TECHNICAL UPDATE - TU-2001

SUBJECT: Thermistor Temperature Sensors in Dekoron Unitherm Products

Thermistor temperature sensors are a class of solid state devices where the resistance of the device changes a known amount over a very finite tempeature range. They are similar to platinum RTD sensors in this respect.
Thermistors, however, work over a very narrow range of temperature. Where the temperature range of an RTD may be -200°C to +850°C, a thermistor may have a range of +20°C to +30°C.
Additionally, the resistance of a thermistor may increase with an increase in temperature (PTC) or decrease with an increase in temperature (NTC).
Also, where an RTD has a small increase in resistance over its range (~372 ohms) a thermistor may vary 48,000 ohms over a range of 50°C.
Temperature sensing systems that use thermistors are designed for a certain resistance change indicating a specified change in temperature. As such, a specific thermistor must be specified and used. Substitutions are generally not an option.
For these reasons, Dekoron Unitherm will only install thermistor temperature sensors in a heated product:
1. If the customer specifies the exact manufacturer and model number of the required thermistor, and that thermistor is available;
2. The customer supplies the thermistor for installation into the product.