

# ECS Novitherm Heat Reflectors



If your building was built prior to 1980 and is heated by hot water or steam radiators/convectors, you are losing a significant amount of heat through the un-insulated exterior wall.

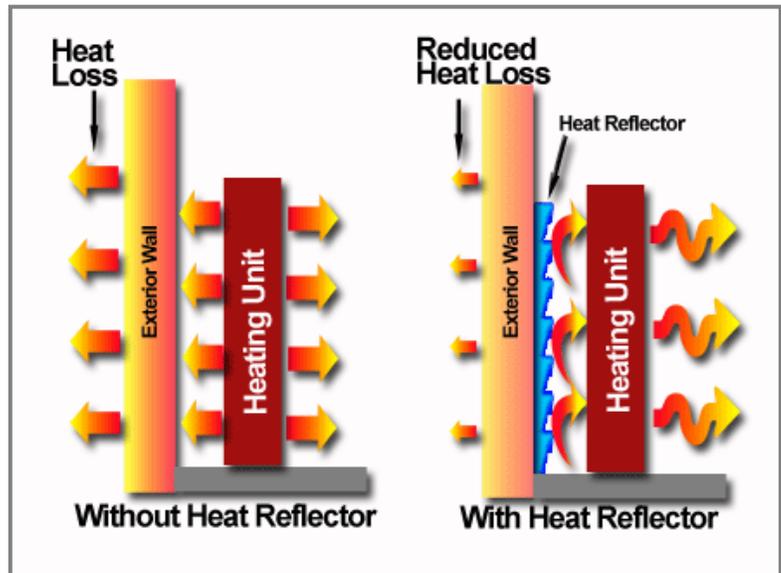
Novitherm Heat Reflectors reduce heat and energy loss by ensuring that most of the heat from your heating unit is passed into the room and not into the exterior wall.



The Heat Reflector is made of clear PVC plastic with an aluminized coating. The aluminized surface reflects over 90% of the infra-red heat, normally absorbed by the wall behind the heating units, back into the room. This immediately improves comfort levels and reduces your heating requirements.



The molded shape of the Heat Reflector traps air between the Heat Reflector and the wall surface. This creates a thermal barrier which reduces conductive heat loss to the exterior wall. The saw tooth profile of the Heat Reflector, increases air turbulence and circulation which improves room comfort.



You can use the Novitherm heat reflector to treat your entire building, or simply treat those units or rooms within units that frequently complain about being cold when most units are comfortable. This provides a simple, inexpensive and permanent solution to the problem.

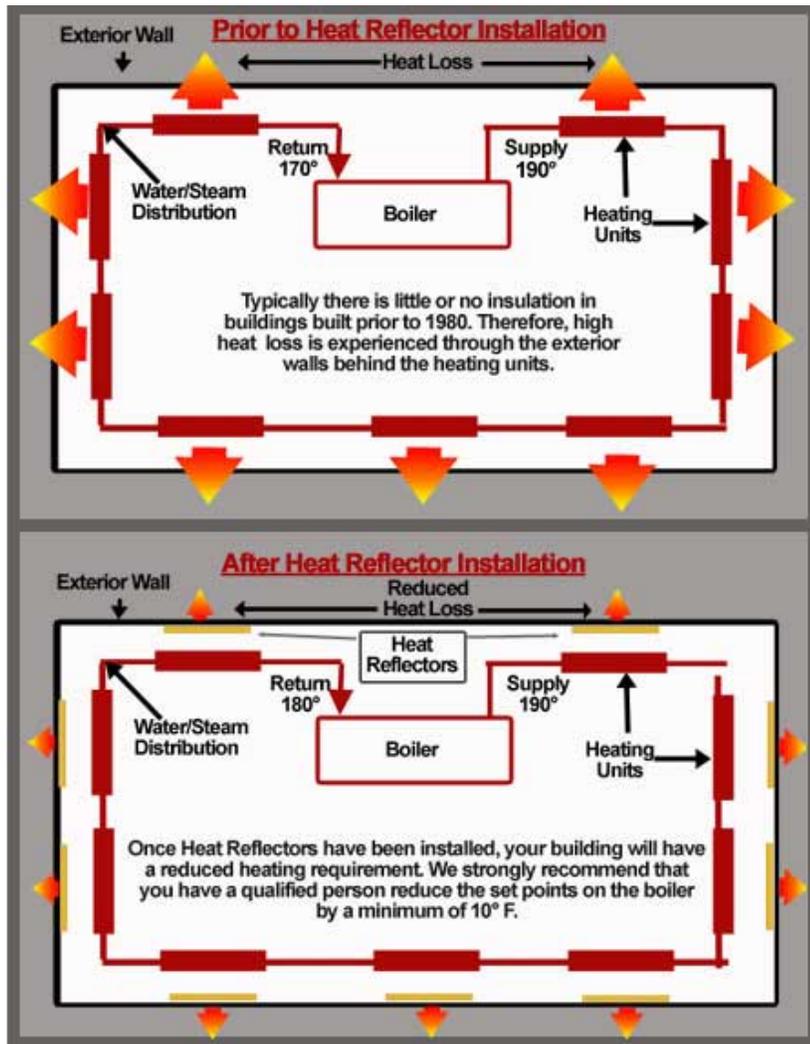
With the Heat Reflectors installed, the core of your heating unit is hotter and returns the water inside the system to the boiler at a higher temperature. This allows you to reduce the overall boiler water temperature to achieve the same or improved comfort levels. The reduction of the boiler water temperature reduces the amount of fuel required to re-heat the water, and you will save money.

Installing Heat Reflectors behind radiators, and within convectors and base board heating units, will allow you to take advantage of the above laws of thermal dynamics and heat transfer. Since the emissivity of the Heat Reflector is at 0.90 or higher, it will reflect at least 90% of the radiation that strikes it. Therefore, the exterior wall immediately behind the heating unit will not be exposed to high levels of radiant energy, which is typically conducted through the exterior of the building and lost. In addition, the insulating pockets of air behind the Heat Reflectors further reduce heat losses normally due to convective and conductive processes.

Due to this reduced heat loss behind each heating unit with the Heat Reflectors installed, the heating system will retain more heat. Much of the heat normally lost through the exterior wall will now remain in the water within the distribution system. This will result in less of a drop in temperature of the system's return water going back to the boiler room. Understandably, the greater

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the heat loss through the exterior wall behind the heating units, prior to the installation of the Heat Reflectors, the greater the increase in return water temperature after the Heat Reflectors are installed. The distribution system simply will not lose as much heat as it did before.



## Fire Resistance

The Heat Reflectors have been tested for smoke and flame spread by the Underwriters Laboratory of Canada (ULC) and rated in accordance with the following standards:

CAN/ULC-S102M (flame @ 30; smoke @ 60 to 85)

ASTM E84 (flame @ 15 to 40; smoke @ 105 to 135)

## Toxicity

When tested in accordance with draft EEC Document EN71, the Heat Reflectors were found to be safe to use where they would be accessible to children.

## Emissivity

Heat Reflectors are opaque to thermal radiation with a thermal reflectance of 90% to 92%.