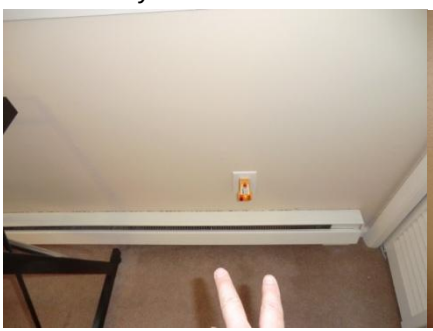
The electric heating system

Nowadays electric heat is widely used on both residential and commercial properties. It has become more and more acceptable as a reproductive energy source which is economical & stable comparing to other natural energy resources that cost keeps going high。

Furthermore，there are some advantages of using electric heat, clean, quiet, no intense combustion and no worry on the waste & exhaust discharge. It commonly does not need any circulation devices ex ventilation fan or water pump. The electric heating facility is simply and easy to install. Ex. baseboards can be installed anywhere in the building. They can be controlled either by room thermostat or the knob on their own, which can be run individually and saving on the energy cost. Also, it warms up fast and safe. The efficiency is close to 100%. The weakness is also apparent. If the whole building is only heated by electricity, the cost is outstanding. Plus, the wiring has to be under the Code. Otherwise not only the facility won't work properly but it is a safety hazard in some scenario.



Commonly seen electric heating facilities are baseboard, buried radiant heat conduit usually applied on townhouses, condos, suites of single houses and commercial. There are electric forced air furnaces and electric boilers which are the same running principle as gas fuel facilities we are familiar to. But if the electrical powered system kept the same input as gas fuel ex 100,000 BTU as common, the electric power supply requirement would be as high as 30 KW. This means about 125 A current needed only for the heating. Clearly, this is too high & costly to residential. Therefore, these systems are not often seen

In our inspection of this part, the most failure is the baseboards not responded to control. It could be the burnt elements or the wiring connection which are not hard & costly to fix. Secondly, no dedicated or unmarked breakers are the cause of potential wire overheated, aged and even fire. It will give trouble when something goes wrong and has to be fixed. Thirdly, due to the mechanical damage, the baseboard cover might not open or the fins deformed or blocked by dirt, which reduced the heat efficiency; In addition, the power outlets are installed above baseboards, which is usual on building but not a good practice. Once the wire is plugged in, it could be burned by heat. Even on in use, the outlet could be prematurely aged. Speaking of the buried radiant heat, mostly the conduit was buried in the floor of kitchen and bath. It is important to keep the floor water tight to avoid corrosion, short circuit or disconnection for moisture intrusion. Once it goes wrong, there are few chances to have it fixed. Addition is possibly the only choice.

The electric heating is not complex but many are added by amateurish work. So, the inspection is essential.