Triangle Energy Concepts, Inc.
PO Box 7414, Thomasville, Ga. 31758

Dear Mike Perry, - KoolMaxx

This letter is to express my opinion as an Energy Consulting Engineer in analyzing the findings in the recent testing that you had Intertek perform on the Koolmaxx Products. After reviewing and evaluating the data provided, I have arrived at the following conclusions in accordance with the AC and Refrigeration oil fouling issues as expressed by ASHRAE.

It is well known that in the operation of a refrigerant compressor, the lubrication oil contained within, is circulated and fouls to inner surfaces slowing the migration of heat transfer. This decrease in the heat displacement coefficient results in lost efficiency as evidenced by the Intertek empirical data.

Unless oil fouling is removed, it can cover the heat transfer surface in the evaporator. This is also noticed at the expansion device where just a small amount of contaminants can result in restricted or plugged capillary tubes or sticky expansion valves. This can render the system completely inoperative or increase the kWh consumption and maintenance costs.

The effects on the heat transfer attributed to oil fouling according to ASHRAE are as follows: efficiency loss of 7% the first year, 5% the second, and 2% per year for the following years until eventually reaching a total loss of 20 to 30%. This must be managed or corrected to prevent wasted energy expenses and increased maintenance expenditures.

The test results would prove that Koolmaxx products are an excellent way to correct the oil fouling issue with a onetime treatment. By introducing the Koolmaxx solution which has a stronger affinity to the metal wall than the oil now adhering to the heat exchanger walls, it displaces the oil and attaches itself preventing any future oil fouling. This restores the efficiency lost and cleans the capillary tubes and expansion valves. The test results show no adverse effects after injection of the Koolmaxx and in fact shows improvement in performance with each additional cycle, confirming that it improves with length of use. Since the test were conducted on new equipment this also confirms that oil fouling does occur from the beginning of the equipment life.

With Intertek as a laboratory, conducting 80% of the testing on AC & refrigerant products on the market, I regard these findings as scientifically rock solid. There can really be no further discussion on the validity of this approach to maintaining heat displacement through prevent of oil fouling.

Sincerely,

Charlie Burgamy