

Thermal Measurement of Kenfield Secondary Refrigeration Door System

The University of Warwick conducted a climate-controlled laboratory study to demonstrate the performance efficiency of the K750 energy door against strip curtains in conditions representing real-world supermarket scenarios, resulting in significant energy savings and reduced temperature variability. This study was conducted in Coventry, England, over February and March of 2024.

Why the K750 Energy Door?

Strip curtains are constantly found to be ripped, torn off, or hooked away from the entry they are protecting. Most importantly, strip curtains are poor thermal insulators, resulting in fridges and freezers spilling air, losing temperature, and being highly energy intensive.

Kenfield's K750 Energy-Saving Door is a game-changer for walk-in coldrooms, providing a long-awaited solution to energy wastage, temperature control, and ice buildup. With over 30,000 installations across leading supermarkets in Europe and the US, this revolutionary doorway solution integrates seamlessly into any operation and has a proven track record of delivering thermal efficiency.

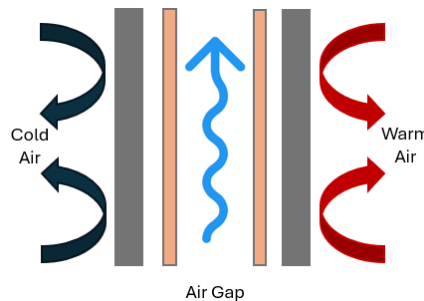


Diagram Illustrating the Cross-Section of the K750 Energy Door

Study Findings

Medium temperature savings ranged from

21-42%

of compressor energy consumption against strip curtains

Low temperature savings ranged from

13-17%

of compressor energy consumption against strip curtains

Peak temperature in low temperature applications was reduced by up to

31-35°F

as the coldroom door was open

The removal of one strip curtain results in an increase of

6-8%

in compressor energy consumption

Interested in the full report?

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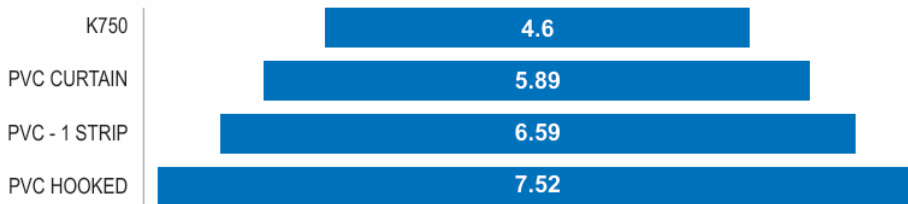
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Results

The K750 Energy door was compared to a full set of strip curtains, strip curtains missing a strip, and strip curtains hooked out of the way over 9-hour test periods. Actual compressor energy consumptions and percent increases in energy over the K750 are shown below.

Test 1	Ambient Temperature: 71.6°F	Coldroom Temperature: 37.4°F
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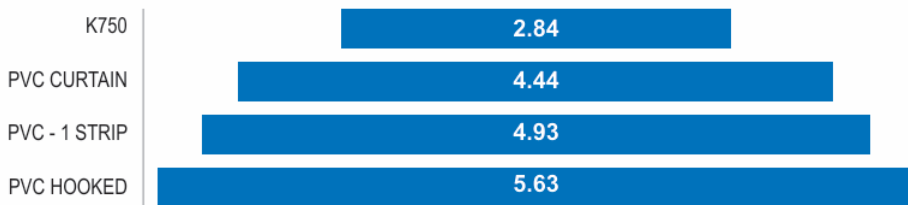
Energy Consumed kWh



Percent increase in energy over K750	
PVC Curtain	28.0%
PVC - 1 Strip	43.3%
PVC Hooked	63.5%

Test 2	Ambient Temperature: 62.6°F	Coldroom Temperature: 37.4°F
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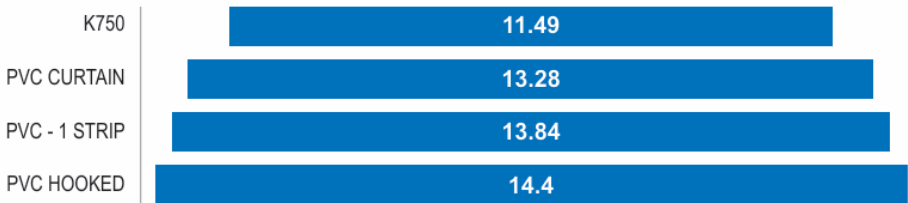
Energy Consumed kWh



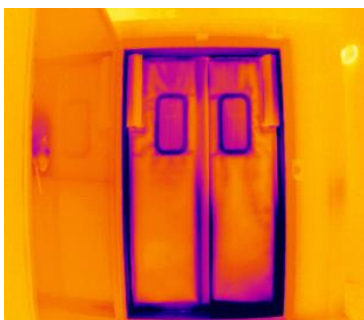
Percent increase in energy over K750	
PVC Curtain	56.3%
PVC - 1 Strip	73.6%
PVC Hooked	98.2%

Test 3	Ambient Temperature: 62.6°F	Coldroom Temperature: -0.4°F
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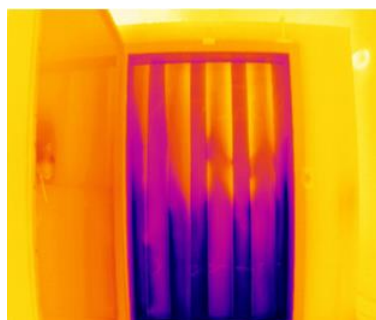
Energy Consumed kWh



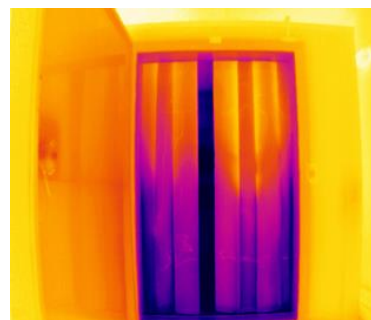
Percent increase in energy over K750	
PVC Curtain	15.6%
PVC - 1 Strip	20.5%
PVC Hooked	25.3%



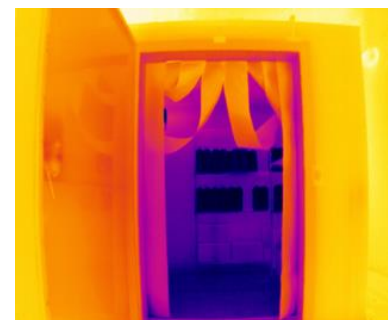
K750 Energy Door



PVC Curtain



PVC - 1 Strip



PVC Hooked