

METROPOLITAN NY CHAPTER Refrigeration Service Engineers Society

Continuing Education for the HVAC/R Industry

“Better Service Through Knowledge”

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SERVICING ICED-UP EVAPORATORS

An iced up evaporator is a common service call for any technician working in this industry. A visual inspection of the coil will always show this obvious problem—but visually inspecting the coil is not always so easy. The evaporator coil is usually enclosed in some type of housing, making it hard to inspect. It can also be mounted high up, as in the case of a large walk-in cooler or freezer, making it more difficult to inspect.

On a running system that is not cooling properly, most technicians will install their service gauges on the system and read both the suction and discharge pressures. A system with a *completely* iced-up coil will show lower than normal suction and discharge pressures. A technician could easily misdiagnose this condition as a system low on charge if they do not visually inspect the evaporator coil. If this happens and refrigerant is added to the system, they now have overcharged the system and have created an additional problem. It is vitally important to **visually inspect** the evaporator coil when troubleshooting a system with lower than normal suction and discharge pressures.

Visually inspecting the condition of the evaporator coil will aid the technician in determining if the system:

- is low on its' refrigerant charge,
- has poor or no airflow across the evaporator coil; or
- has a problem with it defrosting.

A system low on charge may show *some* icing on the evaporator coil, but it will normally only be at the inlet of the evaporator coil just at the outlet of the metering device. The icing will normally be contained to this area as opposed to the entire coil being iced up. A *completely* iced evaporator is normally the result of either inadequate defrosting or little or no air flow across the coil. The service

technician can determine either of these conditions by visually inspecting the evaporator fan(s) to make sure they are running in the proper direction and at full speed, and by inspecting the airflow leading to the evaporator coil to make sure the airflow is not blocked.

Once an evaporator has become iced up, it is important to **completely** de-ice the coil in order to properly repair the system. When de-icing an evaporator coil, be sure to not use any devices that could rupture any refrigerant lines in or around the evaporator. *Never use an ice pick or other sharp instrument to de-ice the coil!* The most efficient way to defrost a coil is with a heat gun or to initiate a defrost cycle, if possible. Using water is also an excellent method; however, this may not always be practical if draining the water is an obstacle.

Visually inspecting the condition of the evaporator coil is a useful step in troubleshooting any air conditioning or refrigeration system. This added step—which at times may be difficult or inconvenient—will aid any service technician in properly diagnosing a system.

~Joe Marchese, CMS, Greater Pittsburgh Chapter, PA
Past Int. Educational President, RSES

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**In the unlikely event of scheduled meeting cancellations,
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At 7:30 pm

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PRESIDENT'S MESSAGE

HAPPY NEW YEAR

We hope you had an enjoyable holiday season and are looking forward to a busy and prosperous year. Rich has been busy lining up speakers and a seminar. Of course, he is always interested in any suggestions ***YOU*** may have. Just go to our website and send him an email using the link under contacts. The start of the year is also a good time to sign up on our Facebook page. This page is for you, no end users are permitted. Having a problem with a job you can't solve? Post it on our Facebook page and maybe another member has a solution. The more technicians signed up the better the chance of a solution. We had a great turnout at our Holiday dinner last month. Thank you to all who attended. The food and educational presentation were great.

As we start a new year, why not make a New Year's Resolution to attend our monthly meetings. You never know when the knowledge you pick up at a meeting will come in handy.