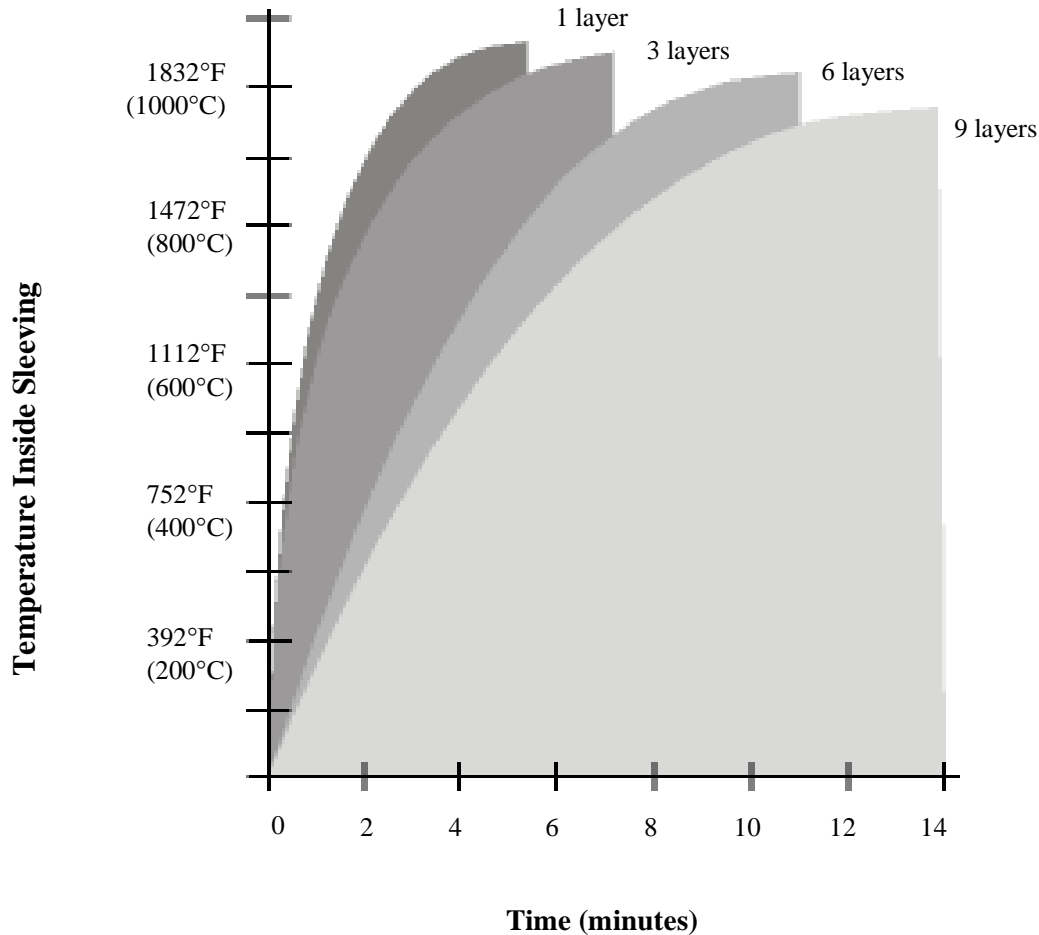


Thermal Protection

3M™ Nextel™ Braided Sleeving 312



Temperature inside sleeving at various times after insertion into 2000°F (1093°C) furnace for increasing layers of 3M Nextel Sleeving. Braid was 1 in (2,54 cm) in diameter and was 0.039 in (0,097 cm) thick.

The chart above compares the effect of increasing layers of 3M Nextel Braided Sleeving 312 in a heat soak exposure. It demonstrates that for short periods of time there is a substantial reduction in internal temperature using multiple layers of sleeving. However, as the length of time increases the internal temperature approaches equilibrium with the furnace temperature and the effect of multiple layers of sleeving is diminished. Specifically, samples containing 1, 3, 6, and 9 layers of sleeving respectively were fabricated over a 0.75 inch (1,91 cm) metal tube. The samples were immersed in a furnace at 2000°F (1093°C)

and the temperature inside the tube was measured. No cooling air was allowed to pass through the metal tube. The internal temperature with one layer of sleeving reaches equilibrium with the furnace temperature within 5-6 minutes while the internal temperature with nine layers reached only 1100 °F (593°C) in the same time period. As would be expected, constructions with 3 and 6 layers of sleeving had internal temperatures between those values.