



# ThermTrac™ Skin-Effect Systems

## Application

Pipelines which transfer product over long distances often require heat tracing to facilitate material flow and prevent freeze-ups. Electric heat tracing is usually the most economical method. Thermon has the products and the application knowledge to offer the best solution.

## Heat Tracing Selection

Proper selection of the heating method and materials can easily be shown with the following example. The reduction of the number of power points is the decisive factor.

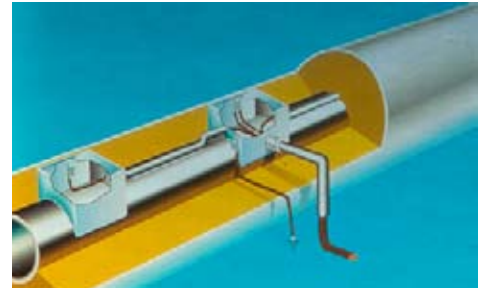
Length of pipe ..... 1000 meter  
 Insulation polyurethane..... 50 mm  
 Maintenance temperature ..... 60 °C  
 Minimum ambient temperature ..... -20 °C

Heat Tracing Layout Options	Cable Length (m)	Number of Power Points
Thermon SX self-limiting cable	3200	11
Thermon TESH series cable	6150	4
<a href="#">Thermon ThermTrac™ system</a>	1000	1

**With a ThermTrac™ system a pipeline length up to 20,000 m can be traced with one single power point!**

## Operating Characteristics

The heating element of the ThermTrac™ system incorporates a ferromagnetic heating tube and a copper, insulated, heat resistant conductor. These two components are connected to each other at one end of the circuit with the conductor installed inside the heat tube, and connected to an alternating current (AC) power source at the other end. When the system is energized, current flows through the heat resistant conductor to the connection point, then is concentrated into the inner surface of the heat tube by the skin effect phenomenon and the attendant proximity effect. This electromagnetic interaction insures that the return current flow travels on the inner surface of the heat tube with virtually no measurable voltage on the outer surface.



PRODUCT / APPLICATION INFORMATION



**THERMON . . . The Heat Tracing Specialists®**

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