

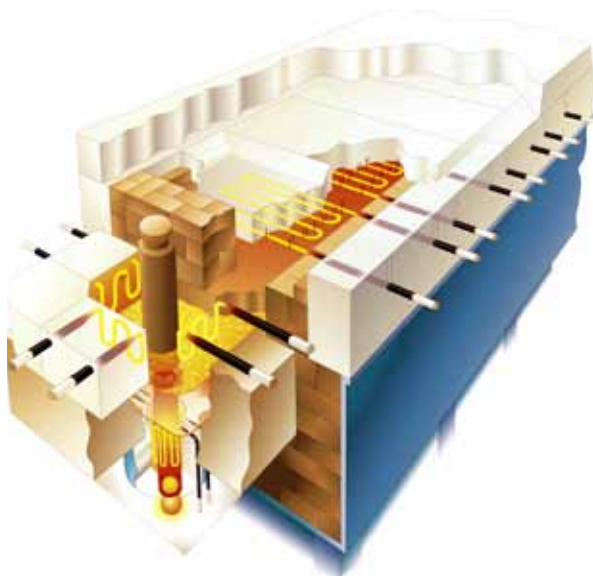
Superthal™ heating modules

Flat panels

Steeply reduced energy consumption – precise temperature control

Superthal™ Flat panels are commonly used in the glass industry as overhead heaters of feeder forehearth.

The panels consist of Kanthal® Super molybdenum disilicide (MoSi_2) heating elements integrated into reinforced ceramic fiber.



SPECIAL FEATURES

- Reduced energy consumption
- Precise temperature control
- Uniform temperature distribution

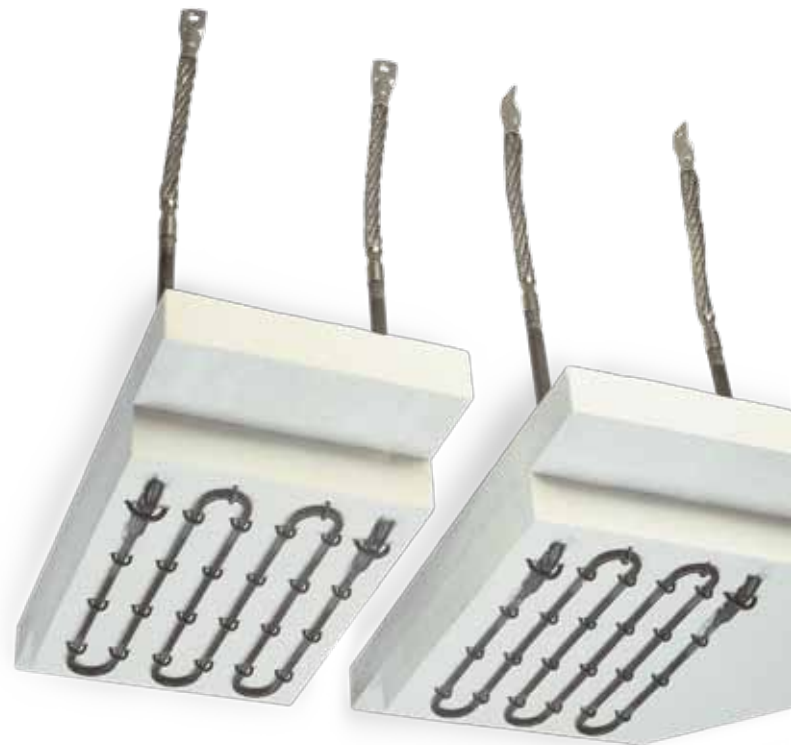
The maximum power output is 150 kW/m^2 (14 kW/ft^2) and the maximum length to span the feeder is 1000 mm (39.4 in). The operating temperature is up to 1600°C (2910°F) in air atmospheres.

The panels are specially designed to fit the requirements of each specific feeder in terms of power and dimensions.

The general experiences from a great number of installations are that the energy consumption is steeply reduced, often up to 40%, and that a precise temperature control is obtained, contributing to an improved glass quality.

Applications

- Feeder forehearth in the glass industry
- Metal holding furnaces



Technical information

Specifications

The flat panels are heated by Kanthal® Super MoSi₂ heating elements with the terminals either straight or 90° bent with fixed contacts. Element dimension and configuration depending on demands.

The panels are designed for horizontal use.

The standard thickness of the fiber is 125 mm (4.9 in). The dimensions and heating element layout on each panel are specially designed.

Sandvik can give detailed technical advice on design and installation. Installation is very simple and takes normally 1–2 days for a feeder.

Product name

Superthal™ Flat panels.

PROPERTIES

Element type	Kanthal Super
Terminals	Straight or bent 90°, fixed contacts
Max continuous operating temperature	1600°C (2910°F)
Max power output	150 kW/m ² (14 kW/ft ²)
Standard thickness	125 mm (4.9 in)
Max length	1000 mm (39.4 in)

Sandvik Group

The Sandvik Group is a global high technology enterprise with 47,000 employees in 130 countries. Sandvik's operations are concentrated on three core businesses: Sandvik Tooling, Sandvik Mining and Construction and Sandvik Materials Technology – areas in which the group holds leading global positions in selected niches.

Sandvik Materials Technology

Sandvik Materials Technology is a world-leading manufacturer of high value-added products in advanced stainless steels and special alloys, and of medical implants, steel belt-based systems and industrial heating solutions.

Kanthal is a Sandvik owned brand, under which world class heating technology products and solutions are offered. Sandvik, Kanthal and Superthal are trademarks owned by Sandvik Intellectual Property AB.

Quality management

Sandvik Materials Technology has quality management systems approved by internationally recognized organizations. We hold, for example, the ASME Quality Systems Certificate as a materials organization, approval to ISO 9001, ISO/TS 16949, ISO 17025, and PED 97/23/EC, as well as product approvals from TÜV, JIS and Lloyd's Register.

Environment, health and safety

Environmental awareness, health and safety are integral parts of our business and are at the forefront of all activities within our operation. We hold ISO 14001 and OHSAS 18001 approvals.

Recommendations are for guidance only, and the suitability of a material for a specific application can be confirmed only when we know the actual service conditions. Continuous development may necessitate changes in technical data without notice.

This printed matter is only valid for Sandvik material. Other material, covering the same international specifications, does not necessarily comply with the mechanical and corrosion properties presented in this printed matter.

