



# EDMfluid W

*Special* synthetic dielectric fluids for immersion wire EDM

## Description

The **EDMfluid W** product range includes innovative synthetic dielectric fluids specially developed for modern immersion wire EDM processing techniques.

The **EDMfluid W** products thanks to their viscosity grades, the very short distillation range, the relatively high flash point, the negligible content of aromatic hydrocarbons, the odourlessness and their viscosimetric and chemical-physical stability are the long term answer to the newest die-sinking EDM process, specifically for hard metal or synthetic-diamond polycrystalline (PCD) machining.

The **EDMfluid W** range of fluids are formulated with paraffin-based hydrocarbons. These substances are subject to innovative purification processes and with added components suitable to generating the ionisation channel.

The **EDMfluid W** range includes three viscosity grades suitable for the widest machining requirements, from the highest cutting thickness to the smallest diameter wire employed.

## Properties and benefits

Thanks to their innovative formula, use of the **EDMfluid W** products in the immersion wire EDM process offers the following benefits, compared to traditional demineralised water:

- No rust and metal corrosion;
- No hydrolytic phenomena due to the presence of water;
- Normal filter systems in common with those used for die-sinking EDM;
- Less extreme cooling action in the machining area;
- No fungal and bacterial growth;
- Continuous monitoring of product levels to restore anticorrosion properties unnecessary, as using additives such as those normally used for water systems.

The hydrocarbons used in the **EDMfluid W** formula ensure the following further benefits when compared to conventional hydrocarbon based dielectrics:

- ⇒ Very low fume emission;
- ⇒ Total clearness;
- ⇒ No chemical aggression to paints and seals;
- ⇒ High viscosimetric stability due to their unusually short distillation range;
- ⇒ High long term flushing properties even for last generation minimum-diameter wires;
- ⇒ High filterability, necessary to ensure a long economic life of the filter systems.

## Specifications

The **EDMfluid W** products range answer to the most exacting requirements of wire EDM machines using hydrocarbon-based dielectrics such as Mitsubishi, Sodick and Vollmer.



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## Applications

The **EDMfluid W** products are specially suited to wire die-sinking machining when generating high precision geometries and for very low surface roughness, and specifically for machining hard metal shearing dies and punches, and for synthetic-diamond polycrystalline (PCD) tool production.

## Storage and safety

The **EDMfluid W** 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.

## Standard characteristics

EDMfluid W			60	85	100
Characteristics	Test method	Unit of measurement	Values		
Appearance			Clear liquid		
Density at 15°C	ASTM D4052	kg/l	0.745	0.751	0.762
Kinematic viscosity at 20°C	ASTM D445	cSt	1.68	1.9	2.4
Flash point	ASTM D93	°C	≥68	≥85	≥95
Boiling range	ASTM D86	°C	6	6	6
Colour	ASTM D156		Colourless, +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.