

TECH NOTE

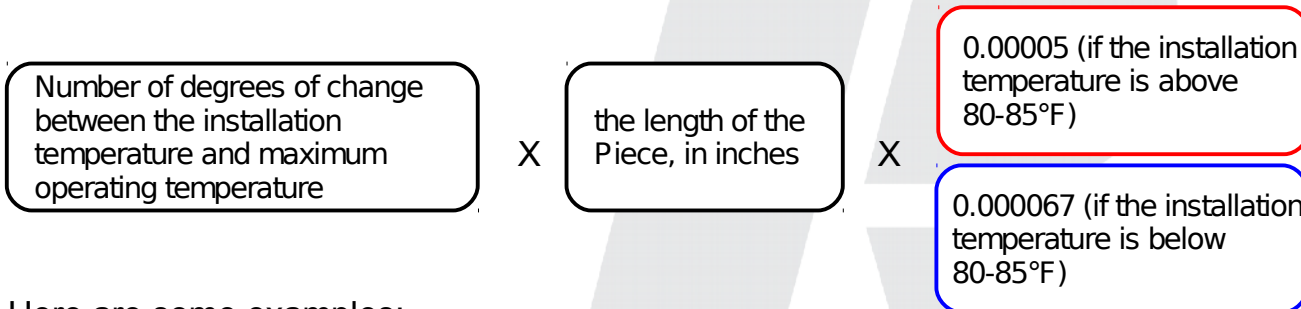
ISO 9001:2008

ISO 14001

TAKING INTO ACCOUNT THE THERMAL EXPANSION & CONTRACTION WHEN MACHINING NYLON

When working with Nylon material, we must understand that it reacts to temperature fluctuation. The best procedure to follow when machining Nylon at the factory is to cut it to size at a temperature of about 75°F; if we don't, then we risk having dimensional issues later on. Nylon is a thermal plastic, hence it will expand when subjected to high temperatures and contract at low temperatures. Always take into account the installation temperature.

Here is a working formula to help you when machining Nylon based parts:



Here are some examples:

>A) Expansion Example:

Installing at 78°F the maximum operating temperature can reach 150°F and the piece is 120" long:

150° - 78° = 72° temperature change
 72 x 120 x .00005 = .432" expansion

>B) Contraction Example:

Installing at 78°F the lowest operating temperature could reach -200°F and the piece is 120" long:

78° +20° = 98° temperature change
 98 x 120 x .000067 = .788" contraction



If you follow these simple guidelines, you'll avoid headaches later on!