

COEFFICIENT OF EXPANSION

Related to metal used in mechanical circuit breakers.

Temperature coefficient of expansion works like this:

2 dissimilar pieces of metal – the exact same size

Both are at the same temperature

You increase the temperature of both pieces the same amount.

When measured, the piece of metal that is the longest has a

Higher Coefficient of Expansion

Temperature coefficient is: the number of units-change per degree Celsius change from a specified temperature.

Mechanical circuit breakers use two different metals fused into one current carrying strip. Current causes the strip to heat up. The metals in the strip have different “coefficients of expansion”. They expand at different rates resulting in the bending of the strip. The bending causes a set of contacts, fused to the strip to open shutting off the current. Once cooled, the metals return to their original shape and the contacts close. This process is repeatable.

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