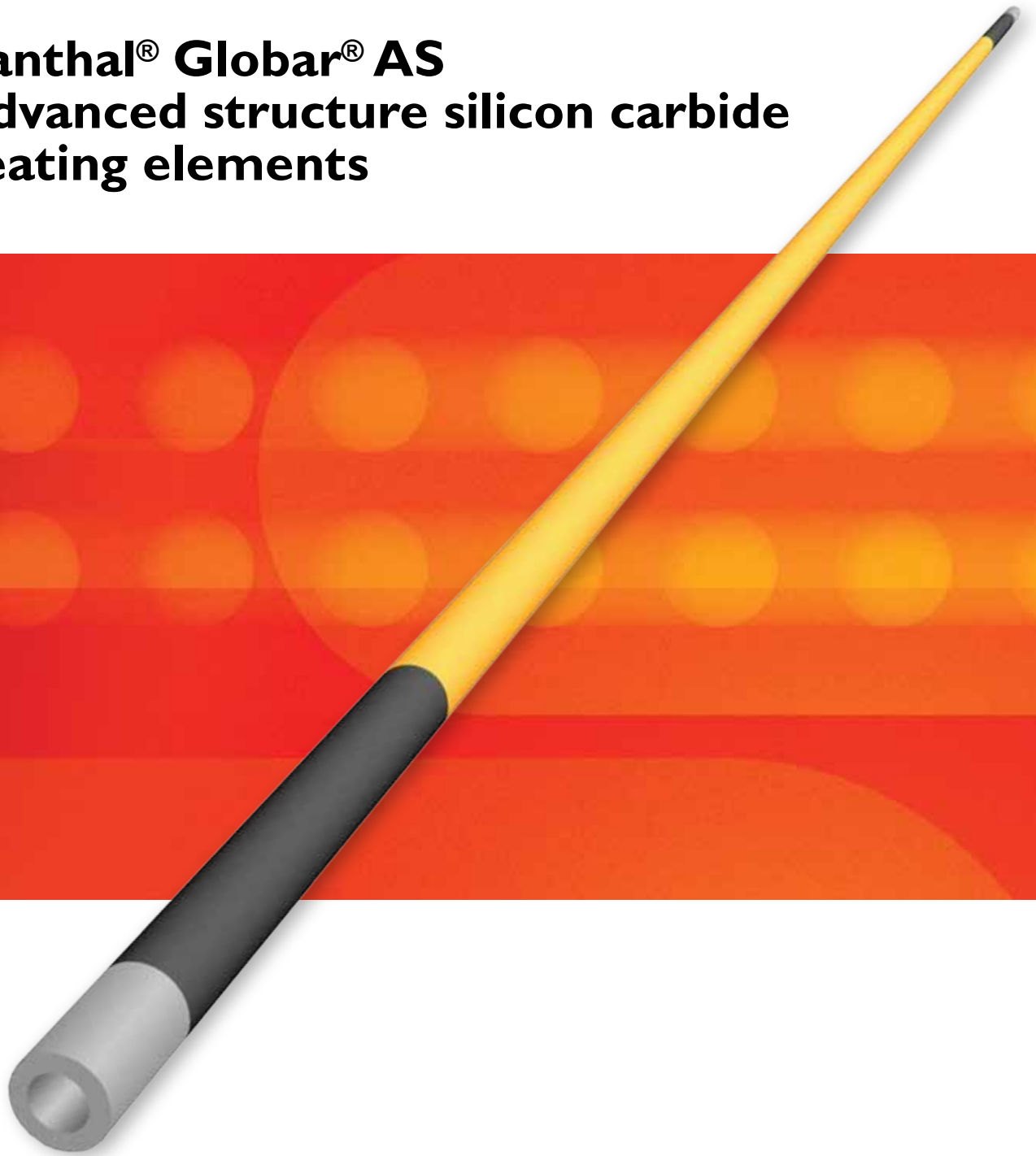


Kanthal® Global® AS
Advanced structure silicon carbide
heating elements



KANTHAL

Kanthal® Global® AS elements

Strength, reliability and performance

Kanthal is the heating technology brand within Sandvik; the world's leading manufacturer of silicon carbide (SiC) heating elements. Our advanced structure silicon carbide heating element, Kanthal Global AS, is a high performer in the Kanthal Global elements range.

Based on a completely new formulation, Kanthal Global AS element material offers optimized particle size distribution, uniform pore distribution, and a consistency of structure unmatched by comparable products in the market today.

The material offers higher mechanical strength, greater consistency and repeatability of performance, and greater resistance to chemical attack, opening up new areas of application, and improving the performance in existing furnaces and equipment.

Kanthal Global AS elements are designed to be interchangeable with the majority of standard products in the market, so upgrading performance of equipment is as easy as replacing the existing heating elements with Kanthal Global AS. No changes to the equipment or power supply will be required.

Key applications

Primary aluminum industry

- Tilting holding furnaces

Flat glass industry

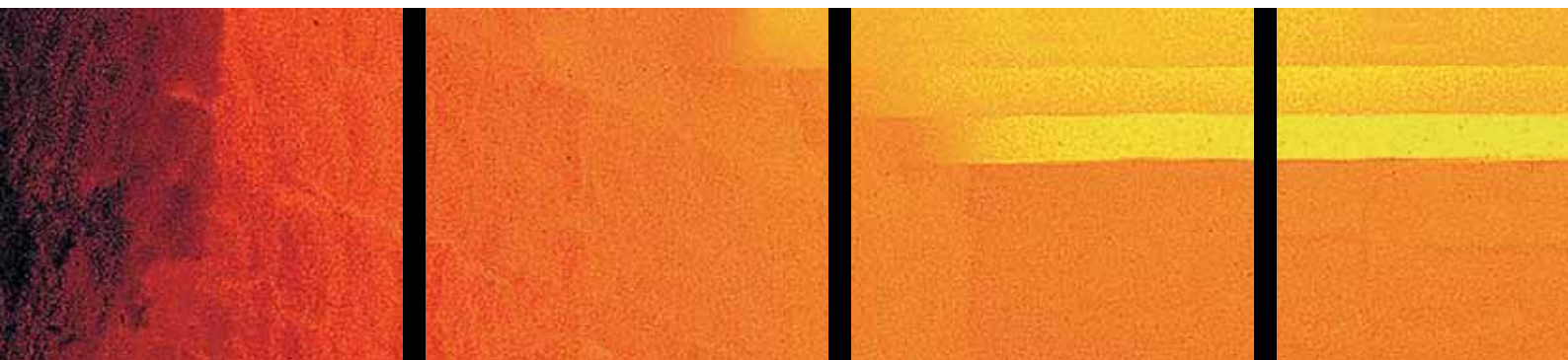
- Horizontal float elements

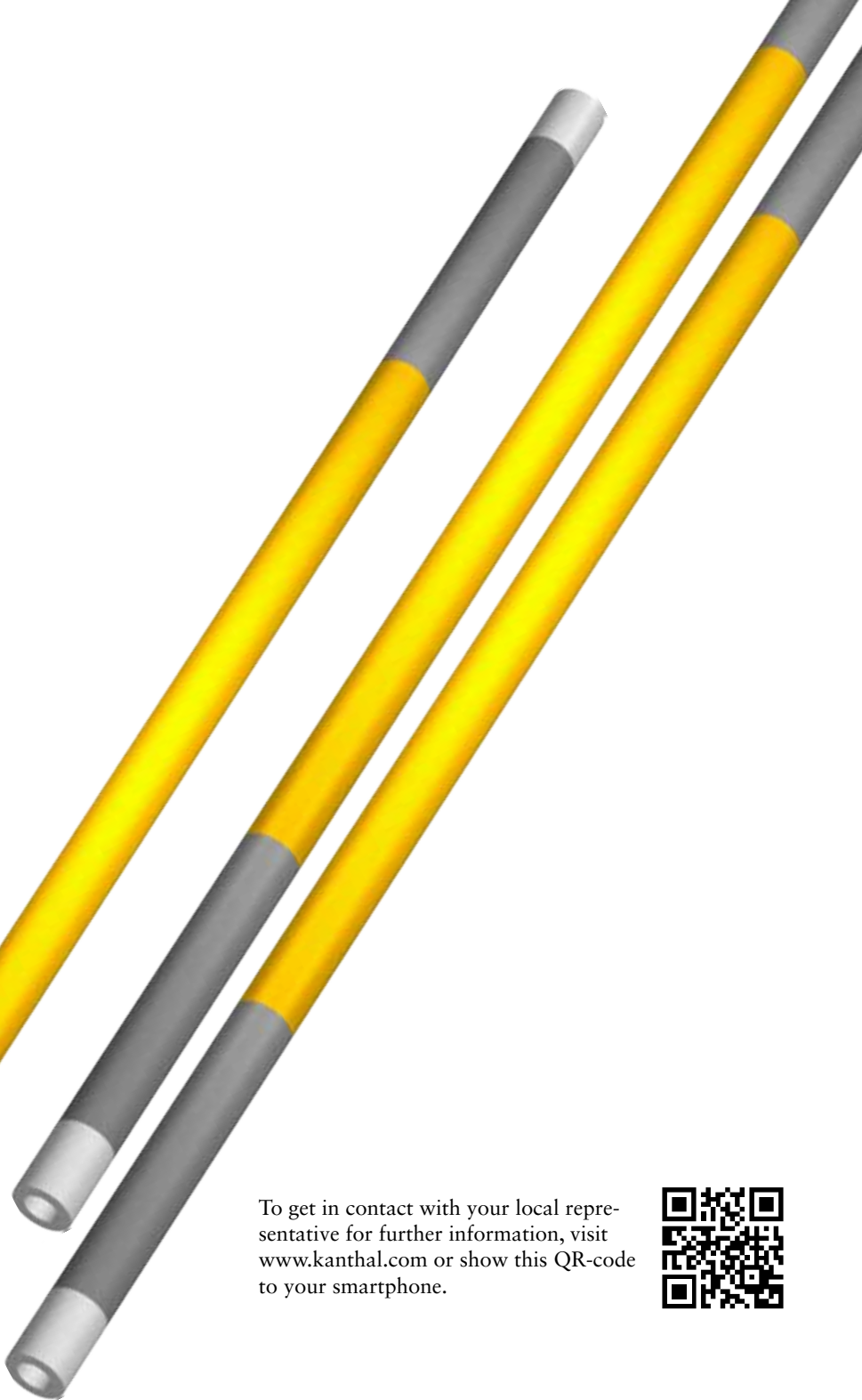
Ceramics and electronics industry

- Wide tunnel furnaces
- Ferrite production

Steel industry

- Continuous annealing lines
- Continuous galvanizing lines





To get in contact with your local representative for further information, visit www.kanthal.com or show this QR-code to your smartphone.



LONG SPAN ELEMENTS

- Low thermal mass
- Quicker responding furnace
- Improved furnace efficiency

One-piece hot zone

- Span wider furnaces
- Increased productivity
- Up to 3500 mm (137.8 in) one-piece hot zone
- Above 3500 mm (137.8 in) available on request

Simple installation

- No supports required
- Easy replacement

Light weight per kW

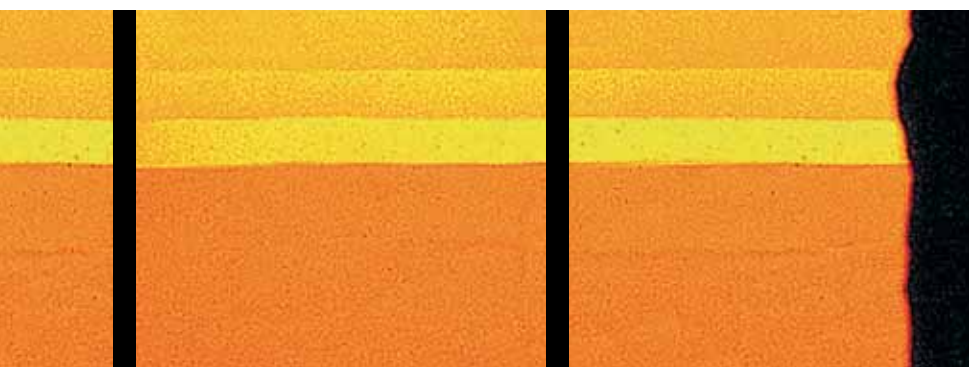
- Simplified furnace design

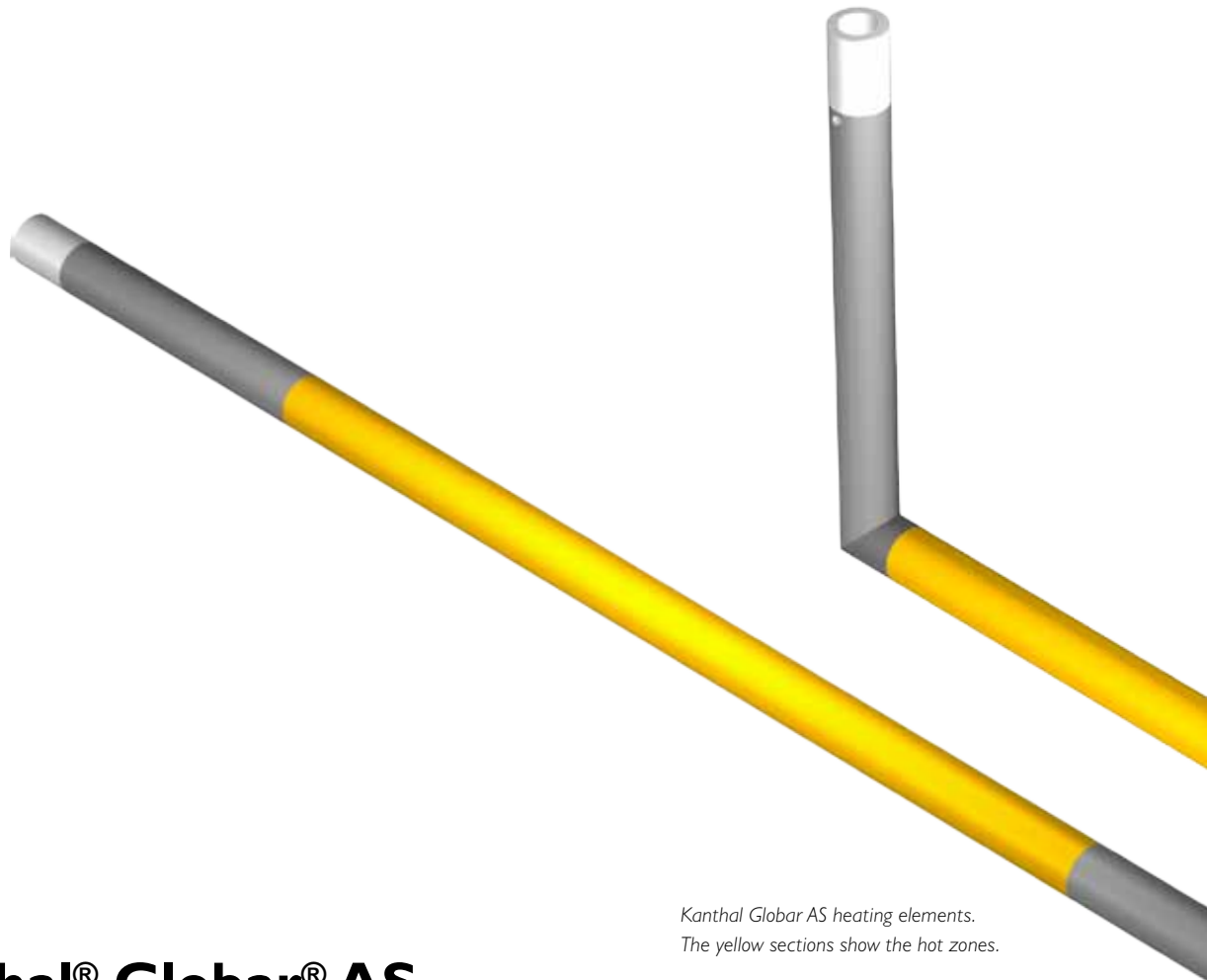
RESISTANT TO MECHANICAL SHOCK

- Advanced structure
- Tough and reliable performance

CYCLIC OPERATION

- Reduced downtime
- Reduced maintenance costs
- Increased productivity
- Improved OEE





*Kanthal Globar AS heating elements.
The yellow sections show the hot zones.*

Kanthal® Globar® AS element features

Designed for higher mechanical strength

Kanthal Globar AS is stronger than any competitive element on the market. This allows for longer, lighter and more efficient elements to be manufactured – extending the range of applications into which Kanthal Globar elements can be applied.

A key feature of Kanthal Globar AS is the consistency of the material properties. According to Weibull's modulus (a measure of the repeatability of mechanical properties in brittle materials), Kanthal Globar AS elements have been measured as 14, while most silicon carbide heating elements typically are measured as <10

Designed for cyclic use

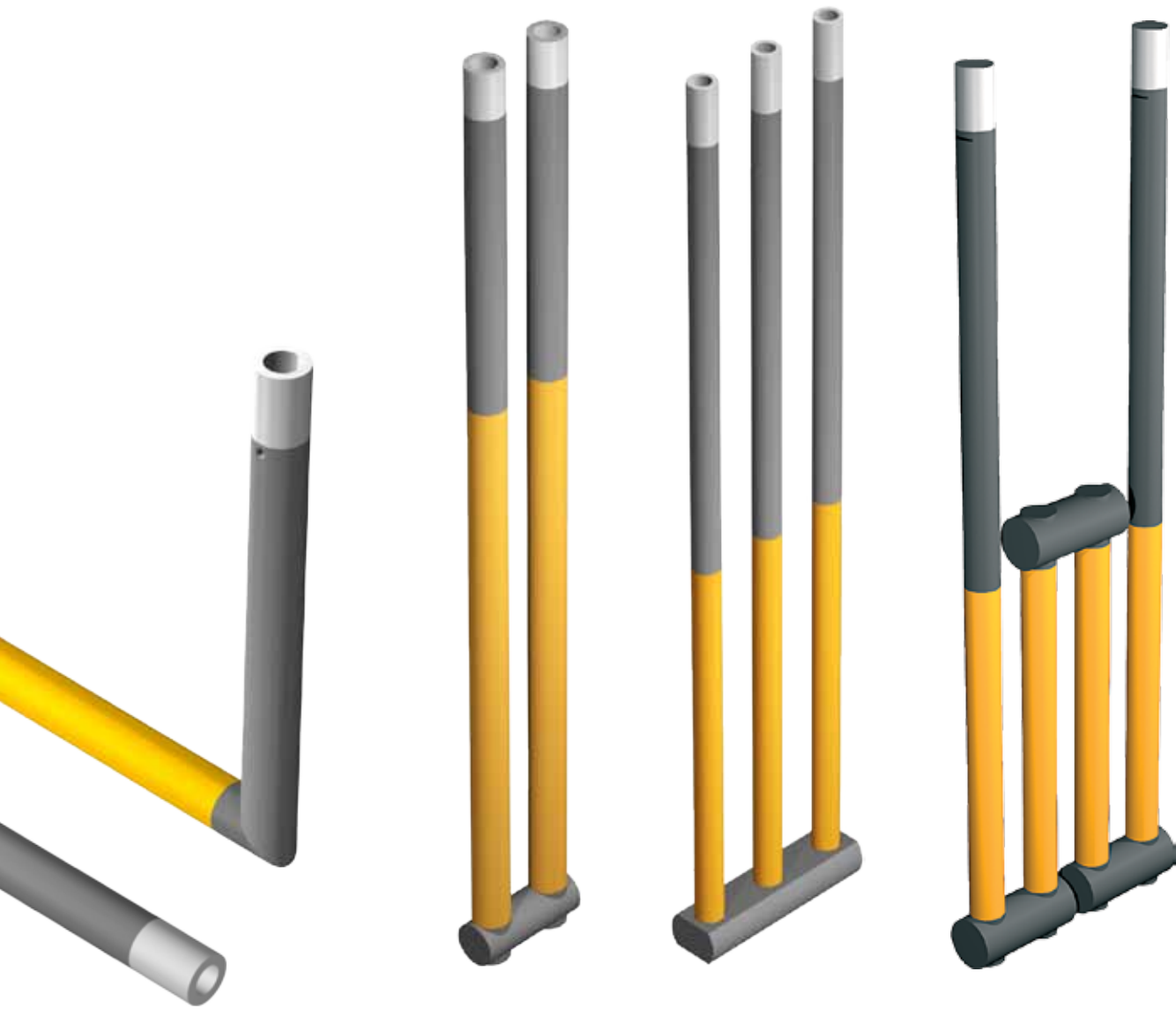
Most silicon carbide elements are designed to deliver optimum performance when used continuously. Cyclic operation is known to reduce element life. Kanthal Globar AS is designed to minimize the effects from cyclic use.

When tested aggressively at 1425°C (2600°F), Kanthal Globar AS elements returned over 40% more cycles than the best performing competitor.

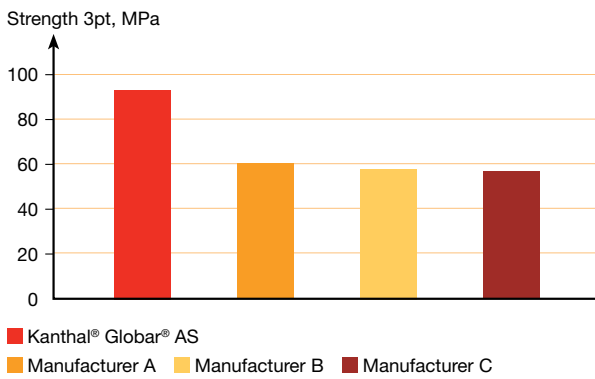
Designed to resist chemical attack

Kanthal Globar AS is exceptionally resistant to aggressive furnace conditions. The pore structure of a Kanthal Globar AS element is more closed than the structure of many alternative products, limiting the penetration of surface contaminants and condensates into the material. This is especially important when the element is exposed to alkali glass deposits and drips. In applications with heavy glass deposits, the switch to Kanthal Globar AS elements has prolonged the life of the heating element by a factor of 10.

Glazed elements are available for additional protection.

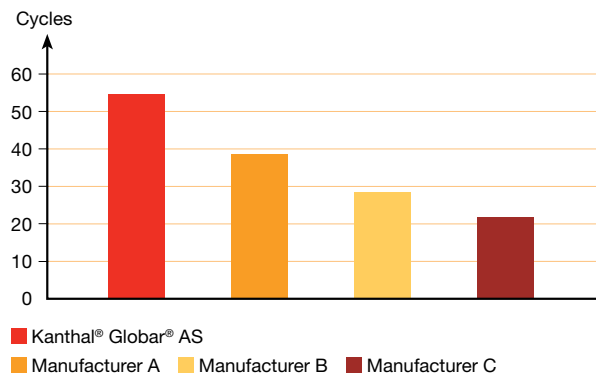


Improved strength



3pt bending strength comparison.

Improved element life in cyclic operation



Cyclic test: Kanthal Globar AS vs. other manufacturers' elements.
100 hour cycles at 1425°C (2600°F).

Kanthal® Global® AS availability

Kanthal Global AS elements are available to order in both single rod and multi-leg forms, in a range of sizes that are interchangeable with all standard Kanthal elements, and products from other manufacturers.

Ordering

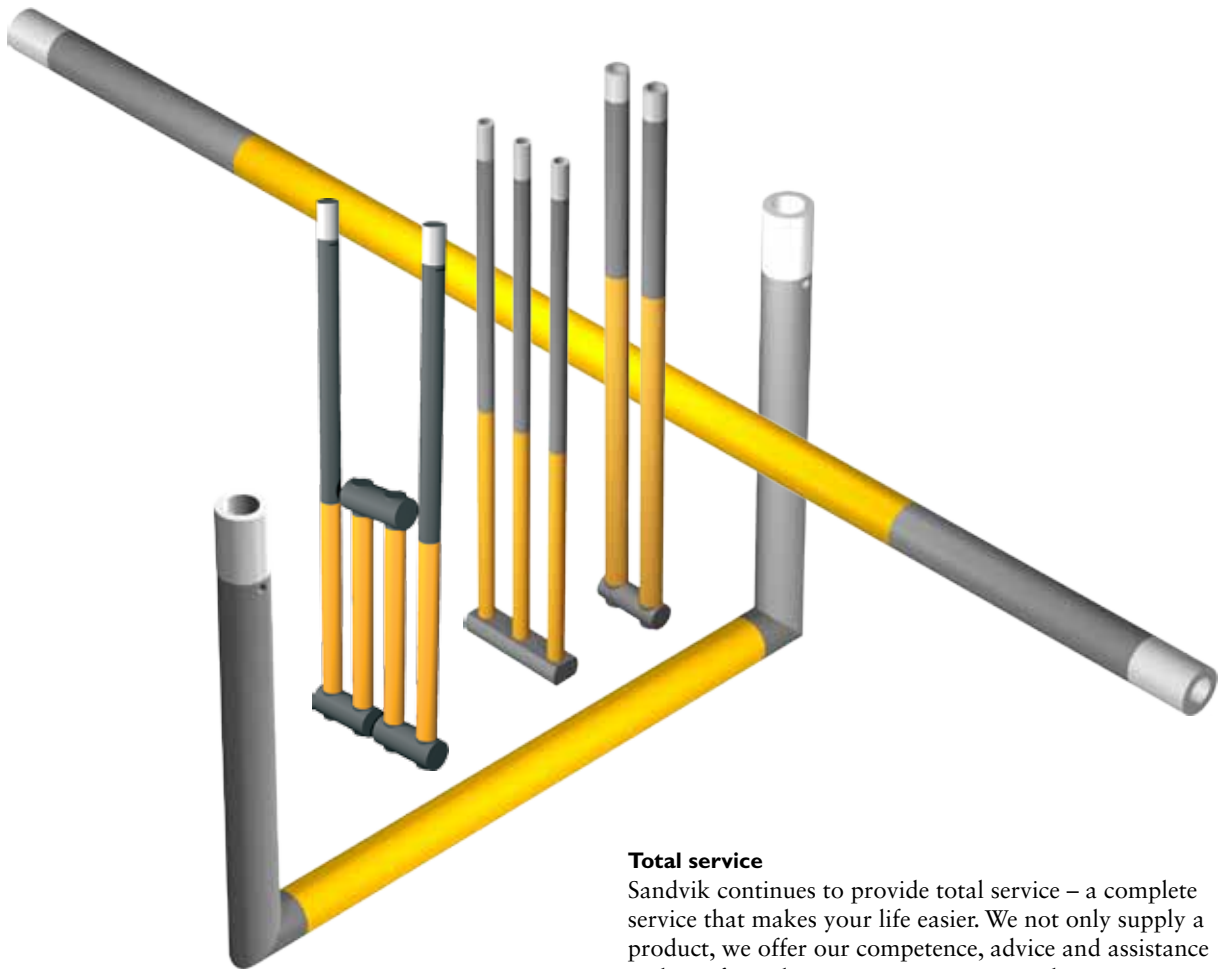
The minimum information required when ordering Kanthal Global AS elements is as follows:

Rod type elements

Element type (Kanthal Global AS)
Diameter, mm
Hot zone length, mm
Overall length, mm
Nominal resistance, Ω

Multi-leg elements

Element type (Kanthal Global AS-B/U/CU/W/M)
Diameter, mm
Hot zone length, mm
Cold end length, mm
Leg center distance, mm
Support slot position
Nominal resistances, Ω



Total service

Sandvik continues to provide total service – a complete service that makes your life easier. We not only supply a product, we offer our competence, advice and assistance and an after-sales service program second to none.

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 Globalbar 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.



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