



## Steam Tracing

The availability of steam at most chemical plant sites, coupled with its thermodynamic properties and relative ease of use, make steamtracing an attractive heat-transfer medium for many heat-tracing applications in chemical and petrochemical plants.

Unitemp supplies quality steam tracing components suitable for a variety of steam tracing applications; including pre-insulated tubing, pre-form heat transfer products and heat transfer cement.

### ThermoTube (pre-insulated tubing)

ThermoTube construction consists of a single insulated copper or stainless steel process tube ideally suited to transport steam, hot or cold liquids, gases or refrigerants. Pre-insulated with nonhygroscopic glass fibre, the tube is complete with a heat reflective foil wrap and a weatherproof outer covering. ThermoTube can also be manufactured in a variety of optional process tube materials, wall thicknesses and outer coverings to meet a multitude of applications.

#### Specifications / Ratings

|                                     |  |
|-------------------------------------|--|
| Available standard tube diameters:  | 1/4", 3/8", 1/2" & 3/4" (6,8,10,12 & 20mm) |
| Maximum process temperature:        | 204°C                                      |
| Minimum installation temperature:   | -10°C                                      |
| Maximum recommended steam pressure: | 1825kPa                                    |

ThermoTube is supplied in long length coils and can be quickly and easily installed. The pre-insulated feature of ThermoTube allows installation to be completed in one step as opposed to multiple steps required when using field-installed materials. Ease of installation is further enhanced by the ability to attach ThermoTube to existing cable trays, angles, channels, struts and I-beams.

### SnapTrace (heat transfer compound)

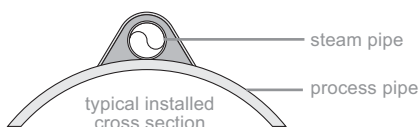
SnapTrace is flexible heat transfer compound (preformed in 1.22m sections) designed for rapid installation on straight piping runs. Unitemp's heat transfer compounds provide an efficient thermal connection between the tracer and the process pipe. By eliminating the air voids that would normally exist, heat is directed into the pipe wall primarily through conduction rather than convection and radiation. A single tracer utilizing snap trace has the equivalent performance of 3 to 5 air convection (bare) tracers. Snap Trace includes TFK galvanised steel channel, providing mechanical and weather protection to the installation.

#### Specifications / Ratings

|                                   |       |
|-----------------------------------|-------|
| Minimum process pipe diameter:    | 40mm  |
| Minimum steam pipe diameter:      | 12mm  |
| Maximum exposure temperature:     | 208°C |
| Minimum exposure temperature:     | -73°C |
| Minimum installation temperature: | -12°C |

#### Benefits of SnapTrace include:

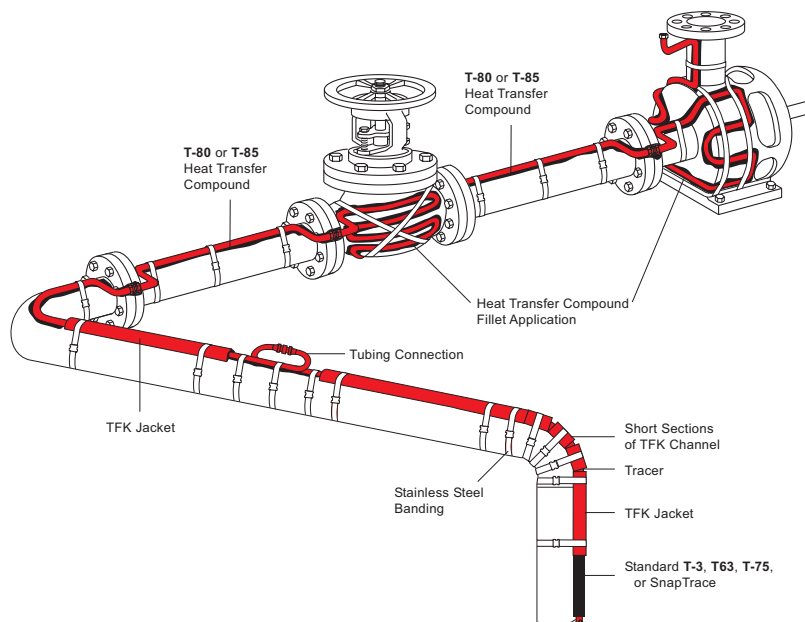
- no surface preparation required
- installation times are 5 times faster
- non-soluble in water
- requires no curing procedures
- increases heat transfer rates significantly over bare tracing
- factory-formed to fit the tracer and pipe.



Heat transfer compounds product selection chart

| Product                          | Heat transfer cement  |                                  |  |   |  |   | SnapTrace*   |
|----------------------------------|---|----------------------------------|--|---|--|---|--|
|                                  | Standard T-3  | T-63                             | T-80   | T-85                                      | T-802  | NH Nonhardening   |  |
| Standard Use                     | Provide an efficient thermal connection between tracer and process equipment for high temperature maintenance or high exposure temperatures. Also used with ChannelTrace system featuring TFK galvanized steel channel. |                                  | Suitable for use in areas of extreme moisture and/or corrosive environments with low to medium exposure temperatures. These products are particularly suited for valves and similar equipment. |   | Self-curing - no heat required. Suitable for use in areas of extreme moisture and/or corrosive environments. | Used where periodic disassembly is necessary or for plate-type heating coils. | Preformed compound designed for rapid, consistent installation under TFK channel on straight runs of piping. |
| Maximum Exposure Temperature     | 700°F (371°C)   | 1,250°F (677°C)                  | 325°F (163°C)  | 375°F (190°C)                             | 275°F (135°C)  | 375°F (190°C)   | 406°F (208°C)  |
| Minimum Exposure Temperature     | -320°F (-196°C)   |                                  | -320°F (-196°C)  |   | -320°F (-196°C)  | -320°F (-196°C)   | -100°F (-73°C)   |
| Minimum Installation Temperature | 32°F (0°C)  |                                  | Ambient 0°F (-18°C)<br>Product 10°F (-12°C)  | Ambient 32°F (0°C)<br>Product 70°F (21°C) | 32°F (0°C)   | Ambient 32°F (0°C)<br>Product 200°F (93°C)                                    | 10°F (-12°C)   |
| Heat Transfer Coefficient, U     | Tracer to pipe wall<br>20-40 Btu/hr·°F·ft²<br>(114-227 w/m²·°C)   |                                  | Tracer to pipe wall<br>20-40 Btu/hr·°F·ft²<br>(114-227 w/m²·°C)  |   | Tracer to pipe wall<br>20-40 Btu/hr·°F·ft²<br>(114-227 w/m²·°C)  | Heater to tank wall<br>20-40 Btu/hr·°F·ft²<br>(114-227 w/m²·°C)               | Tracer to pipe wall<br>20-40 Btu/hr·°F·ft²<br>(114-227 w/m²·°C)  |
| Bond Shear                       | 150 lbs/in² (1.034 kPa)   |                                  | 1,000-1,800 lbs/in²<br>(6,895-12,411 kPa)  |   | 1,000 lbs/in²<br>(6,895 kPa)   | N/A   | 100-150 lbs/in²<br>(689-1,034 kPa)   |
| Start-Up Technique               | No special curing procedure required if installed with TFK channel; otherwise, compounds must be cured for 4-12 hours at 160°F to 212°F (71°C to 100°C).  |                                  | No special curing procedure required. T-80 and T-85 cure in 4-12 hours at 212°F to 325°F (100°C to 163°C).   |   | No special curing procedure required.  | No special curing procedure required.   | Must be heated to 200°F (93°C) to promote surface wetting and curing.  |
| Method of Installation           | Hand trowel or use with TFK channel (Carbon steel tube tracers are not recommended) (ALP primer must be applied to aluminum surfaces)   |                                  | Manual or air-powered cartridge gun (Electrically heated barrel available)   |   | Hand trowel  | Hand trowel on plate-type heating coils                                       | Use with TFK channel   |
| Water Soluble                    | Yes   |                                  | No   |   | No   | No  | No   |
| Electrical Resistivity           | 0.267 ohm/inch<br>(0.105 ohm/cm)  | 3.3 ohms/inch<br>(1.299 ohms/cm) | 146 ohms/inch (57 ohms/cm)   |   | 146 ohms/inch<br>(57 ohms/cm)  | 320 ohms/inch<br>(126 ohms/cm)  | 146 ohms/inch<br>(57 ohms/cm)  |
| Shelf Life                       | 1 Year  |                                  | 90 days for 1/10-gallon (0.379 liter) cartridges, 30 days for 1 and 5-gallon (3.79 and 18.93-liter) cans, (Shelf life can be extended up to 1 year is material is stored below 40°F [4°C]).    |   | 1 Year (unmixed)   | Indefinite  | Indefinite   |
| Container Size Available         | 1-gal (3.79 l) cans<br>5-gal (18.93 l) cans   |                                  | 1/10-gal (0.379 l) cartridges<br>1 and 5-gal (3.79 l and 18.93 l) cans   |   | 1-quart (0.946 l) cans<br>1-gal (3.79 l) cans  | 1-quart (0.946 l) cans<br>1-gal (3.79 l) cans<br>5-gal (18.93 l) cans         | 4-foot (1.22-m) lengths<br>25 sections per box   |
| Weight per Unit                  | 14 lbs (6.4 kg)/gal   |                                  | 13 lbs (5.9 kg)/gal  |   | 13 lbs (5.9 kg)/gal  | 13 lbs (5.9 kg)/gal   | 0.33 lb/ft (0.05 kg/m)   |

Note: SnapTrace heat transfer compounds must be heated to a temperature of at least 200°F (93°C) to promote surface wetting and curing. For applications where the heating media and the equipment will be below 200°F (93°C), the materials must be heated to 200°F (93°C) before returning to the lower operating temperature.



T-3, T-63, T-802



NH nonhardening



T-80, T-85



Snaptrace