

Pepsi Rolled-out HVAC Armor Coating Nationwide

Background

Houston's atmosphere provides one of the most corrosive environments to coils and fins of rooftop HVAC units. Pepsi's Sustainability group contacted with HVAC Armor to rejuvenate the existing condensing coils, as well as increase the performance of the HVAC units at the Bottling Plant. The HVAC Armor Coil Coating was chosen to recover the condenser's heat transfer capability to the original state.



Solution

In an effort to rejuvenate the equipment, HVAC Armor was applied to the entire coil and cabinet surfaces. The aluminum impregnated coating restored deteriorated aluminum, greatly improving heat transfer. The UV resistant and hydrophobic properties of the coating further prevent corrosion, the build-up of dust and mold - allowing for easy cleaning.

Summary

The condensers performance is evaluated pre and post renovation. An ammeter is used to measure the current drawn from the condenser. Temperature recorders are used on both sides of the cooling coils to record the difference in temperature. The condenser Coefficient of Performance (COP) is calculated from the power drawn and heat transfer. Results show an increase in COP by 12.8%.

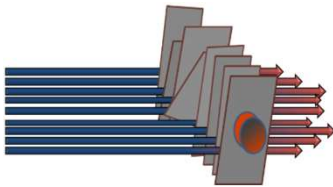
HVAC Armor offers state-of-the-art corrosion protection coatings and solutions that save energy, enhance performance, and rejuvenate HVAC equipment. HVAC Armor is part of ECM Holding Group, a collection of conservation technology firms serving North America's leading ESCOs and corporate clients. For more information, please visit www.hvacarmor.com, or call 920.267.6120.

Problem: HVAC Efficiency Decline

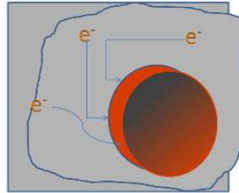
HVAC equipment varies widely in age, condition, and performance, so solutions needed to be specific to the equipment.

Three Types of Fin and Coil Deterioration:

1: Damaged Fins



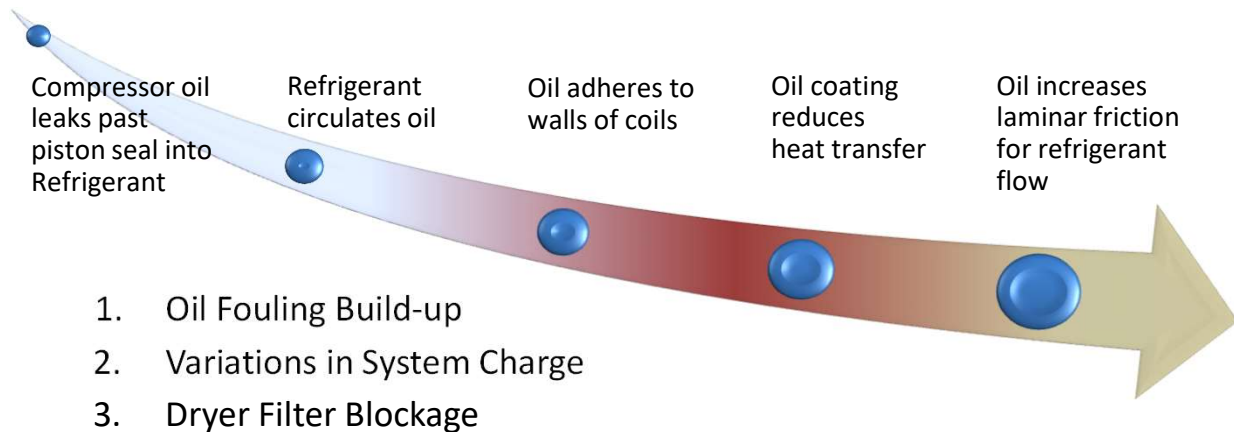
2: Fin Corrosion



3: Dirty Coils & Fins



Three Types of Refrigerant System Deterioration:



Solution: 7-Step Rejuvenation Process

This 7-step air-cooled HVAC rejuvenation process extends equipment life, and typically improves energy efficiency enough to payback the cost in 3 years.

Step 1: Pre-Inspection & Recommendations

- Review and document equipment condition to identify issues prior to service

Building	UNIT	Make	Model #	Type	Tons	Condition Status
CL1	AC-2	Trane Intellipak	SXHGC9040	RTU	90	Danger
CL1	AC-4	Trane	YCH090C4	RTU	7	Danger
CL1	AC-5	Trane	YCD060C4	RTU	5.4	Danger
CL1	AC-8	Trane	YCD102C4	RTU	9	Danger
CL1	AC-9	Trane	YCD240B4	RTU	20	Danger
CL1	AC-11	Trane Intellipak	SXHGD1340	RTU	130	Danger
CL1	AC-1	Trane Intellipak	SXHGC9040	RTU	90	Alarm
CL1	AC-10	Trane Intellipak	SXHGD1340	RTU	130	Alarm
CL1	AC-3	Trane	YCH090C4	RTU	7	Alert
CL1	AC-12	Trane Intellipak	SXHG1340	RTU	130	Alert
CL1	AC-6	Trane	YCD060C4	RTU	5.4	Acceptable
CL1	AC-7	Trane	YCH300B4	RTU	20	Acceptable

Step 2 & 3: Coil/Fin Service & Deep Clean

- Remove housings/casings
- Clean and straighten fins
- Deep clean coils from both sides



Step 4 & 5: Equipment Prep & Coating

- Mask off areas that do not need coating
- Apply corrosion inhibitor
- Spray coat coil from inside and from outside



Step 6 & 7: Refrigerant System Optimization

- Re-condition internal surfaces, filters, and fluids
- Replace dryer filters
- Level the charge to factory specifications

