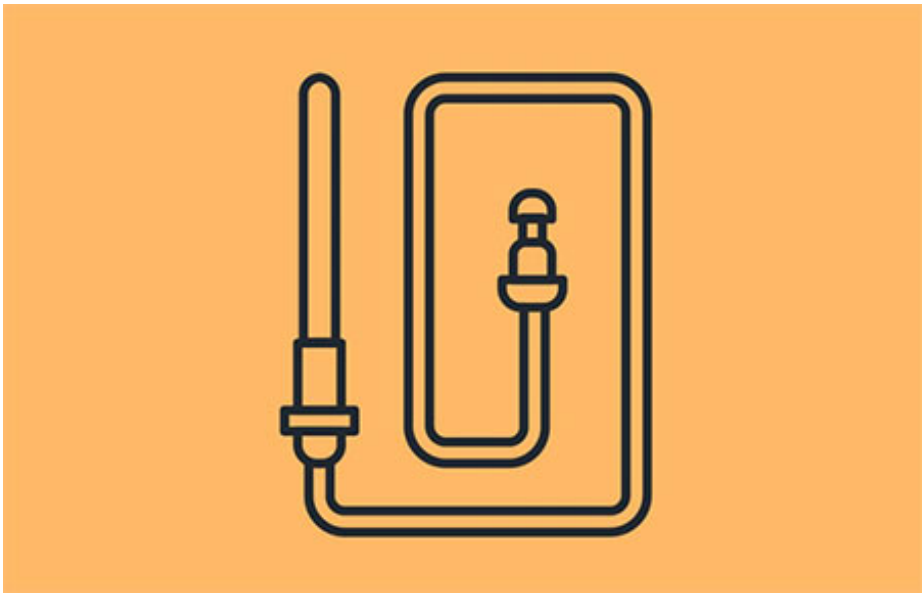
Rules of Good Thermocouple Practice

By: - August 13, 2020



(abcimg://icon%20of%20a%20thermocouple)

With proper installation and normal conditions, thermocouples (/en/products/sensors/thermocouples)can be depended upon to give trouble-free service and long life. Occasionally though, difficulties may be encountered resulting from improper application or operation. This short guide serves to help thermocouple users obtain the accuracy and economy for which the thermocouple alloys are produced.

Protect thermocouples in service

Evaporation, diffusion, oxidation, corrosion and contamination induce electromotive force (EMF) drift due to their effect on the composition of thermocouple alloys. As much as these environmental factors are destructive to all common thermocouple materials, it is essential that proper protection be provided whenever adverse conditions are encountered. In many applications, this requirement can be met using sheathed unit construction.

If bare wire thermocouples are used, the thermoelements must be properly installed in suitable protection tubes. When the interiors of such tubes are clean and free of sulphur-bearing oils, refractories, etc.—and when they are of the proper diameter-to-length ratios to permit adequate ventilation inside — they serve admirably in overcoming the harmful effects of a corrosive atmosphere.

Use the largest practical wire size