



***Temporary Uses (Early Start-Up) of HVAC Systems
In Building Construction Projects –
The Realities and Risks of Using Permanent HVAC Systems***

Owners contemplating the use of temporary heat should understand the short and long term risks of using the permanent HVAC system for temporary heat. Permanent HVAC systems are specifically designed to provide comfortable, clean air conditioning for a tightly enclosed, soundly constructed building and not buildings under construction.

With rare exception, it is not in the best interest of the building's owner to operate permanent HVAC system for temporary heating or cooling purposes during construction. Equipment specifically designed to provide temporary heat is available, both for rental and purchase, and should be used to meet temporary construction requirements.

The risks to the building's owner when using the permanent HVAC system for temporary heat include:

1. Misuse of permanent HVAC systems to heat out (bake out) open areas under construction because such operations exceed design specifications. The filter systems - even with the addition of construction or pre-filters – are also incapable of providing the dust holding capacity required to protect the permanent HVAC equipment and duct system. Construction filters cannot sufficiently protect the permanent HVAC system from excessive amounts of construction dust, particularly the most common source, dust created from sheet rock sanding.
2. Use of the permanent HVAC system in an attempt to dry wet surfaces, such as drying recently-poured concrete floors to permit or expedite the installation of carpet or wooden floors. Permanent HVAC systems are not designed or constructed to perform in such a manner. Indeed such activities may result in subsequent IAQ problems associated with mold and other related airborne contaminants.
3. Initiation of the HVAC equipment warranty period when the equipment is started. Early startup of the permanent HVAC system for temporary heating, cooling, dehumidification, or for other reasons may also void the warranty on that system's equipment.

4. Early startup of the permanently installed HVAC system will result in reduced equipment life, operating efficiencies, and potential equipment damage. Understand, for example that:
 - Motors typically used in HVAC applications have open windings and the accumulation of construction dust raises the operating temperature and leaches oil away from bearings.
 - Coils are manufactured under very clean conditions but have by design residual oil on the heat exchanger surfaces, which cause dust not captured by filters to tightly adhere to the surface. This reduces the efficiency of the energy exchange, especially when cooling coils condense moisture causing certain types of dust (from sheetrock and plaster) to harden.
5. The potential of increased tenant complaints and claims. Dust and particulates in HVAC ductwork is increased exponentially when the permanently installed HVAC system is used for temporary heating, cooling or dehumidification during the construction process. In such circumstances, the stage is set for potential mold related conditions and consequent tenant complaints.
6. Total energy costs will generally be higher than the cost to use temporary heating, cooling and dehumidification equipment readily available in the market place. For a permanent HVAC system to have any beneficial effect in heating or cooling a construction site requires continuous operation at maximum capacity. In contrast temporary heating and moisture removal equipment use energy directed to exactly where it is needed and the total energy costs are usually less.

Field reports and years of industry experience with the detrimental effects of the misuse of permanent HVAC systems when used for temporary activities or tasks during construction should compel owners and their agents to make a more informed decision.

A well informed owner will choose the less risky path of using the proper temporary equipment to condition projects under construction.