

# INTELSIUS BIOCAIR TEMPERATURE MAPPING



# BACKGROUND

**Biocair is an international logistics company that provides a specialist courier service for clinical trials, research and development and dangerous goods. The storage temperature of the sample being transported can be critical and needs to be maintained during transport to prevent degradation.**

In many cases passive temperature control is more favourable than active temperature control. This may be due to the size of shipments i.e. smaller shipments mean less space is used in a large vehicle, or are to be sent by cargo aircraft. In both these cases, correct preparation of the packaging is essential to ensure these delicate and often expensive payloads reach their destination in the correct state.

Temperature mapping exercises can be carried out to ensure that storage areas used in the cold chain provide the desired temperature conditions both consistently and uniformly throughout the space. Risk factors such as proximity to doors, south facing external walls and proximity to air conditioning units, can all have an impact on the temperatures experienced by the products being transported.

## Objectives

- To ensure Biocair is fully GDP (good distribution practice) compliant across four different storage temperatures
- To show that Biocair prepare their packaging in a consistent and controlled manner, in line with their quality standards
- To ensure transparency with customers when Biocair is transporting its sensitive payloads



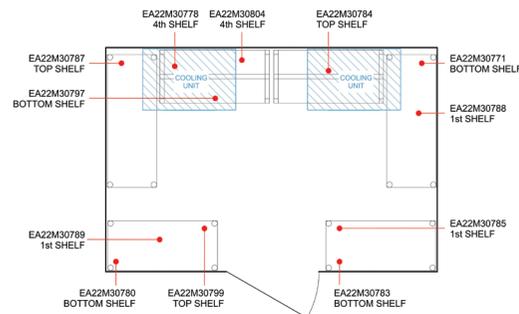
# APPROACH

**Intelsius was asked to map four separate temperature controlled storage areas: +22°C, 2-8°C Fridge, -20°C and -30°C.**

Biocair provided photographs, dimensions and the layout of the temperature controlled rooms, including the location of shelving and placement of the coolers. This information was required to assess the heatflow and risk areas of each storage area and helped determine the placement of the loggers, with emphasis being placed on where products were stored for the mapping process.

Intelsius visited Biocair to install and start the loggers. Biocair were left with logs for each room to record when these temperature controlled spaces were opened and closed, to help explain temperature fluctuations when analysing the results.

Each data logger was individually calibrated to a traceable standard to ensure the results of the mapping exercise were accurate.



Two mapping exercises were carried out consecutively:

**Operational Qualification** – the rooms were used as normal for a period of three days. Products were stored and removed as required under normal working conditions. This was to give an indication of the effect of door opening and closing on temperature stability, the impact of the removal of products and the addition of unconditioned, ambient product into environments. Where possible the load was kept at approximately half capacity.

**Full Load Qualification** - the storage areas were loaded to full capacity with unconditioned, ambient product and the storage areas were left for a period of three days to assess the impact of large amounts of ambient product on the temperature.

Throughout the mapping study, Biocair implemented a room log for each storage area. This was used to detail the time and date of any personnel using the area – whether for storage or removal of products or for temperature monitoring purposes.

By cross-referencing any deviations from normal temperature seen in the results, with the data from the room logs, Intelsius was able to study how the usage of the room affected the temperatures. This enabled Intelsius to assess the efficiency of the storage areas for their prescribed use.

# RESULTS

Once the study was complete, all data loggers were returned to Intelsius for analysis. The results enabled Intelsius to give a detailed report for each storage area.

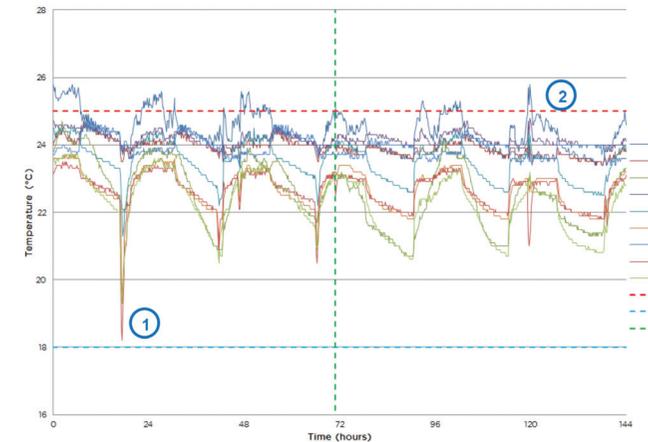
Each report included:

- A description of the work undertaken
- The risk areas identified
- Graphical results
- Tabulated results
- A detailed analysis comparing any deviations to the information provided in the room log

Intelsius concluded that all four rooms were compliant and maintained the temperatures required during both mapping exercises and a certificate of calibration was issued for each room.

Biocair has since been audited, the mapping was concluded, and the auditor was suitably impressed with the test reports and calibration certificates, which were provided.

Biocair is now looking to roll this out to its other distribution centres in the UK, America and Asia.



“We chose Intelsius because they are a respected company within the temperature controlled shipping market and have a reputation built on transportation compliance. I had full faith in the service and protocol that Intelsius was providing. There was very little disruption to our day-to-day running of the business whilst the mapping was being undertaken.”

“Intelsius analysed the data and provided a full write up of the procedures for the mapping of the fridge, +22°C room, 2-8°C fridge, -20°C freezer and -30°C freezer. I was very impressed at the transparency of the information that Intelsius provided me with, including all the raw data, even for the logger, which showed anomalous results.”

Mark Hollingdale, Cool Chain & Warehouse Manager, Biocair

DGP Intelsius LLC  
7696 Zionsville Road,  
Indianapolis  
IN 46268  
United States of America

DGP Intelsius Ltd  
1 Harrier Court  
Airfield Business Park  
Elvington  
York, YO41 4EA  
United Kingdom

DGP Intelsius Cold Chain Pvt Ltd  
2, Palak Pluto, Off Link Road,  
Kanderpada - Dahisar (West)  
Mumbai 400 068  
Maharashtra,  
India

DGP Intelsius Sdn Bhd  
Plot 11, Lorong Bemban 2  
Estet Perindustrian Bemban  
31000 Batu Gajah  
Malaysia

AMERICAS  
t: +1 317 452 4006  
f: +1 317 290 4621  
e: [americasorders@intelsius.com](mailto:americasorders@intelsius.com)

EUROPE  
t: +44 1904 607 390  
f: +44 1904 607 391  
e: [cs@intelsius.com](mailto:cs@intelsius.com)

INDIA  
t: +91 22 6525 6621  
f: +91 22 2892 3675  
e: [compliance@intelsius.com](mailto:compliance@intelsius.com)

ASIA  
t: +605 3666 399  
f: +605 3669 399  
e: [compliance@intelsius.com](mailto:compliance@intelsius.com)

