DOW

The Mechanical Contractor's Guide

to Recommending and Maintaining
DOWTHERM and DOWFROST
Heat Transfer Fluids

There's no better protection for HVAC systems than DOWTHERM and DOWFROST inhibited glycol fluids.

DOWTHERM* and DOWFROST* inhibited glycol-based heat transfer fluids aren't the only choices for closed-loop, water-based systems, but they're certainly the best choices you can make for dependable, long-lasting freeze protection and corrosion resistance. Valuable extras like free seasonal fluid analysis, system design and technical assistance, and a broad selection of fluids to choose from will give you greater peace of mind and result in satisfied, loyal customers who are likely to depend on you for years to come.

Unlike many alternative fluids, DOWTHERM and DOWFROST fluids are formulated specifically to provide optimum performance in HVAC systems—season after season, year after year. Providing freeze-protection to temperatures as low as -60°F, DOWTHERM and DOWFROST fluids ensure that they can keep pumping year-round. And for systems that are idle during the winter, DOWTHERM and DOWFROST fluids provide burst protection to -100°F.

Corrosion protection is extremely important in maintaining the operating efficiency of HVAC systems. The special inhibitors in DOWTHERM and DOWFROST fluids have been developed to passivate the surface of metals in HVAC systems and to minimize corrosion by buffering organic acids that form during normal operation.

Why water, uninhibited glycols, and automotive antifreeze don't make the grade

Although water is an efficient and inexpensive heat transfer fluid, it can produce pressures strong enough to break coils and crack metal pipes when it freezes and expands. Water also contains chemicals and minerals that corrode the materials in HVAC systems. Uninhibited glycols, on the other hand, do offer freeze protection. But they're even more corrosive than plain water. Automotive antifreeze provides freeze protection and contains corrosion inhibitors, but it's formulated with silicates, which tend to gel, reducing heat transfer efficiency and clogging HVAC systems. What's more, automotive antifreeze must be changed every two to three years, adding significantly to both cost and maintenance requirements.

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In short, none of these fluids is an effective or cost-efficient alternative to DOWFROST or DOWTHERM fluids when it comes to a combination of freeze-proofing and corrosion protection.

What about "home brews"?

Some distributors offer their own unbranded inhibited glycol fluids. Although these generally provide adequate freeze protection, the reliability of the corrosion protection they offer is anybody's guess. These fluids typically undergo little or no testing, so they lack data substantiating their performance. Unbranded inhibited glycols may also be formulated with the same silicate-based inhibitors used in automotive antifreeze. These can reduce energy efficiency and reduce the life of pump seals. And like automotive antifreeze, they last only two or three years.

The right fluid can protect your reputation

The wrong fluid can damage more than the systems you're responsible for installing and maintaining. It can damage your reputation, too. Recommending DOWTHERM and DOWFROST inhibited glycol fluids can help you prevent system breakdowns caused by freezing or corrosion. You'll maintain your reputation while you avoid potential liability associated with system freeze-ups.

There's a quality Dow fluid for every need

We offer four fluids specifically formulated to improve the performance of closed-loop, water-based HVAC systems. And each is backed by Dow support services designed to help contractors and HVAC system owners keep systems operating at peak performance for years to come.

DOWTHERM SR-1 inhibited ethylene glycol-based fluid. The most widely used fluid for heating and cooling applications. It provides efficient heat transfer over an operating range of -60°F to 250°F. The specially formulated corrosion inhibitor package is easily maintained, long-lasting, and replenishable.

DOWFROST HD inhibited propylene glycol-based fluid. If there is a chance your HVAC fluid will inadvertently come in contact with groundwater or a potable water supply, or if regulations require the use of a propylene glycol-

based fluid, this is your best choice. What's more, the extra-strength corrosion inhibitors are specially formulated to provide added protection for copper components. The recommended use temperature range is -50°F to 325°F.

DOWTHERM 4000 inhibited ethylene glycol-based fluid. If your system involves higher temperature conditions, this fluid may be the answer. It operates between -60°F and 350°F—the highest maximum use temperature of any glycol. Its extra-strength corrosion inhibitors require extremely low maintenance.

DOWFROST inhibited propylene glycol-based fluid. If your application is in food processing, or if there's a chance that your HVAC water supply will come in contact with your drinking water supply, this fluid is an ideal option. DOWFROST fluid features specially formulated industrial corrosion inhibitors to help keep pipes free of deposits. This fluid's recommended use temperature range is -50°F to 250°F.

Proven performance in TES systems, too

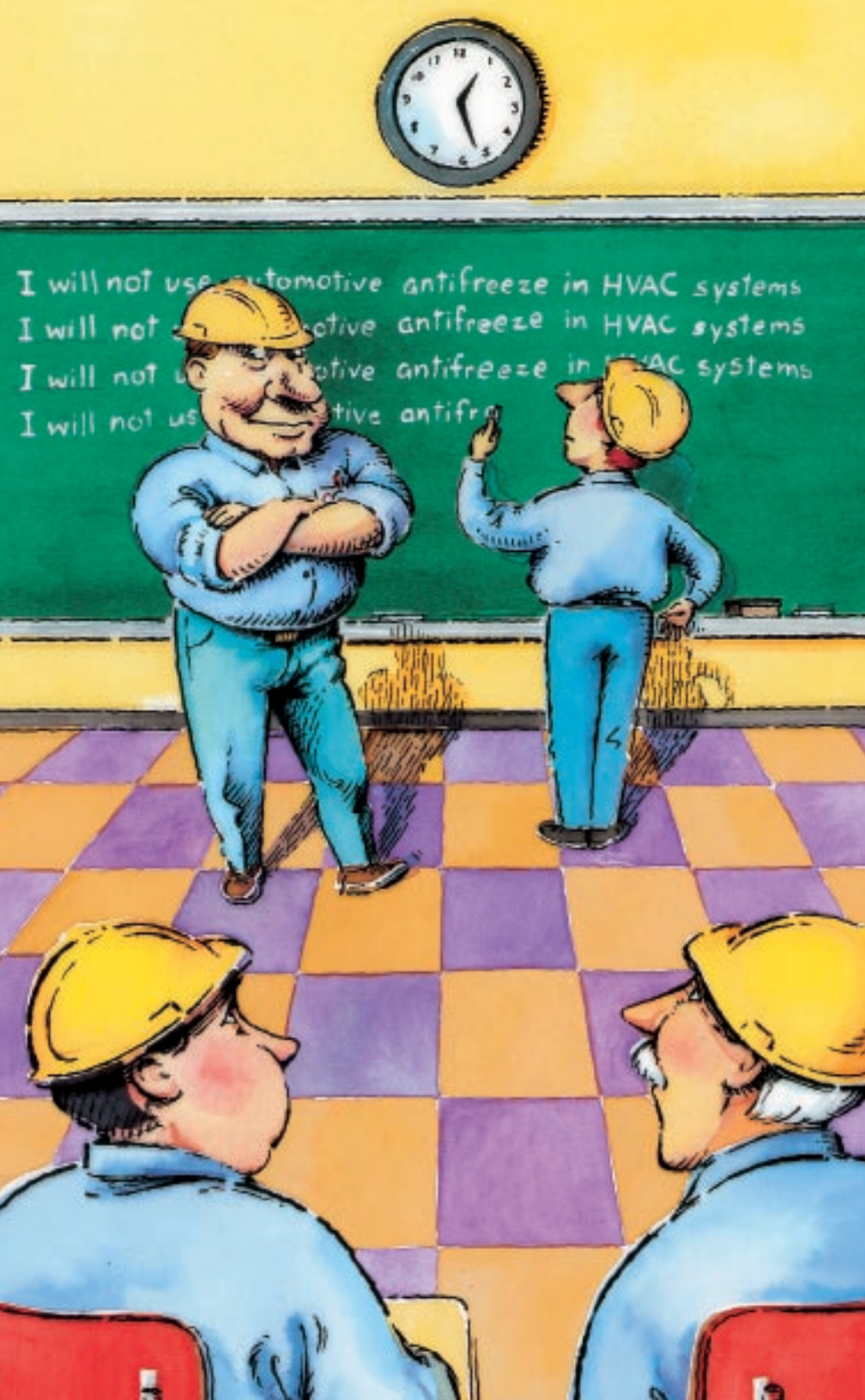
If you install or maintain glycol-based thermal energy storage (TES) systems, you may already be aware that major manufacturers of these systems recommend solutions of DOWTHERM SR-1 inhibited ethylene glycol fluid. The combination of low viscosity, superior heat transfer properties, corrosion protection, and resistance to freezing at 26°F makes these solutions ideal for TES applications.

Seasonal system checkups—your key to increased profits

Annual fluid checkups and appropriate preventive maintenance can prevent serious system damage resulting from freeze-ups and corrosion. That keeps customers happy, assures your peace of mind, and generates additional service income. And each fluid checkup can also lead to additional profit opportunities by...

- identifying opportunities to replenish or replace system fluids.
- detecting system problems that can mean repair and replacement business.
- earning you future business from satisfied customers and their referrals.

Establishing a steady flow of service business from existing customers provides a financial cushion that can help even out dips in your cash flow when other business is lean.


I will not use automotive antifreeze in HVAC systems
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I will not use automotive antifreeze

Fluid analysis adds value to your services

To make your services even more valuable to your customers, why not rely on the services we offer? For example, by including Dow's comprehensive fluid analysis service as part of your seasonal checkups, you can provide an important analytical safeguard to ensure that system fluids are in optimal operating condition.

The fluid analysis service includes a complete check of the following fluid conditions:

- reserve alkalinity
- fluid pH
- freezing point
- corrosion protection
- glycol concentration
- contaminants

This thorough analysis is available to users of DOWTHERM and DOWFROST inhibited glycol-based fluids with system fluid capacity of 250 gallons or greater. In addition to providing fluid analysis through our own analytical testing laboratory, our technical service personnel are also available to answer customer questions relating to thermal fluids in HVAC system applications.

Maintaining Dow fluids is as simple as ABC

Maintaining DOWTHERM and DOWFROST fluids couldnÕt be easier. If necessary, the freeze protection and corrosion resistance properties of Dow fluids can be replenished simply by adding fresh inhibitor concentrate. And thanks to the comprehensive fluid analysis we provide, we can help you determine the exact amount of inhibitor required to maintain optimal operating performance.

Dow fluids—in a class by themselves

With so many good reasons to choose Dow thermal fluids over the alternatives, why consider anything else? For the peace of mind that comes from relying on the best-performing, most widely-used, and best-backed inhibited glycol fluids available for HVAC applications, ask your distributor for DOWTHERM or DOWFROST heat transfer fluids. For the name of the Dow distributor near you, call 1-800-447-4369.

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