

GRAPHITE DISPERSIONS.

TECHNICAL INFORMATION

A diagram of a graphene lattice structure, showing a network of interconnected hexagons. The hexagons are rendered in a light blue color, with some solid and some outlined. A larger, solid light blue hexagon is positioned in the lower-left area of the diagram, containing the text 'INTELLIGENCE IN GRAPHITE'.

INTELLIGENCE
IN
GRAPHITE

INNOVATIVE AND EFFICIENT SOLUTIONS.

GRAPHITE DISPERSIONS

Many years of experience in the field of graphite dispersions has continuously increased the quality and performance of the Graphit Kropfmuehl products in the market. Being a graphite refiner with own mines, we have total control over the performance indicators in our formulations. Choosing the right raw material source in combination with the matching subsequent process, we are able to offer dispersion products for a wide variety of applications.

WHAT IS A DISPERSION?

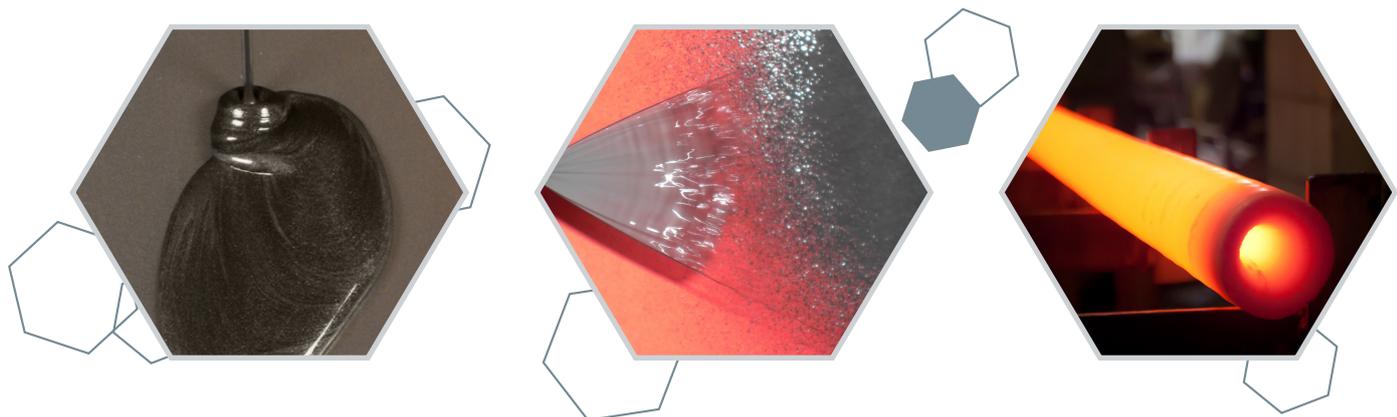
- › A mixture of minimum two different materials
- › Single phases can be clearly defined and can normally be separated by physical means
- › A dispersion of a solid in a liquid is called a suspension. In the case of graphite the designation "dispersion" is universal
- › Dispersed solid particles $< 1 \mu\text{m}$ are known as colloidal dispersions

FIELDS OF APPLICATION

Graphite dispersions are used in applications that require a uniform and fine distribution of graphite within the carrier material. Depending on each individual application, the following dispersion properties are of decisive importance: Sedimentation stability, surface tension, wetting behavior on different surfaces, adhesive power on different surfaces, drying time, viscosity, pH-value, and ionogeneity. In order to improve the dispersing effect, tailor-made formulations, apart from graphite and the dispersion agent (in most cases water), also contain protective colloids, preserving agents, and other additives. Graphite dispersions can be individually produced for any application.

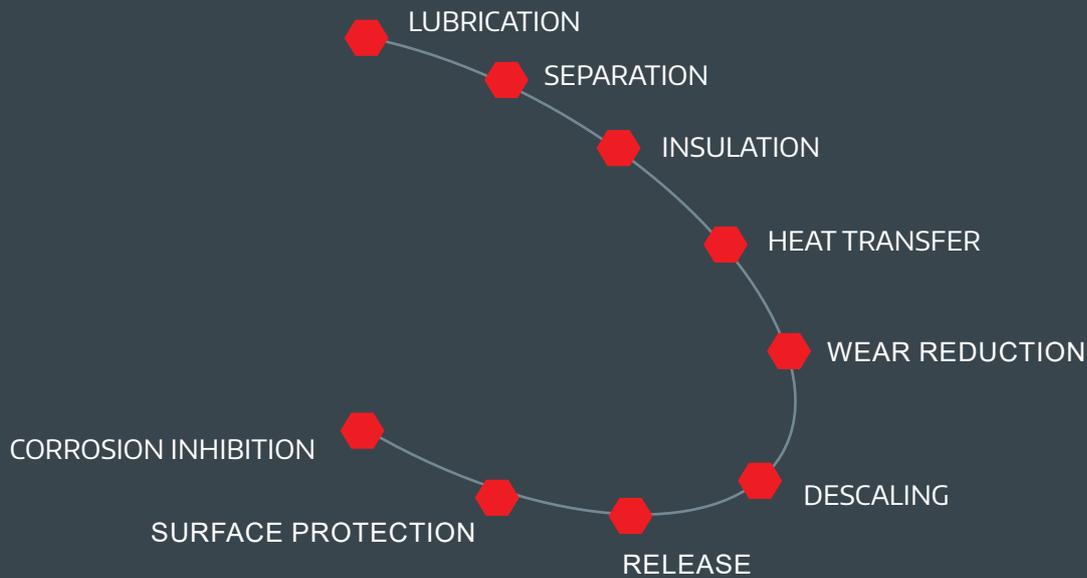
THE MAIN FIELDS OF APPLICATION ARE:

- › Graphite dispersions for metal forming
- › Graphite coating dispersions
- › Graphite additives



GRAPHITE DISPERSIONS FOR METAL FORMING

Lubricant properties in the metal forming process:



Water or oil based dispersions with fine grained graphite improve forging operations. Higher productivity combined with cost reductions result from tailor-made graphite lubricants. A wide range of products is available for both, the warm and hot forging process.

Coarser grained graphite dispersions meet the high temperature requirements for mandrel bar lubrication and rolling applications. Graphite based dispersions are used as release agents in a wide variety of casting and moulding appliances.



GRAPHITE COATING DISPERSIONS

Graphite coating dispersions are applied on different surfaces to create a layer for reducing friction. The graphite coating dispersions can be applied on metallic, non metallic, plastic, rubber or natural basic materials.

Graphite coating dispersions are used to create a conductive or protective coating. Depending on the operation condition the dispersion contains a solvent or polymeric based binder.

GRAPHITE ADDITIVES

Graphite is added to a solvent, oil or water to enhance properties and performance. An oil based graphite dispersion can be used as an additive to a mineral or synthetic oil to achieve emergency running properties.

A water based graphite dispersion is mixed with an oil to create a product that withstands high temperatures. A solvent based graphite dispersion impregnates different materials and leads to conductivity in the material matrix.

OUR PRODUCTS

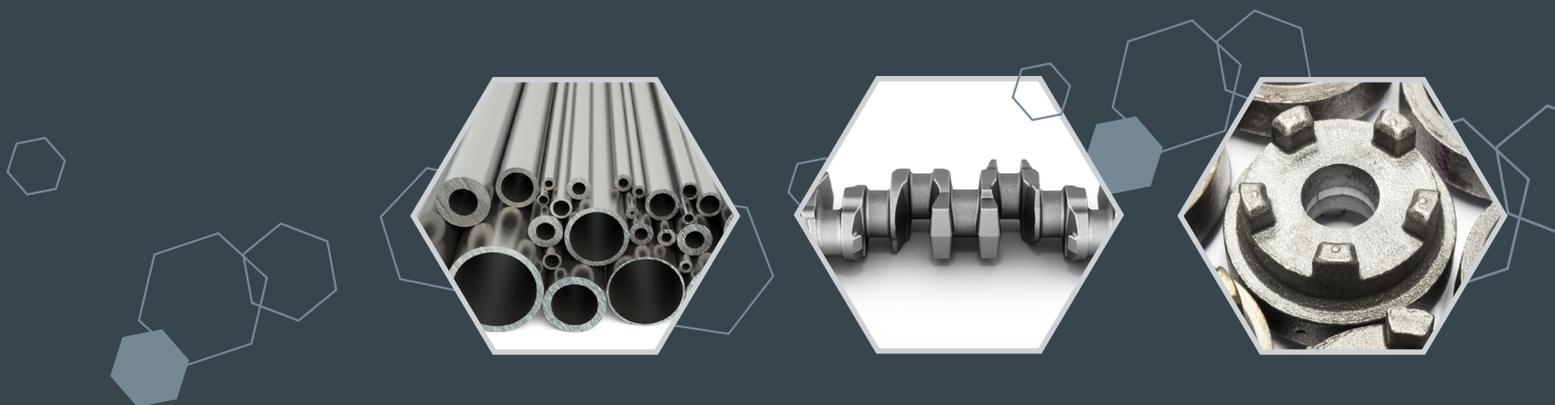
BRAND	APPLICATION AREA
Grap Aqua	Hot metal forming
Aquanet	Hot metal forming
Graflak	Corrosion protection
Aquapowder	Hot metal forming
Grafein	Lubrication of railway points
Descalin	Descaling agent
Drigosin	Paint for corrosion protection
Graphipol	Surface coating, corrosion protection

If you have a special demand Graphit Kropfmühl is offering tailor-made solutions according to customer's needs. Please contact us.

We provide for:

- › synergistic premixes
- › formulations with $d_{50} < 2,0 \mu\text{m}$ graphite
- › dispersions for airspraying, printing, airless application systems
- › comprehensive technical support

We are delivering graphite dispersions that are „ready to use“ or as powder mixtures which must be dispersed on site using special high performance mixers.



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