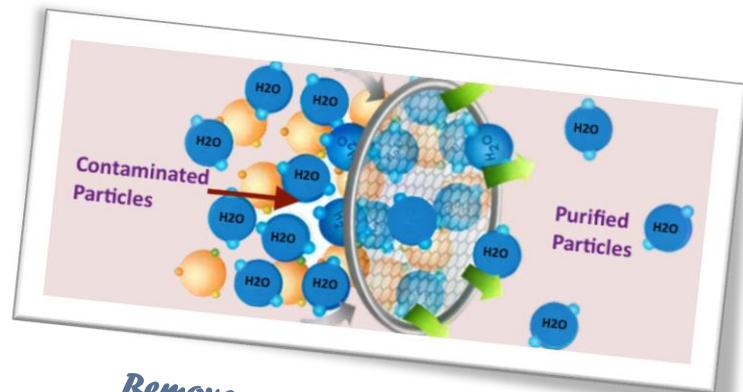


Case Study – Food Retail Company

About CoolSaver

A global provider of natural moisture filters for refrigerators, freezers and air conditioners.



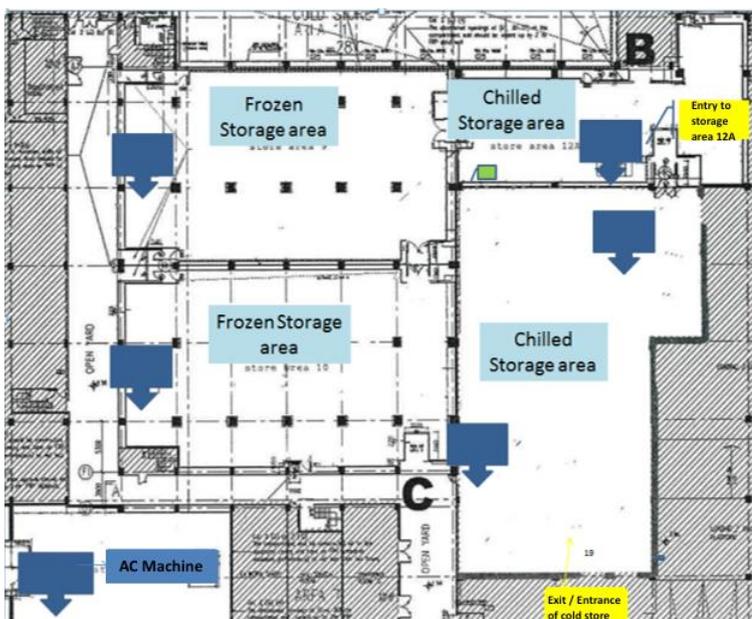
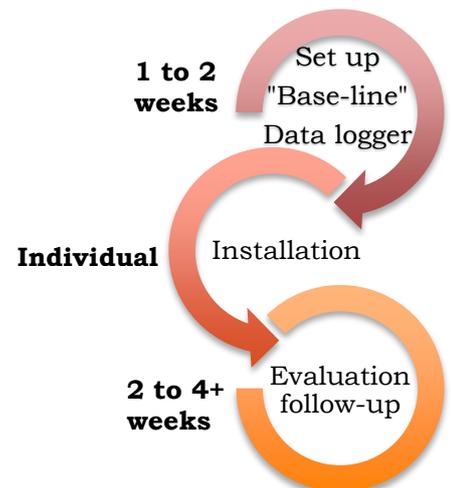
Remove excess water vapour through natural and catalytic reaction

What can CoolSaver do for you?

- ✧ Reduce icing
- ✧ Improve efficiency and temperature control
- ✧ Eliminate mold due to lowering of humidity
- ✧ Elimination of ethylene in refrigeration applications can double stored life of vegetables and fresh products such as vegetables and fruits

How does it work to reduce humidity?

- ✧ CoolSaver uses a unique blend of zeolites, combined with a proprietary treatment process.
- ✧ When vapour pressure near the surface of the zeolites is lower than that in the air, the water molecules are adsorbed into the channels and to the minerals.



Installation details

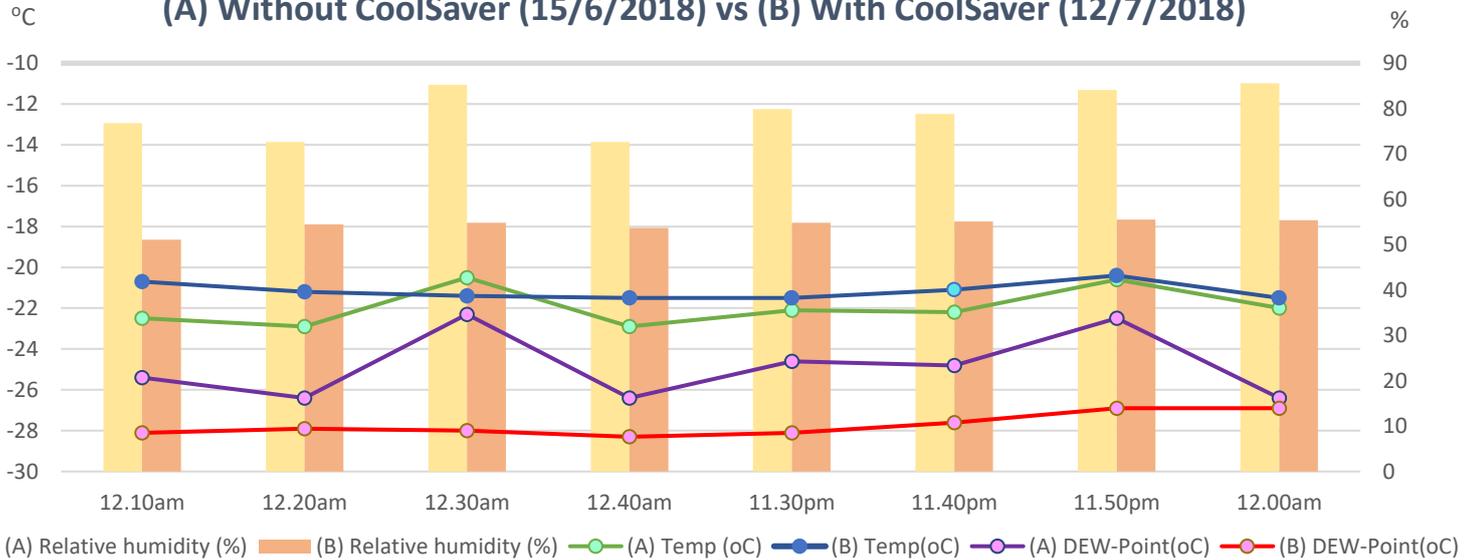
The cold storage facility of this company has approximately 5,000m³ freezer and 2,000m³ cooling room.

AEL successfully installed 18 panels of CoolSaver F200 in the freezer room using precise mounting rig in the air inlet area in the first phase.



Experimental Result

(A) Without CoolSaver (15/6/2018) vs (B) With CoolSaver (12/7/2018)



Average Data	Temp (°C)	Relative humidity (%)	DEW-Point (°C)	Specific Humidity (g/kg dry air)	Enthalpy (kJ/kg dry air)
Without CoolSaver	-22.1	81	-24.4	0.42	-21.2
With CoolSaver	-20.8	60.0	-26.3	0.35	-20.0
				0.07 (reduction)	-1.2

Energy saving:

Ratio of moisture reduction and the original air state

i.e. $0.07/0.42 = 16.7\%$.



CoolSaver Filter Panels

Result and significance

- Relative humidity and dew point decreased by around 20% and 2°C, respectively.
- Potential energy saved by over 16%
- Lower RH and DP :
 - ✧ Decrease energy required to achieve and maintain the same set air conditions in the freezer room.
 - ✧ Reduce problems of icing formation, mold, pollutants, airborne allergens, mildew, airborne allergens and odors.

