07
7	20.3	-24.17	-21.55	-22.75
8	20.3	-23.89	-21.24	-22.45
9	20.1	-23.63	-20.96	-22.11
10	20.1	-23.15	-20.41	-21.55
11	20	-22.81	-20.08	-21.12
12	20.3	-22.28	-19.65	-20.6
13	20.2	-21.72	-19.22	-19.96
14	20.9	-21.03	-18.73	-19.3
15	19.8	-20.3	-18.19	-18.57
16	19.7	-19.54	-17.64	-17.83
17	19.9	-18.8	-17.11	-17.18
18	20	-18.02	-16.53	-16.51
19	20	-17.11	-15.91	-15.67
20	20.1	-16.28	-15.31	-14.88
21	20.1	-15.43	-14.77	-14.12
22	20.2	-14.68	-14.21	-13.36
23	20.1	-13.96	-13.68	-12.68
24	20.3	-13.37	-13.2	-12.35
25	20	-12.84	-12.83	-12.2
26	19.9	-12.59	-12.68	-11.98