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WIRE MESH

Our strategy for your success

IMAGE BROCHURE



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Our strategy for your success

DGS Drahtgestricke GmbH

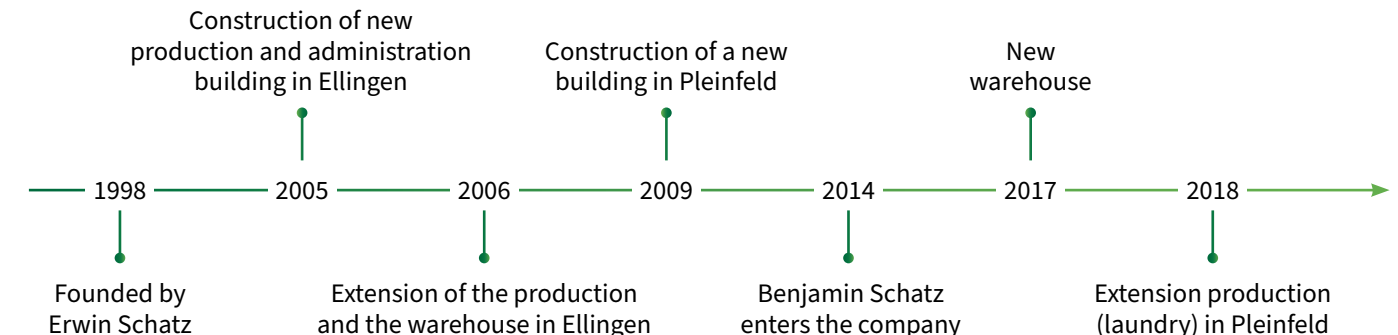
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What began with only one employee in 1998 is today a family-owned company in the second generation with about 50 employees. Wire meshes made of metal or plastic are produced at DGS as coils, but we also manufacture wire mesh products such as filters, droplet separators or pressed parts, just the way our customers need it. Environmental technology, process engineering, used air extraction technology or automotive engineering: The operational areas are diverse, and we enjoy working with our customers on new ideas and solutions. Our well-stocked stores, efficient production and our own cleaning of industrial parts make us a fast, flexible and reliable partner.

- Currently 3,000 square metres of production and storage area
- Family-owned company, where also the training of new employees takes place, with about 50 employees
- 30% of our production goes into export
- A constantly growing number of customers in Germany, Europe and worldwide
- Co-operation with several industrial agencies/trading partners
- Our own cleaning of industrial parts

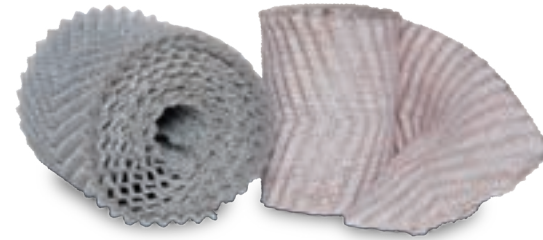


WIRE MESH ROLLS

If you use local public transport you may be sitting on one of our wire meshes. They protect the upholstery from vandalism: attempts at stabbing and cutting have no chance of penetrating the metal. But the operational areas can also be far more specialized: for example barrel extruders in the injection moulding are cleaned with wire meshes, in a similar way that baked-on food in pans is removed by a metal sponge. Protection, heat- and sound insulation, filtration and separation: the applications are various.



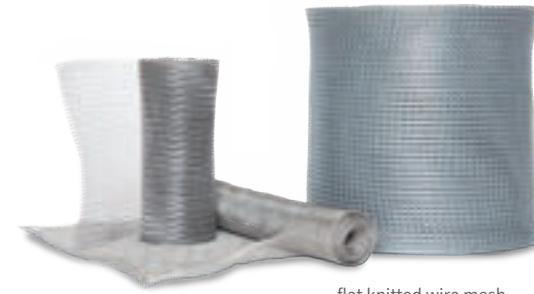
anti-vandalism wire mesh



crimped co-knitmesh

At the heart of all our products is the mesh. Unlike in meshes with several loose components a single metal wire is turned into meshes that stick together. The wire runs from a reel to the needles winding around the metal – resembling a knitting dolly. The result is a flexible, yet stable wire mesh.

With our knitting machines and well-assorted stocks we are able to produce bespoke items according to the special needs of our customers. The more needles the more meshes: in the end, the fabric comes out of the machine as a fine-meshed cord as wide as a finger but also as a broad coarse-meshed but nevertheless stable band. It either remains flat or is given a three-dimensional shape by means of rollers with a slanted or arrow-shaped corrugation. This gives the mesh more volume.



flat knitted wire mesh

Depending on customer requirements the wire diameter can be only 0,03 millimeters or up to 0,8 millimeters. It is round or rolled flat before knitting, which increases the surface of the mesh. Types of metal used are for example aluminum, copper, brass, stainless steel or iron. We can also produce acid-proof plastic meshes or combinations of metal, plastic or synthetic- and glass fibres, consisting of several threads.

We can decide which mesh is best suited for the purposes of our customers on a chemical and physical basis and last but not least because we have decades of experience. Of course we also like to develop individual special solutions (see page 12).

Types and variations:

- ✓ wire thickness: 0,03 mm - 0,8 mm
- ✓ round or flat wire
- ✓ aluminum, copper, brass, titanium, stainless steel, iron (bare/galvanized) etc.
- ✓ plastic, synthetic fibre or meshes made of different materials
- ✓ mesh size: from 2/2 mm upwards
- ✓ fabric width: 10 – 1200 mm
- ✓ flat or with slanted or arrow-shaped corrugation
- ✓ oil- and grease-free as well as chaff-free possible



circular knitting-machine

DROPLET SEPARATORS

For environmental technology and process engineering our droplet separators are used in all industries, especially in chemical and petrochemical plants. The goal is to separate liquids from gases, for example in gas air cleaning, in distillation units and in absorption columns or steam boilers.

Several layers of our wire mesh are put on top of each other and create a porous but nevertheless dense mesh. When steam flows through, droplets sooner or later are stopped by the tightly knitted mesh. The liquid collects and drips down, whereas the gas flows out. Separation efficiency is high, there is little loss of pressure and the meshes are extremely durable.

We can produce the droplet separators as well as the materials used for new or existing plants and adapt them to the customer's needs and type of application. Crucial for our calculations are the quantities of material used and the operating temperatures involved.



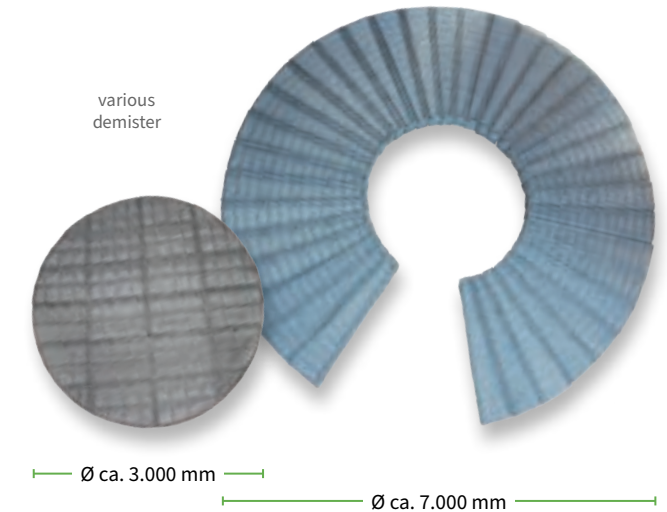
assembly of a demister

We also produce the supporting and covering grids individually. Droplet separators the size of a football as well as especially designed ones the size of a swimming pool are manufactured in our production areas.

The varieties in material and density are so great that the droplet separator can also work in reverse as an evaporator. In seawater desalination plants, for example, the liquid containing salt is separated and collected in the wire mesh and the hot water steam flows through the droplet separator. The steam condenses and can be collected as fresh water.



wetted surface of a droplet separator



Types and variations:

- /// wire meshes, plastic meshes or combinations (see page 4)
- /// horizontal or vertical installation
- /// with or without supporting grids
- /// individual sizes for new or existing plants

METAL FILTERS CASSETTES

Everybody has already seen metal filter cassettes. In everyday life they are used in extractor hoods and air conditioning systems. But also in industry filter cassettes can be used for coarse or fine separation and thus fulfill requirements in environmental protection and job safety, for example in kitchens, in situations involving welding and in manufacturing plants.

Several layers of filter mesh clean the air which is sucked in of dust, oil mist or cooling lubricants – either before or after the production process or in combination. Galvanized iron, aluminum or stainless steel: depending on the application we choose the right metal mesh or suitable combinations of materials. In reverse as well, the filters cassettes can be used as vaporizers for all-over humidification.



electropolished filter with suspension

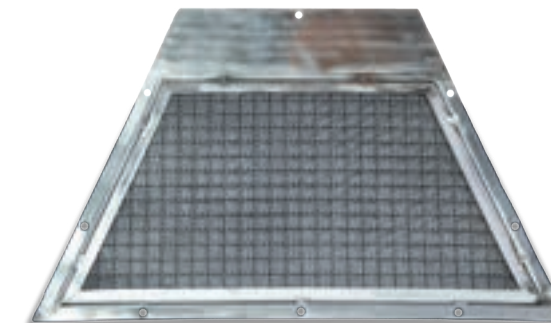
At **DGS** we produce filter cassettes in all shapes and sizes including metal frames and grids on the front and back side. It does not matter if it is a series filter or an individually produced piece. We carry out the metal work in our own plant and thus can provide a custom-fit product for the customer fast and without problems.

Types and variations:

- ✓ coarse or fine separation
- ✓ individual shapes and dimensions
- ✓ galvanized iron, aluminum, stainless steel or combinations of materials
- ✓ covers made of wave grids, welded grids, expanded metal or fabric
- ✓ manufactured in our own plant



Oil mist separator in use



trapezoidal metal filter

TECHNICAL MESHES

PRESSED PARTS

When layers of a defined quantity of wire mesh are put on top of each other and pressed into shape under high pressure, compacts are produced. They are durable, resist weather and heat and thus fulfill a wide range of tasks: as seals and insulations in a high-temperature environment, as particle filters in gas-powered cars or as anti-vibration device wherever rubber gets porous due to aging and embrittlement.

Designs and variations:

- made of copper, aluminum, stainless steel or iron
- different wire thicknesses, mesh sizes and densities of compression
- shape and size according to customer requirements
- see also: Special solutions (page 12)



various pressed parts
and vibration damper



TECHNICAL MESHES

CORDS AND SEALS

Cords and seals show the many different kinds of application in the further processing of our wire meshes. For example, wire mesh is wrapped around a hollow cord several times or – partially by hand – a thinner cord is pulled through. This results in a stable and dense metal cord. By subsequent pressing, a solid metal band is created. These bands are suitable as seals or as a conductive component in the electromagnetic field.

Types and variations:

- made of copper, aluminum, stainless steel or iron
- different wire thicknesses, mesh sizes and densities
- solid or hollow cord
- round, angular or special shapes



Knitmesh cords and sealing elements



technical knitted fabrics made of plastic

SPECIAL SOLUTIONS

Many industrial companies, start-up entrepreneurs and product designers of products might not know it yet – but wire meshes could be just the right solution to their problem, however special it may be. For example protective respirators in mining are equipped with wire meshes that filter and cool the inhaled air even in an extremely hot environment. When hydrogen is produced by means of electrolysis, the gap between the electrodes and the membrane is filled with an elastic element made of wire mesh – due to the even distribution of tension excellent results can be achieved.

Wire meshes do not weigh much and are flexible, but nevertheless are enormously stable and hard-wearing. With our desire to innovate and expert knowledge we are constantly discovering new areas of application with our customers. If required we produce especially shaped compacts, cylindrical filter cartridges or individual coating and sheet metal casing for the meshes. The metal processing and welding work is mostly done in our own

plant or in close co-operation with partner companies – thus our customers are provided with components to their own exact specifications.

Quite a number of special solutions from our production centres have made it into volume production. Original ideas created together with the customer have thus developed into longtime partnerships and into mutual success.



metal filter in cone shape



ring-filter for kitchen exhaust air



filter cartridge
with knitted wire mesh



pressure vessel
with droplet eliminator insert

WIRE MESHES WITH TECHNICAL CLEANLINESS

When the finished wire meshes leave our DGS production halls, they must often be cleaned before further processing. On the machinery also during subsequent processing residues of oil and particles are left on the metal products.

These can become a problem later during further processing, if they are not removed: but if the metal is painted, coated or glued, it should really be free of grease. When materials are exposed to high temperatures, residues produced during processing can result in disagreeable odours. And in the field of e-mobility for example, it would be fatal if small particles or impurities on the metal parts triggered a short circuit. Of course, components should be as clean as possible, particularly in food and medical areas as well.

At DGS we take care of the cleaning and degreasing of our wire products ourselves. Thus we are flexible as to the time frame and can guarantee products of perfect

quality. By means of solvents and subsequent vacuum drying our industrial cleaning machines remove oil, grease and remnants of other elements as well as any particle residues of the solvent.

It is true that a one hundred percent cleanliness is technically not possible, yet we can exclude particle residues up to a defined size from the end product. Besides that, we are one of the few companies, who have set up our own laboratory. This means, after cleaning, we can produce a detailed analysis of any of the remaining issues.

Additional services:

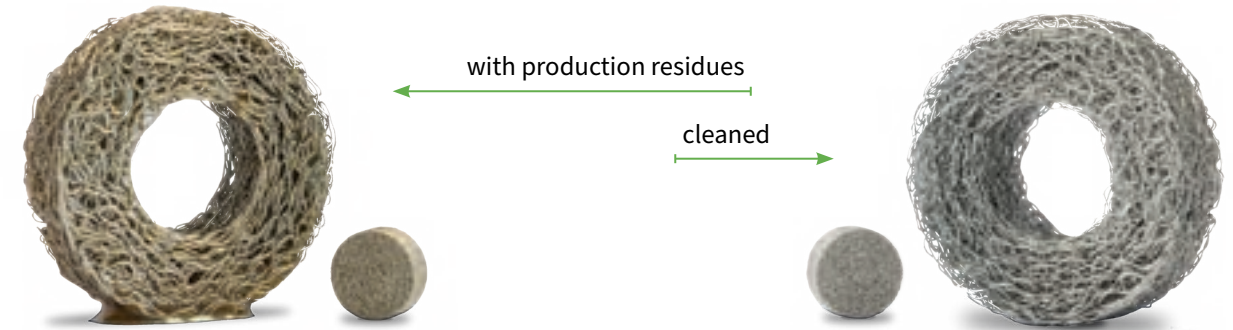
- ✓ oil- and grease-free cleaning of wire meshes
- ✓ cleaning and degreasing by means of solvents
- ✓ removal of metallic particles and particles > 200 µm
- ✓ analysis of remaining issues in our own laboratory



laboratory for technical cleanliness



documentation of the residual dirt analysis





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