

TECHNICAL UPDATE - TU-6015

SUBJECT: Temperature Ratings of Fluoropolymer Tubes in Dekoron/Unitherm Bundles

The temperature rating of the common fluoropolymer compounds such as TFE, FEP, and PFA, the temperature rating must be related to application. In other words, under what conditions is the Teflon being used. For example, TFE insulated wires are generally rated for use at 250°C (482°F). These wires can be subjected to continuous exposure to 500°F for weeks with no noticeable melting or loss of properties. However, if this wire is subjected to flexing while heated it will likely crack and fail. Just as these different cases require different maximum temperature ratings, so does Teflon used in tubular form.

There is no formal temperature rating for the various compounds of Teflon in tubular form. Dekoron/Unitherm developed the following guidelines based our fluoropolymer tubing used in standard Continuous Emissions Monitoring applications with continuous temperature exposure for pressures ranging from a moderate vacuum to 30 PSIG.

TFE fluoropolymer - 450°F (232°C)
PFA fluoropolymer - 400°F (204°C)
FEP fluoropolymer - 300°F (149°C)

Under different circumstances, the maximum temperature rating will vary. Consult your local tubing supplier for more application specific information on various tube sizes, pressure ratings, wall thickness, and intermittent temperature ranges.