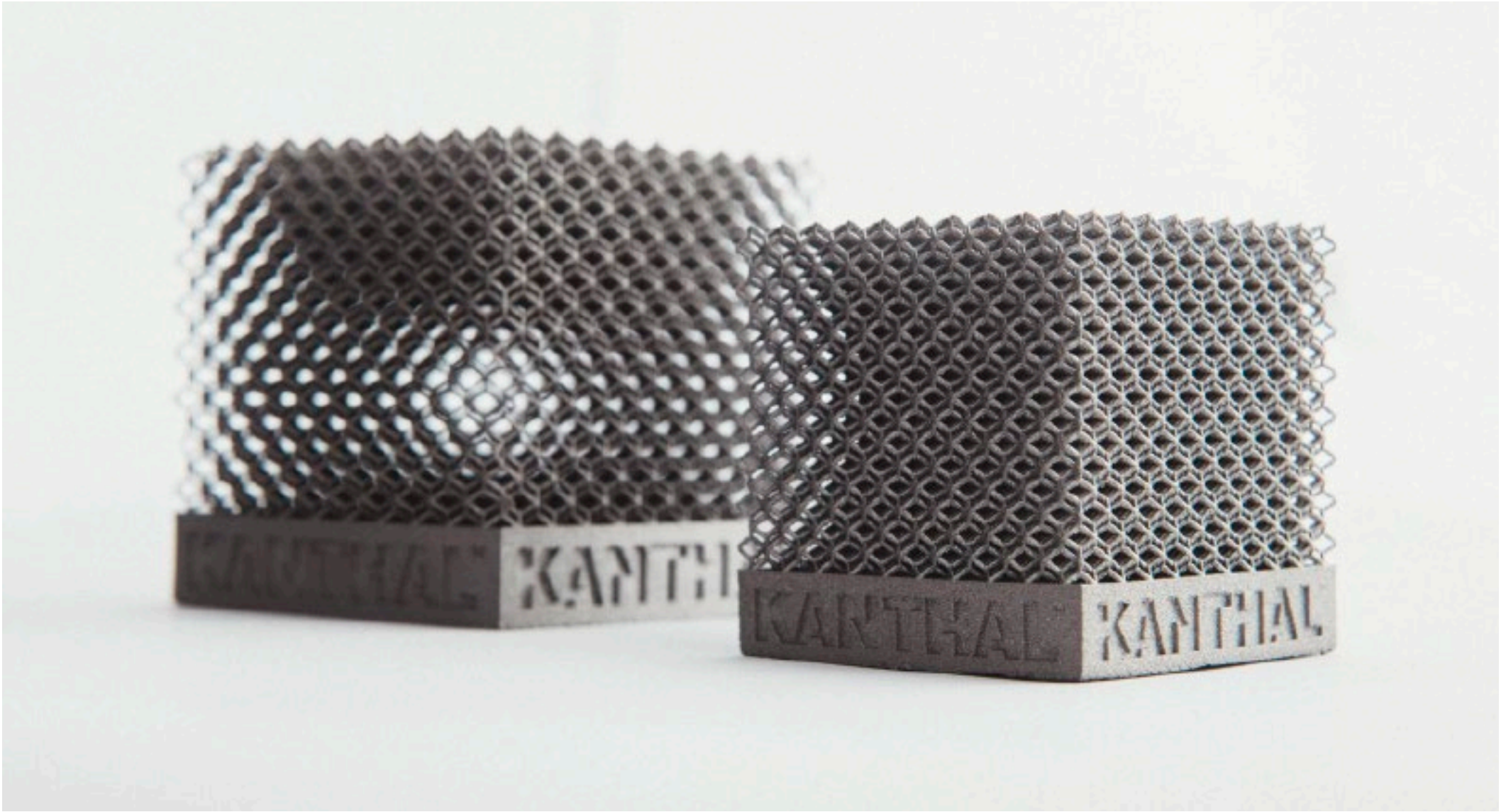
KANTHAL® ADDITIVE MANUFACTURING
CUSTOMIZATION SERVICE WITH KANTHAL® AM100

KANTHAL®
Part of Sandvik Group



The rapid development of additive manufacturing brings new unlimited possibilities, pushing the boundaries for designing and producing complex geometries.

As global technology leader in electrical heating and high temperature applications, Kanthal revolutionizes heating elements and components with the new Kanthal® Additive Manufacturing customization service, and the new iron-chromium-aluminum (FeCrAl) alloy Kanthal® AM100 optimized for 3D printing.

Invented and introduced to the market by Kanthal in 1931, the FeCrAl alloy is known for its superb high temperature corrosion resistance and its popular use for heating elements.

The new Kanthal® AM100 alloy, optimized for 3D printing with both excellent high temperature corrosion resistance and creep strength, is suitable for heating elements and high temperature components.

TAILOR-MADE FOR YOU

Kanthal® Additive Manufacturing is a customization service that enables customers to order tailor-made products. Customers will have access to the Kanthal® AM100 alloy, which is the first AM-optimized material that Kanthal now offers to the market. The service provides technical assistance and advice to help our customers generate products that were not even possible to imagine before.

KANTHAL® ADDITIVE MANUFACTURING CUSTOMIZATION SERVICE OFFERS:

— Feasibility evaluation of products for printing
— Advice, design of parts or design modification as customers require
— Rapid prototyping and testing
— Production.

BENEFITS OF KANTHAL® AM100:

— Material operating temperatures up to 1300°C
— Superb high temperature corrosion resistance against carbon/hydrocarbon and sulfur
— Excellent high temperature creep strength
— High electrical resistivity (1.39 Ω mm^2/m).

Check out Kanthal® AM100 Datasheet and Kanthal® Additive Manufacturing Design Guidelines on Kanthal.com

FOCUS AREAS

KANTHAL® ADDITIVE MANUFACTURING CUSTOMIZATION SERVICE'S FOCUS AREAS ARE:

— Resistance heating elements
— Components for thermal processing and protection.

THE APPLICATION AREAS OF KANTHAL® AM100 INCLUDE AREAS WHERE FeCrAl ALLOYS ARE COMMONLY EMPLOYED:

— Commercial heat treatment and high temperature processes (e.g. heating elements, nozzles, small furnace components, dental furnace components, etc.)
— Petrochemical processes (e.g. small fittings and manifolds, small venturis, etc.)
— Automotive (e.g. engine preheating, exhaust treatment, etc.)

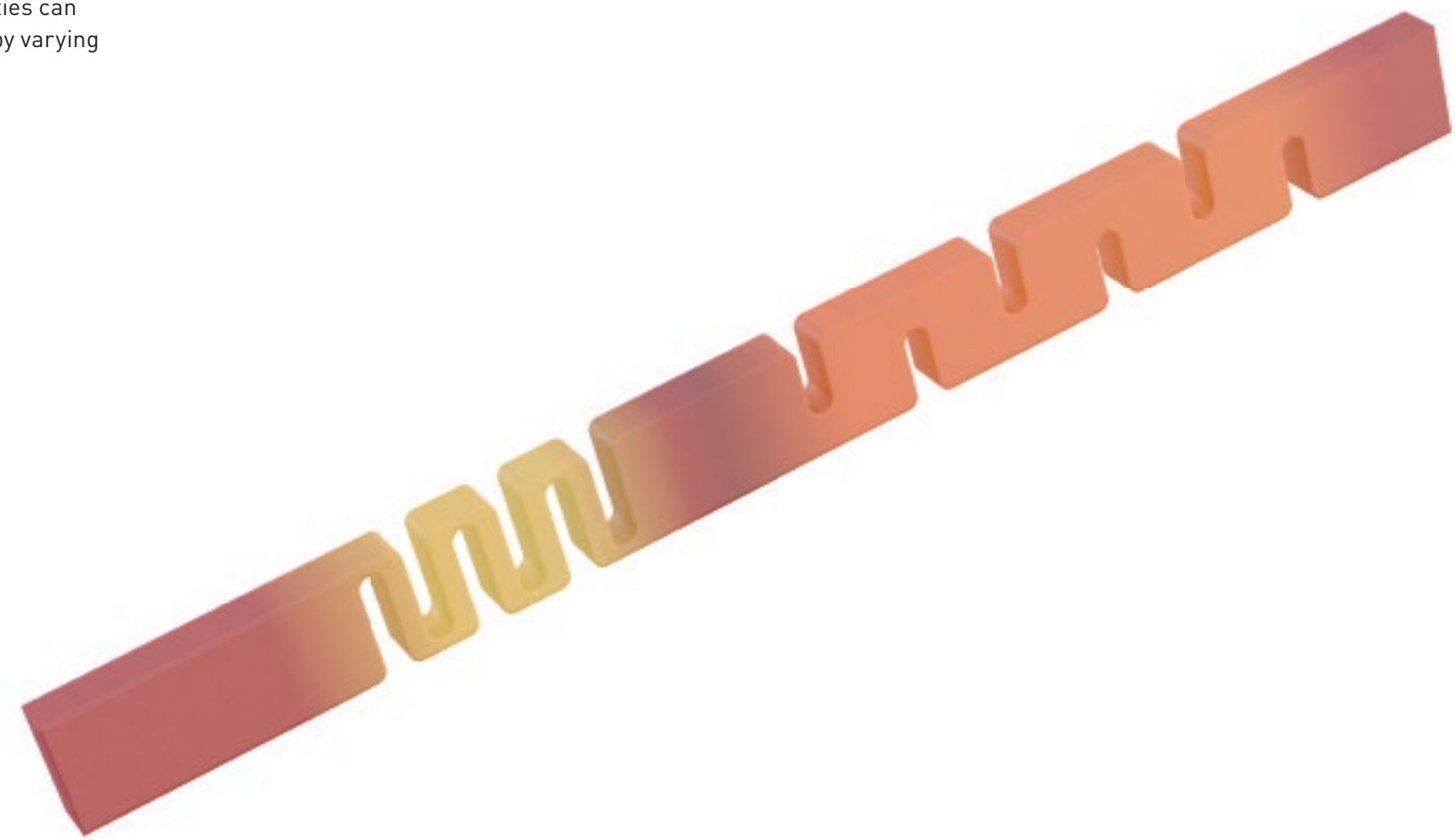
Additionally, by combining with 3D printing, more application areas will be able to benefit from this material.

INCREASED SURFACE AREA AND FLEXURAL STRENGTH

With a hollow or lattice structure, it is possible to increase the surface area for heat transfer and flexural strength against deformation.

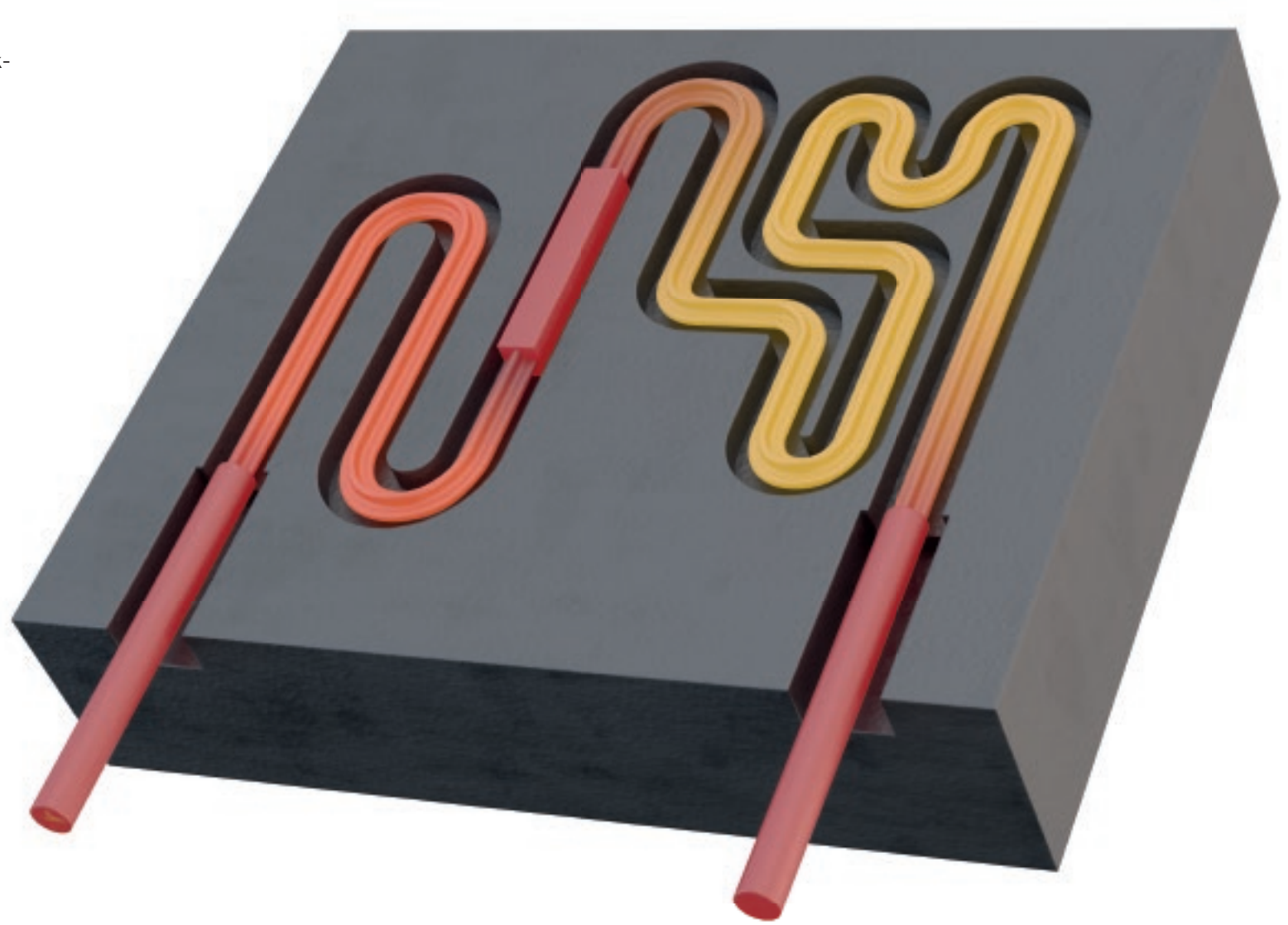
TAILORED RESISTANCE

Heating zones and power densities can be designed for specific needs by varying resistance in local areas.



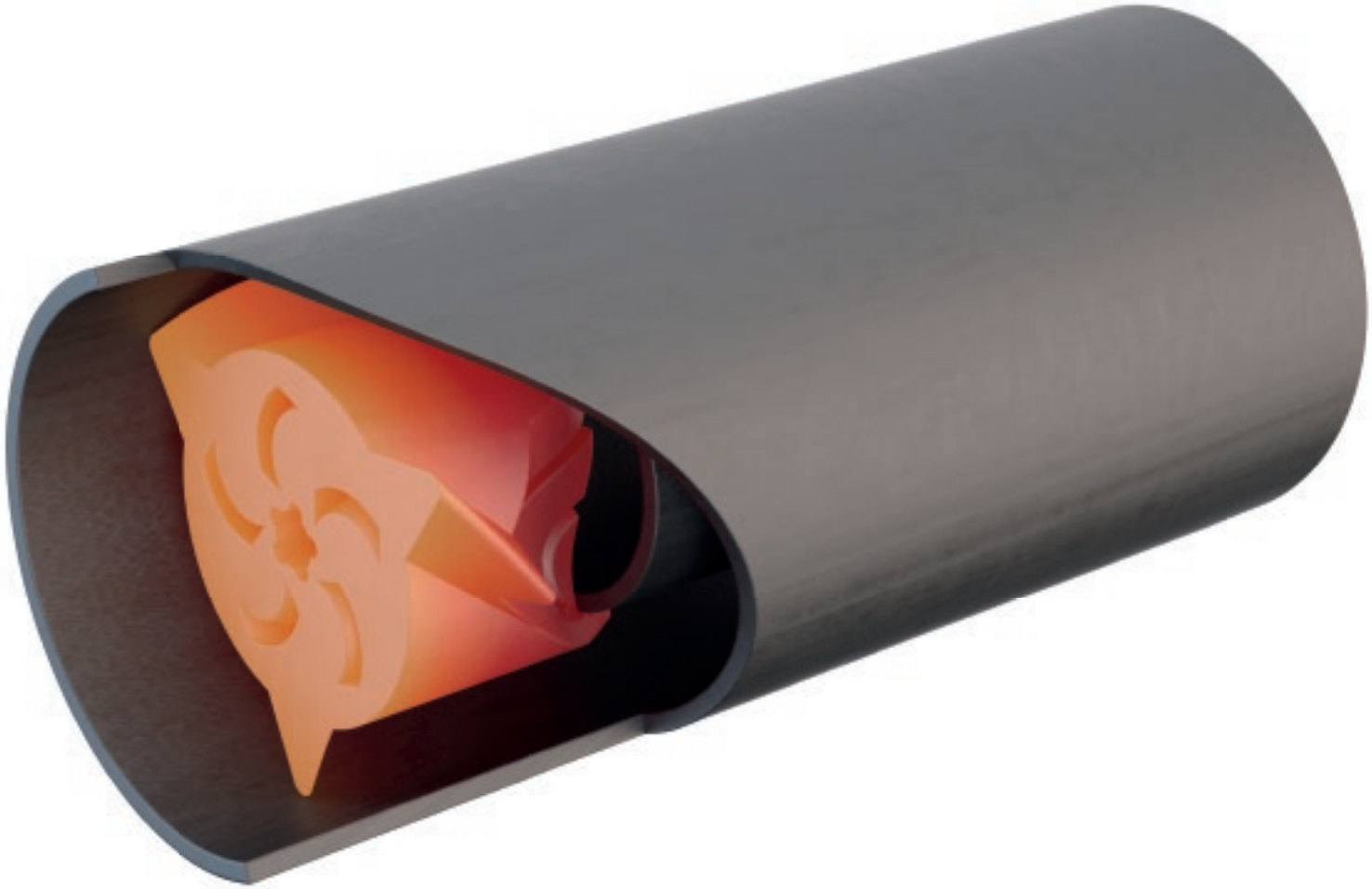
TAILORED POSITIONING

Heating elements can be designed with the optimal positioning toward the work-load or alternatively against obstacles.



BURNER NOZZLES

Gas mixing and flame geometry can be optimized by adding customized channels and openings. By using Kanthal® AM100, burner nozzles can withstand high temperatures (up to 1300°C) and corrosion.

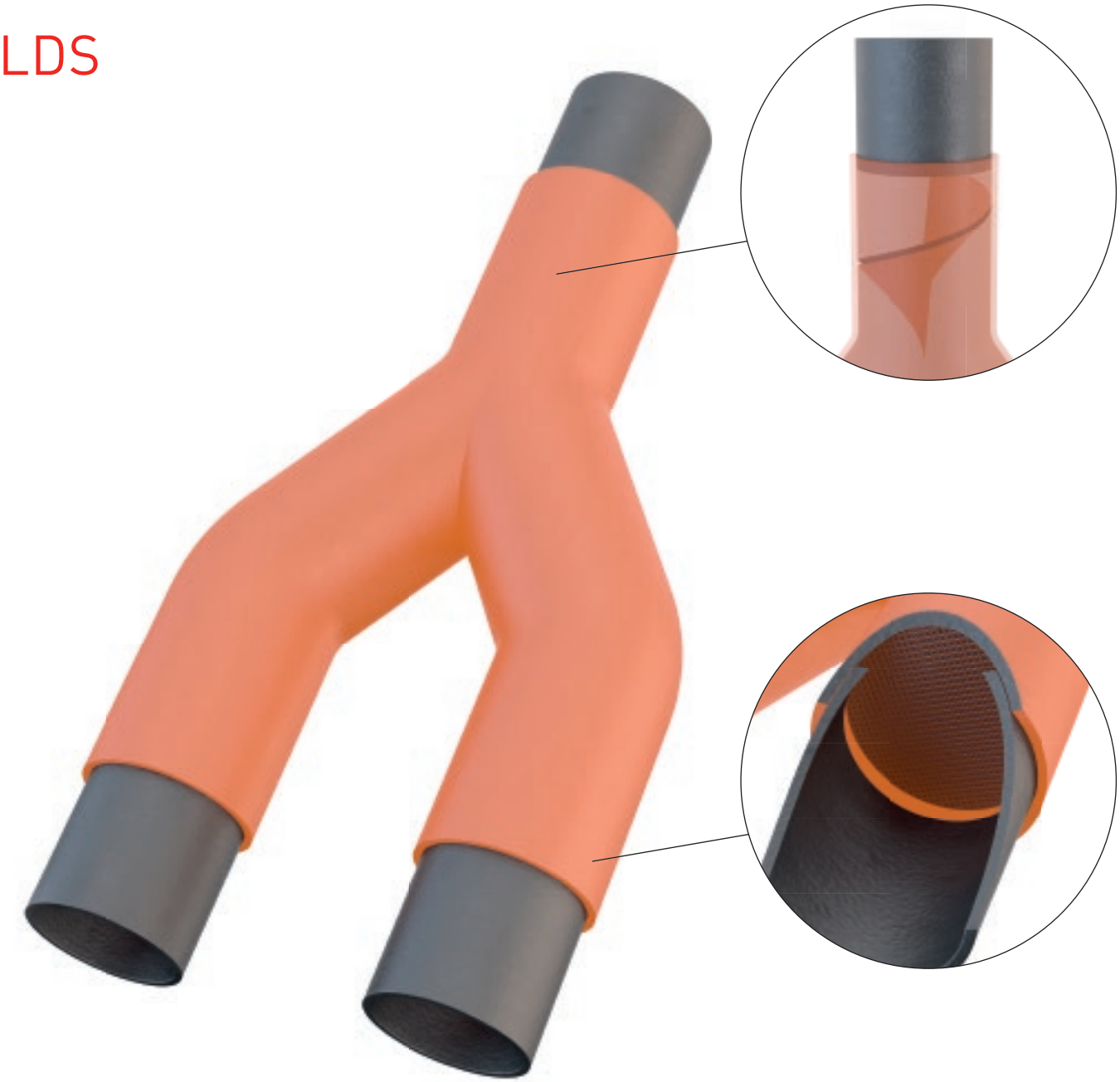


PROTECTIVE SHELLS

With tailor-made geometries, you can protect vulnerable areas against heat and corrosion attacks. Typical applications are furnace parts, oxygen probes, thermo-couples etc.

FITTINGS AND MANIFOLDS

Tailor-made geometries and positionings, where additional features such as fins and hollow structures can be added, allow reliable operations in high temperatures and corrosive environments. They also enable carrying reactive fluids, such as hydrocarbons, water vapor and oxygen.



FOR CONTACT INFORMATION PLEASE VISIT: WWW.KANTHAL.COM

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