



SERVICE AND APPLICATION NOTES

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Fin Lubricant Oil Stains Occurring on the Bottom of Air Conditioner and Heat Pump Shipping Cartons

ISSUE:

There have been reports of oil stains appearing on the bottom and lower sides of both air conditioner and heat pump shipping cartons. These oil stains have raised concerns that the oil is the result of a refrigerant leak. The oil causing the stains has been identified as a lubricant that is used during the manufacture of the aluminum fins for outdoor coils. The lubricant is migrating down the aluminum fins of the coil after assembly and onto the base pan. The lubricant accumulates around the perimeter of the base pan and drains out through the drain holes onto the bottom pad of the shipping carton, causing visible oily stains.

AFFECTED PRODUCT:

All air conditioning and heat pump outdoor units.

FACTORY ACTIONS:

The amount of fin lubricant being applied to the aluminum was reduced late last year to reduce the migration of excess lubricant onto the packaging.

FIELD ACTION:

The field can use the following observations to help determine the source of the oily deposits; fin lubricant or compressor oil due to a refrigerant leak.

- If the source is fin lubricant, it will be found primarily on the base pan. There will be little or no oil on the shell of the compressor, the motor / fan assembly or the copper plumbing.
- If the oil is the result of a refrigerant leak, it is likely distributed around the inside of the unit. A mist of oil from a refrigerant leak usually coats everything, including the compressor, copper plumbing, fan blades, etc. If the refrigerant leak occurred on the outside of the unit, it is usually visible as an oil stain on the corner posts and in the fin pack or around specific joints.
- Refrigerant oil will capture more soil than fin lubricant will.
- Fin lubricant is soluble in water, so it should easily wash off the affected areas. POE oil repels water and will bead up when exposed to water.

The pictures below illustrate typical fin lubricant draining results. The lubricant is seen around the perimeter of the base pan, and may show streaking toward the center of the pan.

