

TECHNICAL UPDATE - TU-1002

SUBJECT: Useful Life of Unitherm Traced Bundles

3/26/01

The question often comes up; "How long will Unitherm bundles last?"

The answer to this question rests more with how the bundle is installed and used than with how the bundle is built.

The materials and components used in Dekoron / Unitherm Traced and Preinsulated bundles were selected because they withstand the rigors of service.

There are Dekoron / Unitherm bundles in service today that were built in the early 1970's and are operating the same as they did 25 years ago.

But this does not mean that all bundles will last this long. Many bundles are installed with only slight regard for the installation and application guidelines supplied by Dekoron / Unitherm.

Bundles are installed without proper seals to prevent rain and contaminated water from seeping under the outer jacket. This ruins the insulation, creates hot spots, and can actually create enough pressure to blow the jacket off the bundle if the water turns to steam.

Contaminated water is also a leading cause of stress corrosion cracking in austenitic stainless steel tubing bundles.

Bundles are also installed without proper spacing. This leads to overheating and jacket embrittlement.

The brittle jacket cracks and falls off, leaving the insulation exposed.

Other problems like: routing too close to a furnace or stack, chemical spills, airborne chemicals that attack certain materials, salt spray, and excessive vibration can shorten the life of the bundles. These problems can generally be remedied by following installation guidelines and selecting materials that will resist the chemicals in the area.

These problems do not occur quickly. Even an improperly installed and terminated bundle may operate for years before the failure occurs.

But in any event, the length of service for an improperly installed bundle is no where near life seen in a proper installation.

But the question is still; "How long will Unitherm bundles last?"

That is hard to say. The bundles are more likely to be replaced due to changes in the plant operation or equipment than they are because of problems with the bundle.

If they outlast the balance of the plant, then they have lasted long enough.

