



Is ice retention important?

Xactics™ was asked by a Canadian Government Agency to co-operate in a research effort to establish standards relating to the thermal performance of isothermal containers. A well known industrial research firm was contracted for this purpose.

Three isothermal containers, which had been manufactured at least 28 days previously, were selected at random. The containers without lids were placed in a room where the temperature was maintained at a constant 73 Degree F and left for 48 hours to ensure that a uniform temperature, equal to that of the room, was reached in the whole mass of the containers. Each container was filled completely with crushed ice of a thickness between 3/4" and a maximum of 1".

The quantity of ice poured into each container was weighed. The lids were then secured and the drain of each container was connected to a storage reservoir used to collect the melted ice water.

With the aim of ascertaining the quality and uniformity of the thermal resistance of the walls forming the container a thermo graphic inspection by means of an infrared camera thermal vision was also done.

Periodically the quantity of melted ice water was weighed and the average discharge in terms of melted ice water was calculated. This entire process was repeated with another three containers selected at random.

In conclusion, this study showed the average discharge in terms of melted ice water for the 6 containers was 1.09 lbs /h. Average total thermal resistance 18.30 F-ft² h/BTU. The quantity of ice remaining in the containers after 10 days was 74%.

The thermo graphic observation showed a very high degree of uniformity of the thermal resistance of the walls. This is one of the reasons why different industries and major end users appreciate the performance of *Xactics™* containers.