



WORLD WIDE WEAVE

GKD: Smart Solutions Made of Metal Mesh

Proven practical examples form the basis for discussion

At the leading international trade fair for technical textiles and nonwovens, *Techtextil*, GKD – Gebr. Kufferath AG (GKD) will be demonstrating the huge versatility of technological applications for mesh designs made of and with metal. GKD is the world's leading manufacturer of high-performance meshes developed for specific applications in industry, process belts, and architecture. At the trade fair in Frankfurt, the company will be focusing on displaying the potential of customized smart products made of metal and hybrid meshes. Their all-around consulting, development, and manufacturing expertise makes the weave experts the ideal contact for pioneering solutions. From May 14 to 17, specialists from Development, Sales, and Process Technology will be available to discuss tasks you have in the pipeline and promising implementation ideas at Stand D79 in Hall 3.1.

New fields of application and increasing requirements for products or processes require high-performance alternatives to existing solutions. With an unparalleled range of weavable materials and material combinations as well as proprietary high-end looms, GKD offers previously unheard of solutions to these challenges. Generally, GKD combines a basic metal structure with any industrially weavable material to suit the specific application. Whether metal, special alloys, or nonmetals such as polymer, ceramic, or glass, whether as a cable, wire, or fiber: by precisely combining materials and selecting the weave type and technique, GKD gives the basic structure smart factors that go far beyond the performance spectrum of a normal mesh. This is largely thanks to the metallic components, which provide many sought-after properties compared to polymer. For instance,



abrasion resistance, electrical or thermal conductivity, shielding of electrical fields, tensile strength, resistance to high temperatures, safety buffers due to improved mechanical stability, or drape ability can be precisely combined and calibrated. What's more, stainless steel mesh is UV-resistant and meets sustainability requirements such as recyclability, durability, resistance to cleaning, and offers fire retardant properties.

Nothing is impossible

GKD weaves every material on its own or in combination and in all directions – in the warp as well as in the weft. Up to ten material components can be combined in this way – monofilaments and multifilaments as well as fibers. To achieve this, the state-of-the-art looms possess up to three warp systems. In the weft, GKD processes monofilaments made of polymer or metal with controlled feed in wire diameters ranging from 13 micrometers to five millimeters – a spectrum that is found nowhere else on the market. This weaving technique makes it possible to weave in thick, thin, or even different materials tailored partially and selectively to the specific customer requirement. For example, electrodes can be woven in at defined intervals, heating wires inserted for sectional heating, or LED strips incorporated as in the *Mediamesh* architectural system. GKD selects just the right weave type for the application: single-ply, multi-ply, three-dimensional or multifunctional weave systems that unite electronics, sensors, and other properties. What makes these smart solutions possible is the machine technology developed in-house that enables even materials with different material parameters, such as distension, tensile strength, or Rp0.2 (yield point), to be processed.

Pioneering designs

With its masterful management of weave types, material combinations, and machine technology, GKD opens up virtually unlimited possibilities for innovative processes or products to developers, product designers, or



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researchers. Be it diagnostics, monitoring aggregate states, shifting performance limits, or substituting finite materials or common coatings: drawing on a variety of proven solutions, GKD will be presenting what woven metal designs are capable of at *Techtextil*. Here are just a few examples of what's in store: inductive battery charging, shape memory alloys in lightweight construction, and the integration of shielding components in composite materials. Its sheer scope as a solution provider makes the owner-run SME a sought-after contact not only at *Techtextil*, but also a popular partner in numerous research projects when it comes to combining the physical properties of different materials in a mesh.

You can find

**GKD – Gebr. Kufferath AG at
Techtextil
Messe Frankfurt
May 14 – 17, 2019
Hall 3.1, D79**

4.506 characters incl. spaces

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As a privately owned technical weaver, GKD - Gebr. Kufferath AG is the world market leader in metal, synthetic and spiral mesh solutions. Four independent business divisions bundle their expertise under one roof: Industrial Mesh (woven metal mesh and filter solutions), Process Belts (belts made of mesh and spirals), Architectural meshes (façades, safety and interior design made of metal fabrics) and Mediamesh® (Transparent media façades). With its headquarter in Germany and five other facilities in the US, South Africa, China, India and Chile – as well as its branches in France,



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Spain, Dubai and worldwide representatives, GKD is close to markets anywhere in the world.

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