



Independent Food Trials

Adande arranged for a formal **third party test** comparison of Adande technology vs. traditional refrigeration solutions to demonstrate what chefs are seeing. **Griffith Laboratories** undertook these tests using sensory analysis (sight, smell, touch and taste), to evaluate the food quality. **John Feeney**, Griffith Laboratories Culinary Director selected the food products, oversaw the trial and evaluated the final product quality

Trial Objectives

- Establish the difference in impact of extended holding on **product quality** when using Adande and traditional refrigeration technology – an extreme test
- Correlate storage **temperature** and **humidity** with **product quality** in extended storage conditions
- Establish the impact of using Adande technology on **product loss** AND do it in an independent location by informed personnel

Traditional Design

Top surface is very dry,
Only 60% is edible

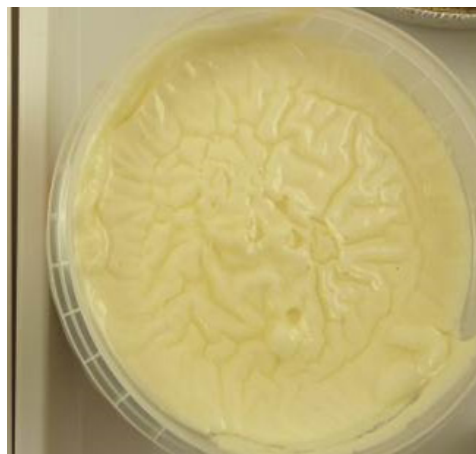


Dehydrated, crumbling in
small pieces



Adande® Technology

Fresh cheese sauce



Fresh, moist and "springy"



Visibly shrunk and mouldy mushrooms are inedible



Fresh



“ The report confirms some of my own observations during trials with Adande units in our kitchens. The Adande equipment is fundamentally different. It is more efficient and we saw that the quality of some food products was preserved better in the Adande refrigeration units than in traditional equipment - even though the holding times were relatively short. The performance difference of the Adande units is most noticeable as the heat goes up in the kitchen. The images and descriptions from the end of the trial clearly show the impact of this “stress test” and no chef should ignore the message they hold. ”

John Williams - Head Chef ,
The Ritz, London & Chairman of The Academy of Culinary Arts

shrunk and dehydrated



Fresh



Extremley dehydrated



Slightly dehydrated

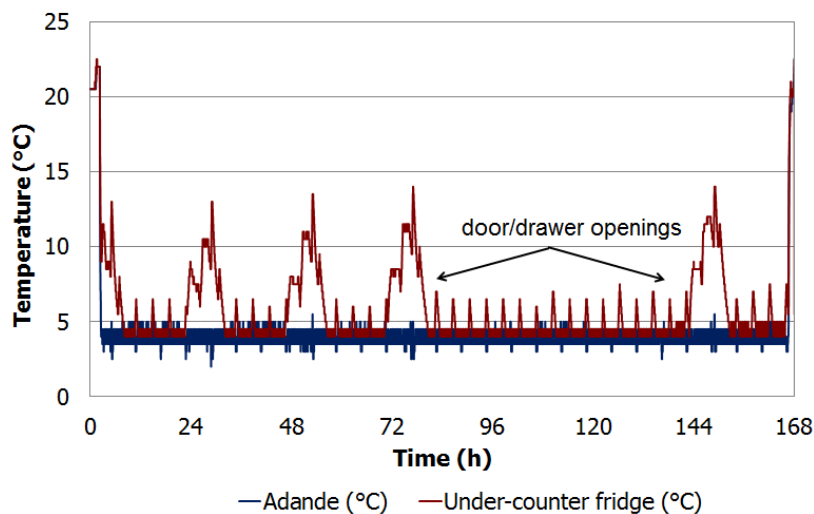


Test Conditions

- Limits of fresh and frozen products tested over a **7 day period – extreme performance test**
 - Product temperature and humidity were recorded
 - Appliances were loaded with same type of products (all units were lightly loaded)
- Regular door / drawer openings were performed in all units

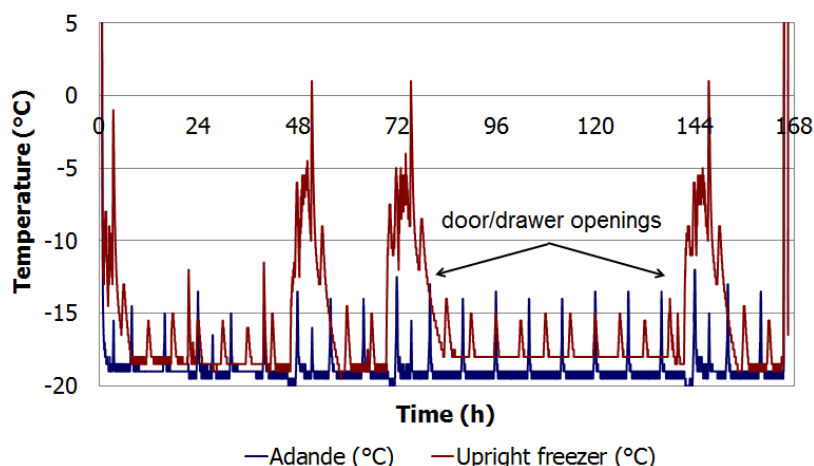
Period	Door/Drawer opening regime:
1 hour	Every 3 min for 15s
2 hours	Every 5 min for 15s
2 hours	Every 10 min for 60s
0.5 hour	Every 10 min for 15s
0.5 hour	Closed for 20 min followed by 10 min with doors/drawers fully open

Fresh Food Storage Temperature



Fridge

- Starting set point temperature in both appliances: 5°C
- Under-counter fridge air temperature above 8°C for more than 4 hours on three occasions – outside Food Safety regulation
- Adande drawer temperature very stable



Freezer

- Starting set point temperature in both appliances: -19°C
- Upright freezer air temperature above -10°C for 4 hours during the 6 hours of door openings
- Adande drawer temperature very stable

Temperature Stability Comparison

- Adande drawers were 2 - 3°C cooler and the humidity was 20% higher than in the traditional cooling cabinets

Appliance	Average Temperature (°C)	Appliance (%)
Adande - fridge	4	91
Under-counter fridge	6	74
Adande - freezer	-19	72
Upright freezer	-16	59

A stable low temperature combined with stable, high humidity prevents food dehydration and discolouration

Financial Results From The Trial

- Input data
- Initial & final product weight
- Product cost

Test Summary	Undercounter Fridge/ Upright Freezer	Adande Fridge & Freezer Drawers	Drawers
Start Value	£59.60	£59.60	£0.00
End Value	£38.76	£53.54	£(14.78)
Gain/-Loss	£(20.62)	£(5.99)	£(14.63)
Annualised Loss	£(1072.48)	£(311.49)	£(760.98)

- **35% product value loss** in the under-counter fridge & upright freezer using traditional refrigeration technology
- **Only 10% product value loss** in the Adande drawers

71% reduction in product value loss by using Adande units

- Adande units significantly outperformed cooling cabinets with traditional technology in side-by-side tests
- Temperatures in the Adande drawers were more stable and 2 - 3°C cooler than the competitor units ensuring better product quality was maintained
- Food wastage (Value) was reduced by 71% using the Adande drawers compared to the units with traditional technology

Adande Technology Is Fundamentally Different!



@Chefsloveadande



Adande Refrigeration

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