

Breakthrough: Gel Clear reduces maintenance costs



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A recent Sauermann Australasia Gel Clear tablet trial was conducted at a store located in Sydney, NSW. The store has a problematic history of water leaks on the store trading floor.

The store is located above a railway station meaning there is no drainage through the concrete slab underneath each refrigerated case like most regular stores. As a result, condensate pumps have been installed under each of the refrigerated cases to discharge all the condensate water into common tundishes in the ceiling space.

Problem: Biofilm Forming

Each of the condensate pumps at the store regularly formed biofilms stemming from their respective refrigerated case. This was most evident in the dairy section, but was also problematic in the produce, bakery and meat sections. If the refrigerated case and subsequent condensate pump was not proactively cleaned, this biofilm evolved into thick sludge.

The sludge caused the condensate pumps to block, stop operating and resulted in water leaks. In some instances, the pumps failed completely requiring replacement. Over time the condensate discharge lines between the pumps and tundishes started blocking up, requiring replacement, incurring additional labour cost and downtime.

At a glance...

1: The trial store had logged an average of 11 refrigeration service calls a month, costing an average \$350 each, for the 24 month period between 2016 and 2018.

2: During the 6 month trial period, there was a 95% reduction in water leaks as a result of the installation of Gel Clear tablets.

3: In this trial, the maintenance call costs could have been reduced by an estimated \$40K p/a had the tablets been applied to all cases in the store.



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Problem: Costs, Retail Disruption and Consumer Safety

Store staff were frequently required to mop up water overflow on the shop floor to mitigate slip risks and unload stock from the bottom shelf of each leaking case to enable technician assessment.

For the 24 month period between 2016 and 2018 an average of 11 service/repair calls per month were logged at an average cost of \$350.

In late 2018, the customer arranged for a full store refrigeration case clean along with replacement of all discharge drain lines. These works were carried out over multiple nights.

Prior to the Gel Clear trial commencing and with the frequency of water leaks being logged the customer commenced the trial of a competitor product.

Solution: Gel Clear trial commences

With 36 M/T cases on the trading floor it was agreed only 5 of the worst cases would be trialled initially with Gel Clear tablets. It was also agreed that competitor product would also be trialled along with leaving some refrigeration cases product free from treatment.

With the benefit of previous world-wide test results, installation methods for this particular site were discussed in detail between Sauermann Australasia, Kirby and the customer to achieve the best possible outcomes.



The customer was shown the correct way to install the product for these cases i.e Install 1 x Gel Clear tablet on the high end of either side of drain entry point. This allowed the tablet to slowly dissolve and coat the condensation path.

TABLET INSTALL MONTH	CASE NUMBER	SECTION	SOLUTION
January	1	Dairy	TABLETS
January	2	Dairy	TABLETS
January	3	Cold Meats	TABLETS
January	4	Cheese	TABLETS
January	5	Cheese	TABLETS
April	6	Berry	TABLETS
April	7	Deli	TABLETS
April	8	Bakery	NEW PUMP + TABLETS
April	9	Meat	NEW PUMP + TABLETS
April	10	Meat	NEW PUMP + TABLETS
April	11	Meat	NEW PUMP + TABLETS
April	12	Deli	TABLETS

Gel Clear trial and case schedule

Method: In January 2019, the base trays of the nominated refrigerated cases were unloaded to access the drain pan. Note: Even though these cases received a full clean a couple weeks earlier along with discharge hose replacement, a thin layer of biofilm was already starting to form in the pump.

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<p>3mth inspection results Gel Clear</p> <p>No reported water leaks No biofilm forming No new tablets installed Inspection to be conducted again at 6 months</p>		<p>6mth inspection results Gel Clear</p> <p>1 reported leak on 29/07/2019 in dairy case 1 No other cases leaking Thin layer biofilms starting to form in case & pumps</p>	
<p>3mth inspection results competitor product</p> <p>Biofilms forming Pumps blocking required to be cleaned</p>		<p>6mth inspection results competitor product</p> <p>Biofilms still forming Pumps blocked</p>	

At the 3 month review in April, additional cases were identified to be included in the trial. Some of these cases required new pumps to be installed.

Summary

The store had logged an average of 11 refrigeration service calls a month, costing an average \$350 each, for the 24 month period between 2016 and 2018.

During the 6 month trial period, there were 51 water leaks recorded. Of the 51 leaks, only 1 leak was related to the Gel Clear product which occurred past the 6 month installation date.

Conclusion

Trial results confirm that the Gel Clear product eliminated the majority of issues related to condensation pump failure and leaks. Whilst the competitor product solved the biofilms issue for a very short term only, the Gel Clear tablets resolved the issue for a period of 6 months across various refrigerated cases, and barring 1 water leak, reduced water leaks in the worst refrigerated cases in store. With the reduced leaks, store staff labour has also since been better utilised.

The service call history was drastically reduced from an average 11 calls per month (\$4000 p/m) with the use of the Sauermann Australasia Gel Clear tablets. It is recommended that the Gel Clear tablets be installed as part of each store's case clean schedule.

In this trial, the maintenance call costs could have been reduced by an estimated \$40K per annum had the tablets been applied to all refrigeration cases.

Further, based on the trial it is recommended the Gel Clear tablets be reinstalled every 6 months in each of the refrigerated cases.

Although this trial was conducted in a problematic store that was fitted with condensate pumps, the tablets are just as effective in reducing biofilms in stores with standard drainage systems not only in commercial refrigeration, but other applications as noted below.

The Sauermann Australasia Gel Clear Tablets range available from Kirby

Application	Part Number	Description
Refrigeration	SPSi93T1	Gel Clear Single Tablet
Refrigeration	SPSi93T10	Gel Clear Sleeve 10 Pack
A/C: Air Handling Units	AHU60	Gel Clear Heavy Duty Tablet
A/C: Split Systems	AC-03	Gel Clear Micro Tabs 6 Pack
A/C: Fan Coil Units	FC22	Gel Clear Condensate Drain Tablet

For more information contact Kirby on 13 23 50 or visit kirbyhvacr.com.au



Winner 2016 RAC Cooling Award, Refrigeration Product of the Year (UK)
 Winner 2017 HIVE Innovation Award (UK)
 Finalist 2019 RAC Cooling Business of the Year (UK)

