



EDMfluid-GR

Special synthetic dielectric fluids for EDM grinding operations

Description

The **EDMfluid GR** range of products are synthetic, medium-viscosity dielectric fluids formulated with paraffin-based hydrocarbons. These substances, specially developed for the new technologies used for **electroerosion grinding**, are subject to innovative purification processes and with added components suitable to generating the ionisation channel.

The **EDMfluid GR** range includes two viscosity grades to answer to the most exacting processing requirements, specifically for tool, or synthetic-diamond polycrystalline (PCD), sharpening and/or form grinding. The **EDMfluid GR** products are also characterised by a relatively high flash point (in relation to their viscosity grade), are odourless, colourless, have a negligible aromatic hydrocarbon content, high viscosimetric stability, low tendency to evaporation and very high processing safety levels.

Properties and benefits

The **EDMfluid GR** product range offer the following benefits, according to their properties, with regards to their effectiveness during EDM grinding and the requirements of this particular processing method:

- High dielectric rigidity and ability to concentrate the discharge energy within the electroerosion area. This means the **EDMfluid GR**, as well as ensuring that machining may be done at high frequencies, guarantees high performance in terms of:
 - finish and precision;
 - lower wear and tear of grinding electrode;
 - no voltaic arc and bridges, which normally mean a production standstill and loss of output;
 - suitable viscosity to guarantee continuous flushing action in the grinding area, to facilitate removal of dust and swarfs;
 - viscosimetric stability necessary to ensure long term flushing performance;
 - good cooling properties;
 - flash point suited to the required application;
 - low tendency to evaporation;
 - very low fume emission;
 - total clearness of product, which is colourless to guarantee excellent visibility of the machining area;
 - high filterability, useful to ensure a longer economic life to the filters, to the electrode and to the product stability;
 - no chemical reactivity, considering the low PNA content, to metals and machine sealing components;
 - optimal skin tolerability;
 - excellent properties of oxidation resistance, thanks to the high refining of the product. This translates into a longer economic life of the product fill.



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Applications

The **EDMfluid GR** products have been specially developed for EDM grinding by bullet, particularly during sharpening of circular cutters with PCD inserts.

Specifications

The **EDMfluid-GR** product range answer to the most exacting requirements of EDM machine manufacturers, especially with regards to the specifications by Grifo, Lach Diamant, Vollmer, etcetera.

Safety and storage

The **EDMfluid-GR** products are not hazardous during normal operative conditions. However, it is recommended to install fume extraction systems even for products with such low fume emission. Further information on health and environmental safety is available on request.

It is recommended to store the product indoors. If storing outside is necessary, keep the drums upright to avoid water infiltration, as this substance, by altering the dielectric rigidity of the dielectric fluid even when present in the tiniest quantity, is not compatible with electroerosive processing.

If the product is stored outdoors, please ensure the surrounding temperature is always at least 5 °C above the product's freezing point.

Standard characteristics

EDMfluid GR			1	2
Characteristics	Test method	Unit of measurement	Values	
Appearance			Clear and colourless	
Density at 15 °C	ASTM D4052	kg/l	0.768	0.782
Kinematic viscosity at 20 °C	ASTM D445	cSt	2.9	4.00
Flash point (PM)	ASTM D93	°C	≥108	≥115
Boiling range	ASTM D86	°C	6	45
Colour	ASTM D156		+30	
Odour			None	
Aromatic hydrocarbon content	UV spectr.	%	<0,001	
Doctor test	DIN 51765		negative	

The above data are typical of production and are not product specifications