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Northern Design



REPORT FOR HUMITECH

Pastry Fridge - Sheraton Park Lane Hotel

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From 9 May 2006 to 2 July 2006 we conducted measurements on the pastry fridge at Sheraton Hotel Park Lane. We measured the fridge energy consumption for two weeks, then for three weeks with Sorbite packs and for a further three weeks with the Sorbite packs removed. Energy consumption was measured at both 1minute and 1/2hour consumption for the whole of this period.

We have extensively analysed the energy used and present the results on the accompanying spread-sheet. This shows weekly and daily energy consumption as well as weekly average of outside air temperatures since this has an effect on compressor efficiency.

We encountered extremely variable conditions during these tests which has made scientific assessment of the effectiveness of the Sorbite packs difficult. However we have assessed the results and applied correction for the evaporators working in widely varying external temperature variations. We have also applied correction factor for the very high activity periods experienced during the bank holiday week and the exceptionally busy 98 per cent occupancy two weeks later.

We quote energy consumption figures of the Pastry Refrigerator after correction for external air temperature variation, reduction in internal fridge temperature, and for hotel activity level as follows

Average energy used per week without Sorbite panels	162.49 kWh
Average energy used per week with Sorbite panels	135.93 kWh
Reduction in energy usage with Sorbite panels	16.35%

We conclude that the Sorbite panels effect an environmental benefit of reduction in energy used by some 16%, together with the attendant financial savings on the energy bill. These energy and environmental savings are to be added to the other known benefits of lower fridge temperature, improved humidity level and reduced food spoilage.

The complete series of measurements and analyses is available in electronic file form. This report states the main conclusions while the accompanying Excel spreadsheet, page 2, presents a summary of the measurements and calculations.

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