

KARG – wire technology

wire technology  
for high-tech use



**KARG**  
wire technology

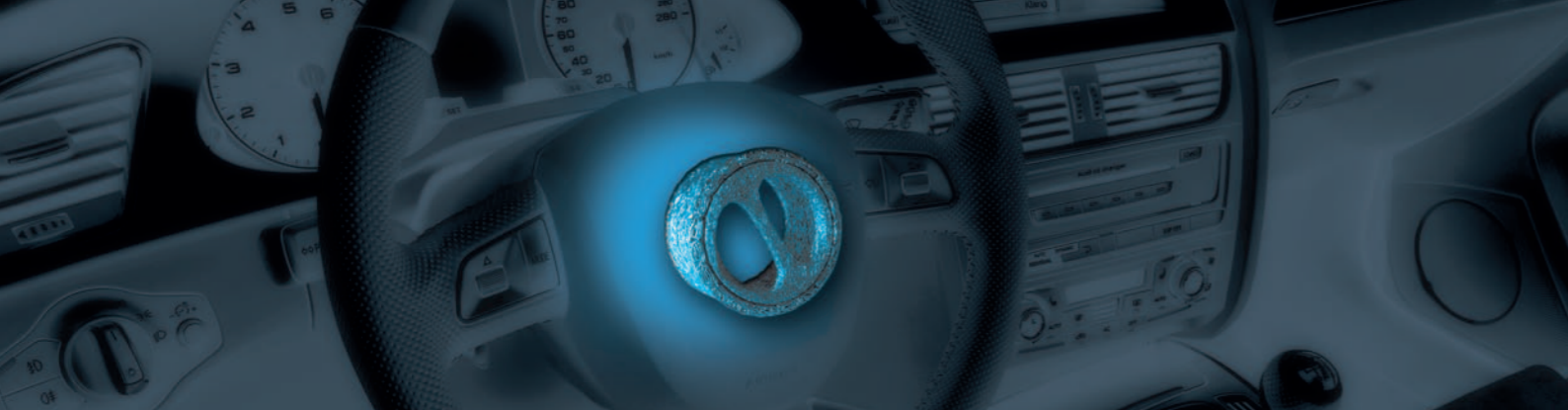


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**KARG**  
wire technology

**Industrial knit wire meshes  
and metal braids**



# Partner for industry and research.

## Tradition and innovation.

Our company name has been synonymous since 1960 with the highest level of expertise in the industrial further processing of fine wires, industrial fibres and filaments.

As a company which operates on the global stage, we are a development partner and manufacturer of sophisticated industrial knit wire meshes and metal braids as well as compound solutions for the automotive industry, environmental and process engineering, power engineering and general industrial applications.

As a systems supplier in the construction of plant and equipment for cording and stranding machines, **KARG - wire technology** has become an established brand name.

Our innovative developments and individual solutions, supreme manufacturing standards and precise production procedures, our timely quality standards and effective control mechanisms satisfy the highest demands.

**KARG - wire technology** employs a team of over 50 highly motivated and superbly well-qualified workers at its site in Germany. Using state-of-the-art special wire technology that we have developed ourselves, we have become an established SI partner to our customers worldwide.

As a powerful player in our industry, we also want to play an active role in research and development.

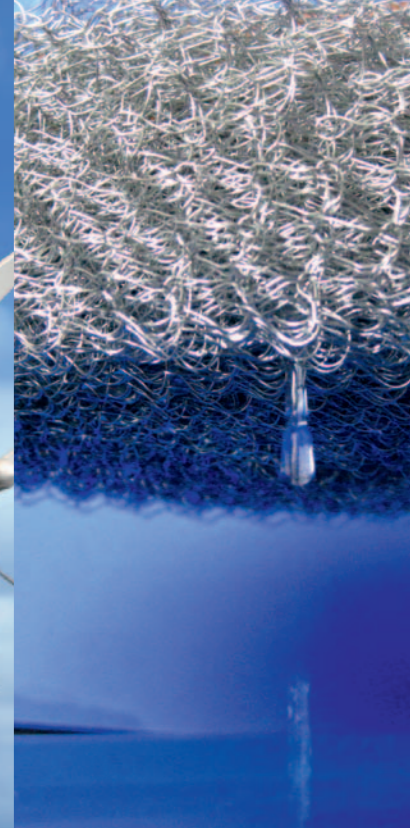
This is why we work with renowned institutes and colleges to develop intelligent solutions for the future.

### SOME OF OUR PARTNERS:

- University of Erlangen
- Nuremberg University of Applied Sciences
- Ingolstadt University of Applied Sciences
- Ansbach University of Applied Sciences
- Jülich Research Centre
- Federal Institute for Materials Research (BAM)



Learn more about us, our technical know-how and our products!



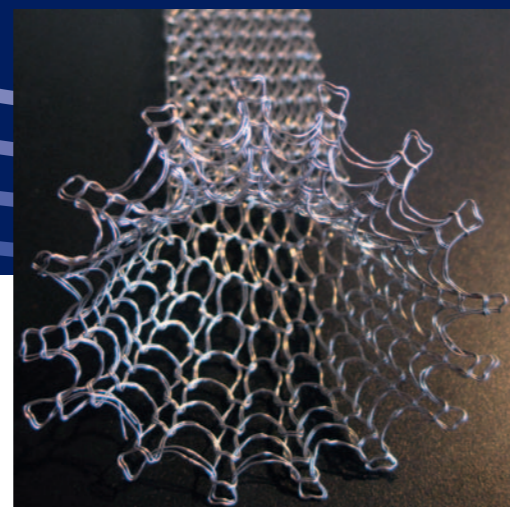
..... **KARG – wire technology** .....

# Expertise in the industrial further processing of fine wires.

The developments of **KARG – wire technology** in cording technology have been appreciated right across industry for many decades now: They are synonymous with supreme precision and customised solutions for users.

The market leaders in our customer sectors in Europe and beyond place their trust in our know-how. We rightly regard ourselves as one of the best companies in our trade – our key customers confirm this repeatedly by awarding us their status of „**A-grade supplier**“.

Our knit wire meshes and braids are technical multitalents – and are cheap to make. Adapted precisely to cater for the specific requirement of the customer, our products always allow the desired technical function to be achieved. The possible applications are very varied – our products are semi-finished and finished components that are very much in demand in virtually all sectors of industry. They perform conducting, support and protective functions in units, machines, systems and buildings or, depending on the material used, are also used as ornamental and decorative elements.



## PRODUCTS & SERVICES

→ Knit wire meshes

→ Wire braids

## APPLICATIONS AND EXAMPLES OF USE

### AUTOMOTIVE ENGINEERING

For 50 years now, intelligent wire products from **KARG – wire technology** have been essential components in lots of vehicle developments. Their areas of application range from highly sensitive passenger protection through to environmentally relevant, modern exhaust system technology.

**Examples:** Airbag systems, exhaust systems, catalytic converters, vibration technology, sealing elements, heat-shield components, fuel cell pads, air filters/ separators, explosion protection

### POWER ENGINEERING

Essential components in the energy production process.

**Examples:** Shielding, thermal elements/heat exchangers, fuel cells, vibration technology, sealing elements

### UMWELT- UND VERFAHRENSTECHNIK

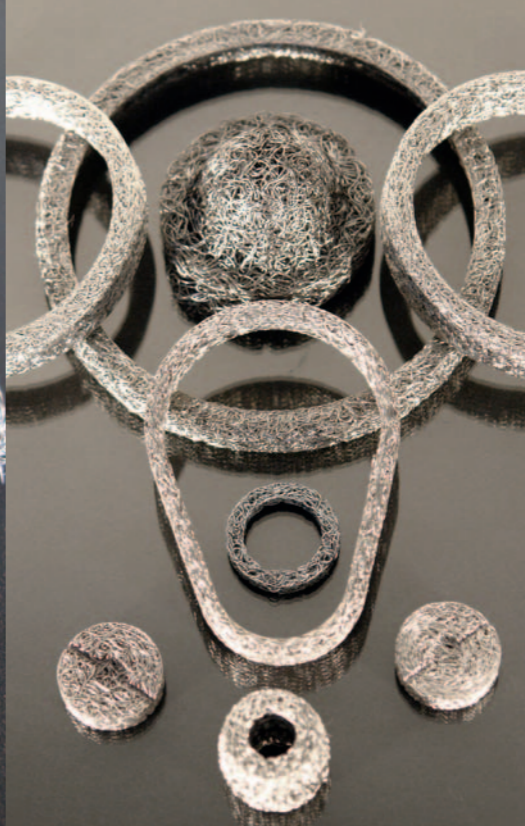
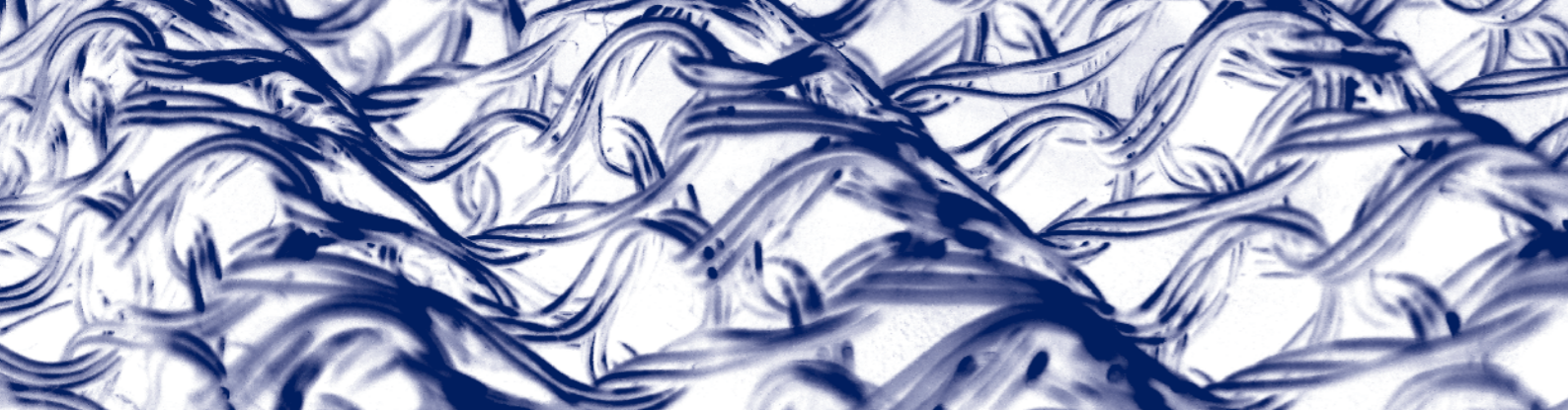
Air and water are our most precious natural resources. **KARG – wire technology** knit wire mesh technology helps to preserve and safeguard them.

**Examples:** Knit wire mesh filters, droplet separators, coalescence separators, exhaust air filters, vibration dampers

### INDUSTRIAL AND DOMESTIC ENGINEERING

**KARG – wire technology** industrial wire products are multifunctional, cost-effective and decorative. Both as passive and active components, they perform important tasks in a whole array of industrial applications. They are suitable for mounting and damping, filtering, sealing, offer elasticity, malleability, corrosion resistance and are recyclable.

**Examples:** Knit copper mesh, filtration, vandalism protection, vibration technology, sealing technology, heat-shield components



..... **KARG – wire technology** .....

# Knit wire meshes – used everywhere.

Karg knit wire meshes are made from continuous wire in the form of intermeshing stitches. The extremely small contact surfaces at the contact points resulting from the profile produce a meshwork which is three-dimensionally flexible and boasts ideal elasticity and stretching characteristics. Precisely attuned, it allows the desired technical function to be produced in the products in which it is used. You can see the schematic view and the defining specialist terms in the adjacent diagram.

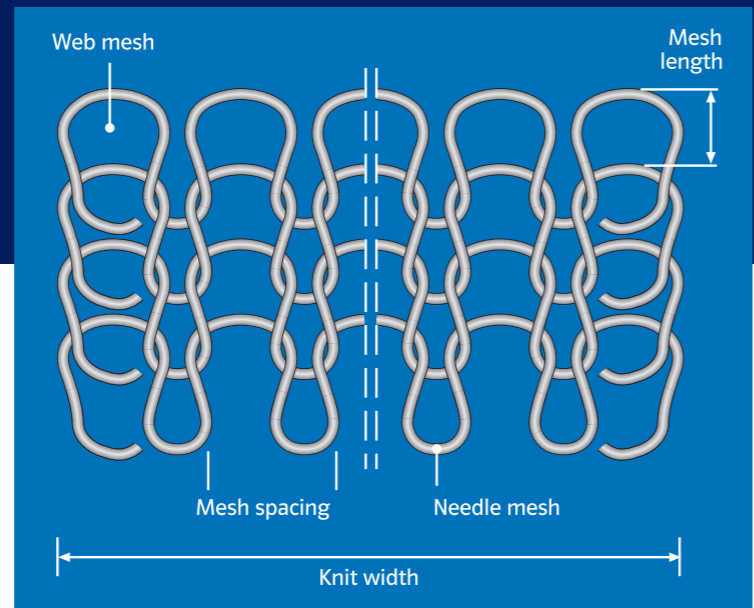
### HOW KNIT WIRE MESHES ARE MADE

A sleeve which is produced using the circular knitting method is generally processed further as a web which is laid flat. These webs can be processed further by being folded and placed in position to form packages and by subsequent compaction to produce knit wire mesh

elements. They are supplied in the form of reels, as a blank cut to size, ready-made into packages or elements. The Karg technology makes it possible to conform to the tightest tolerances and make products cost-effectively at the same time.

### KNIT WIRE MESHES IN USE

The possibilities for use are varied and range from industrial damping elements, filter inserts, catalytic converters and medical applications in heart surgery (stents) right through to artistic elements.



### PRODUCTS

- Round and flat knit meshes
- Press parts
- Component parts

### ROUND AND FLAT KNIT MESHES

Round and flat knit meshes are highly flexible meshworks made from intermeshed, monofilamentous or multifilamentous continuous semi-finished products (wire, fibre, filament). They are available to our customers in their basic form either directly or as primary material for possible further processing.

**Delivery forms:** Rolls, sections, shaped components  
**Applications:** Oil bath and air filters, seals, catalytic converters, damping cushions, sound absorbers, droplet separators, cable and pipe lagging through to screens or fixings.

**TECHNICAL DATA**  
**Wire cross section:** approx. 0.05 - 1.0 mm as round or flat wire processed in single or multiple strands  
**Bandwidths:** approx. 10 - 1000 mm (measured on flat, pretensioned hose band)  
**Mesh length:** 1.5 - 15 mm possible depending on the material  
**Mesh spacing:** 2 - 30 mm possible depending on the material  
**Design:** smooth knit mesh, profiled, obliquely or arrow-corrugated, special designs, material combinations (plastic/metal wire)

### PRESS PARTS

KARG press parts are a technically very interesting further-processing stage of **KARG – wire technology** basic knit meshes. The workpieces are produced by partially or fully automatic means in small, medium and large batches.

**Applications:** Prototyping, very small batches, airbag generators, catalytic converters

Our shaped wire components make a crucial contribution in helping to enhance levels of comfort and safety. For example, they are fitted in vital functional elements. Their main role is to provide vibration-damping and noise-abating functions.

Our press parts are renowned for their resistance to oils, acids and alkaline solutions, great resistance to ageing and high mechanical durability.

**TECHNICAL DATA**  
**References:** Packing density in g/cm<sup>3</sup> or kg/m<sup>3</sup>  
 Control range approx. 0.8 - 4.0 g/cm<sup>3</sup>  
 Free volume in %  
 Wire surface in m<sup>2</sup> / m<sup>3</sup>  
**Dimensional tolerances:** depend on the part density  
**Weight tolerances:** are determined by the supply specification of the raw material.

### COMPONENT PARTS

Using appropriate methods, **KARG – wire technology** wire elements and other knitted materials or bought-in parts (e.g. moulded sheet metal parts, ceramic inserts) are refined to form „component parts“.

Our customers incorporate them directly into their own manufacturing processes. Logistics and manufacturing sequences are shortened decisively, and error rates and residual quantities of reusable material when used in the field are minimised. On request, we will arrange, attuned to your delivery arrangements, the scheduling of the components supplied.

**Applications:** Airbag units, parts fitted to catalytic converters, isolation elements, bearing and damping units.

# Wire braids – a strong, flexible linkage.

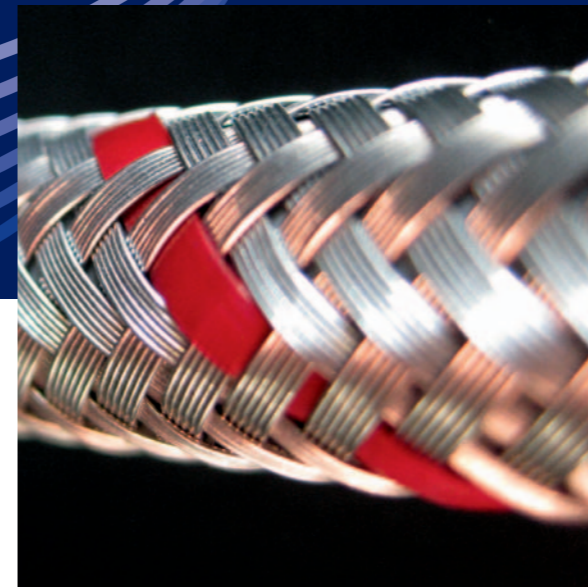
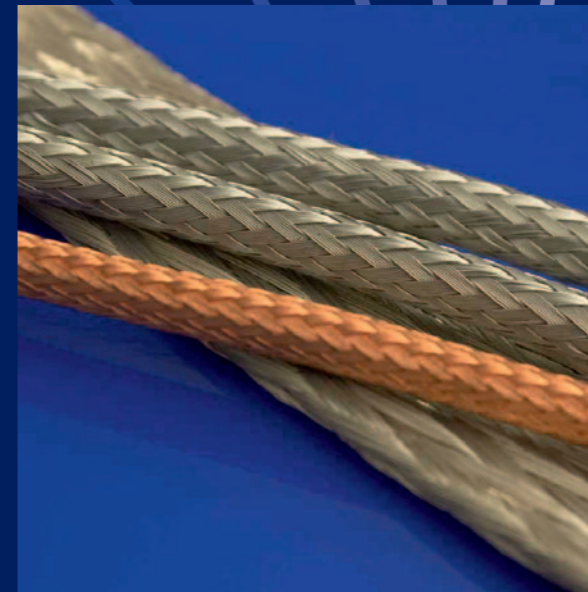
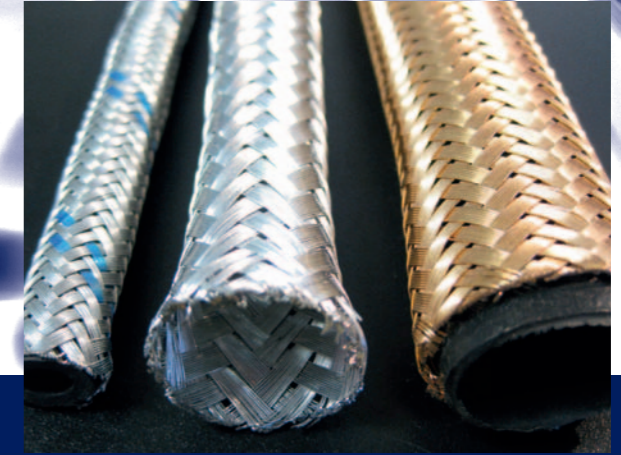
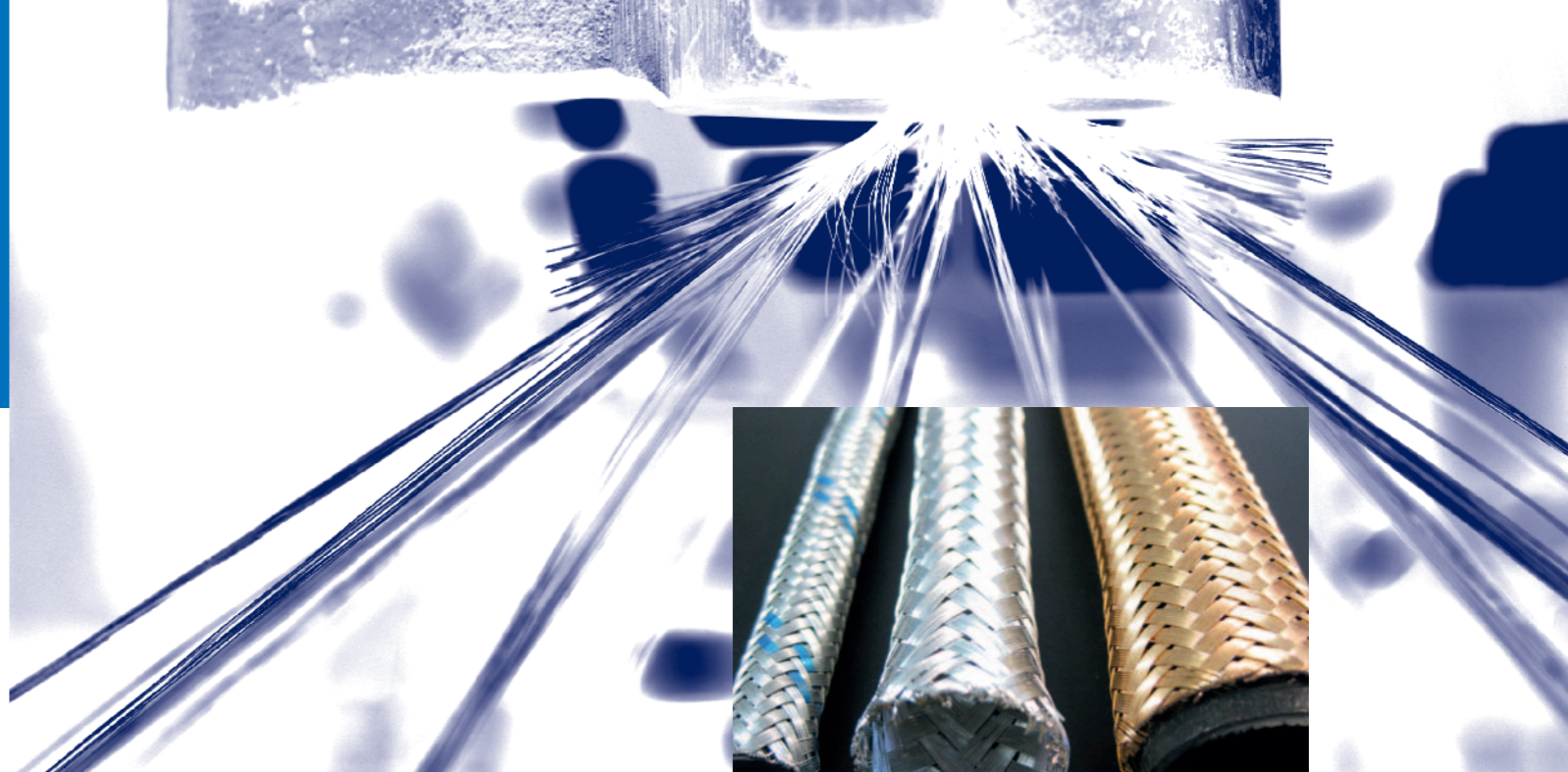
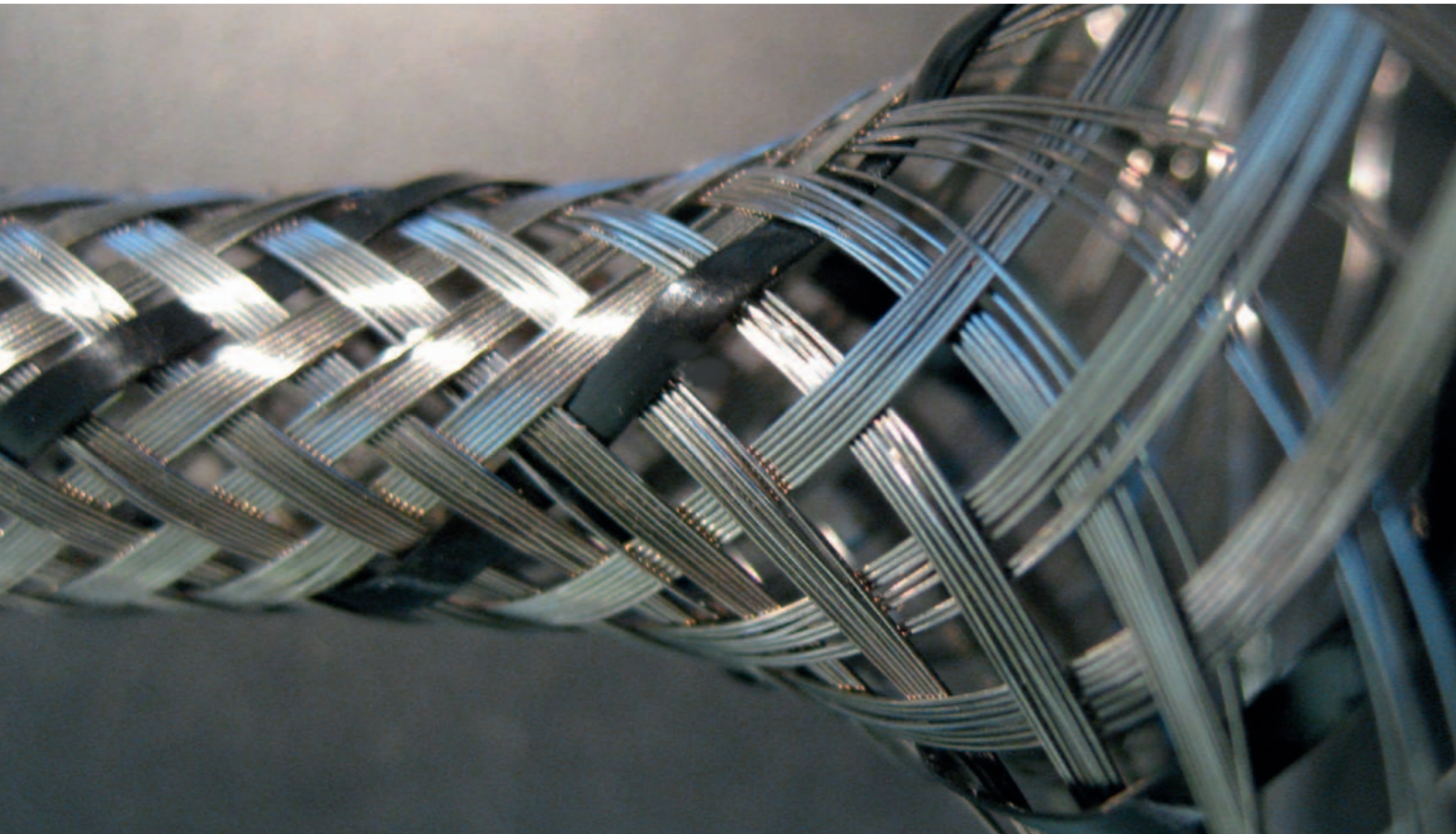
Industrial metal braids are semi-finished and finished components that are very much in demand in virtually all sectors of industry.

In cable and piping technology in particular, they are used as an indispensable „stand alone solution“ or as a flexible layer unit offering outstanding electromagnetic screening properties in large volumes.

In automotive engineering, they are among other things elements used in decoupler assemblies in the exhaust gas system which are subjected to high temperatures. They act

as compensation elements for thermal stresses which occur.

**KARG - wire technology** currently produces the commercial forms of woven braids and tubular braids in an average format range with a nominal diameter of 3 - 100 mm. The bases used for manufacturing are in-house standards or processing of supplied parts in accordance with the specification which is agreed with the customer.



## WIRE BRAIDS

**Delivery forms:** Rolls, sections, shaped parts

### TECHNICAL DATA

**Wire qualities:** Copper blank, copper galvanised, steel blank, steel galvanised, stainless steels, phosphor bronze, plastic, polyester yarns, special materials

**Wire thicknesses:** standard 0.15 - 0.50 mm

**Wire number:** 3 - 12 x

**Toggle numbers:** 24, 36, 48

**Diameter of braid material:** 3 - 100 mm

**Delivery forms:** Fixed length, collar rings at 25 running metres (with braiding via carrier tube), coiled goods based on possible document length, sections

## PRODUCT EXAMPLES

→ Protective braids

→ Shielding technology

→ Tube braiding

# Supreme product quality and absolute customer satisfaction.

## QUALITY MANAGEMENT

We were the first German company in our industry to introduce, back in 1995, a uniform quality management system in line with QS 9000 and, in 2002, to advance it up to the latest certification in line with ISO TS 16949 – 2002.

Each of our employees is, thanks to ongoing training schedules, made familiar with the basic principles of our quality policy and is aware that only the best levels of performance will satisfy our demanding customers.

We regard environmental protection as one of our most important corporate and social responsibilities.

Clearly defined measures ensure that the resulting tasks are implemented at all levels of our operations.

We work in accordance with standards which are based on the DIN EN ISO 14001 environment management systems.

## CERTIFICATION

A high, consistent quality of products and services can only be achieved through constant process control and optimisation. The annual review and assessment of our industrial and commercial operating procedures by external certification companies is therefore an important management tool for us.

On the basis of the very latest audit results, our Q teams come up with timely, project-based quality agreements together with our main customers and main suppliers around the world. An experienced supplier development division safeguards our specific raw material standards.



You too can put your faith in our certified quality!

# Made in Germany.

We develop and manufacture products in Bavaria. Our company headquarters are in Ellingen, a real gem of the Franconian baroque period. Our stated aim is always to offer our customers top services „**Made in Germany**“.



Word has spread about the reliable and persuasive quality of the products and services we deliver, and this is why we regard the European Economic Area and the new markets in Eastern Europe and Asia as offering great potential for the future. We are expanding at our company headquarters in Germany and actively overseeing European cooperation projects with our customers.

In addition, in the near future we will start producing 100% KARG quality products at a second location in Europe so that we can respond to our customers' requirements with the reliable level of service they are accustomed to. For we do not see any contradiction at all between preserving traditional values and pursuing a corporate strategy with an international focus.



We invite you to find out more about us and learn all about development, production and logistics on site and at first hand.