



EDMfluid[®]

The range of the dielectric synthetic fluids



POWER TO CREATE

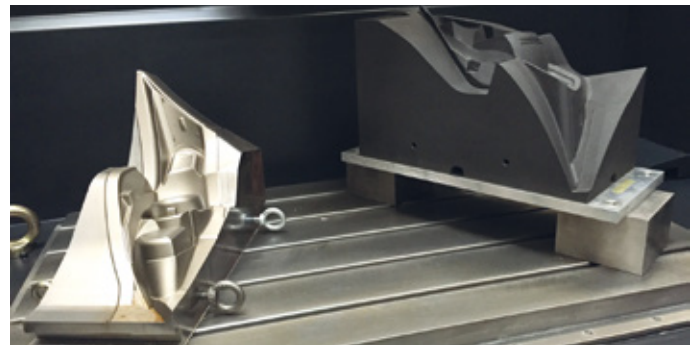
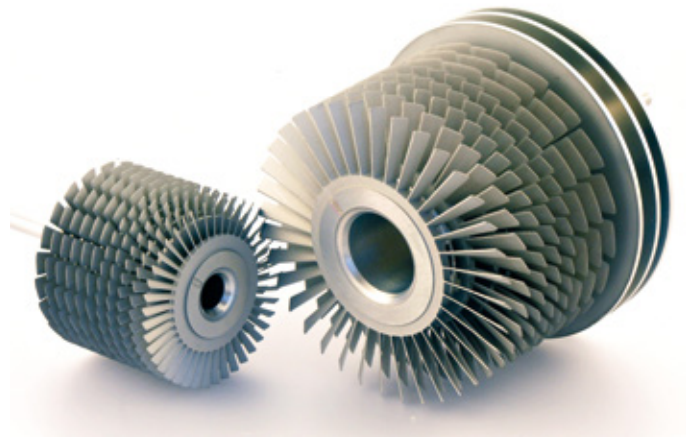
DIE SINKING EDM

The range of the dielectric synthetic fluids for Die Sinking EDM consists of six viscosity grades containing special additives aimed at facilitating the formation of the ionization channel.

EDMfluid® series S

The advantages offered by this range compared to the traditional dielectric fluids are the following:

- Opportunity to choose the optimal viscosity grade.
- Very narrow distillation ranges.
- High chemical and physical stability.
- Very reduced tendency to evaporate.
- Colourless.
- Odorless.
- Irrelevant presence of light aromatic hydrocarbons ($\leq 0.0001\%$ in volume).
- Very low content of heavy aromatic hydrocarbons ($\leq 0.001\%$ in volume).
- Uniform surface finishing.
- Reduced finishing times.
- Decrease in electrode wear.
- Optimal operational performance for long working periods.
- Very low aggressive action human skin.
- It can be easily filtered even after prolonged working times.
- Very low tendency to foaming phenomena.



PRODUCT	VISCOSITY AT 20°C cSt	FLASH POINT (ASTM D 93) °C	DISTILLATION RANGE (°C)	SCOPE OF APPLICATION
EDMfluid® 80-S	1.83	≥ 80	6	Superfinishing $r_a < 0.8 \mu\text{m}$
EDMfluid® 95-S	2.36	≥ 95	6	Finishing $r_a 0.8 \div 1.6 \mu\text{m}$
EDMfluid® 108 MP-S	3.00	≥ 108	6	Multifunctional, aerospace industry, gas turbines, automotive etc $r_a 1.0 \div 3.2 \mu\text{m}$
EDMfluid® 110 MP-S	3.30	≥ 110	30	For dies intended for die-casting with $r_a 2.0 \div 4.0 \mu\text{m}$
EDMfluid® 113-S	4.10	≥ 112	50	To manufacture dies for extrusion and hot forming in the presence of medium, heavy-duty rough-machining and to generate narrow blind deep cavities $r_a 3.2 \div 5.0 \mu\text{m}$. Amperage ≥ 60 Amper
EDMfluid® 115-S	5.10	≥ 122	45	To manufacture dies with high surface roughness and heavy-duty rough-machining operations with Amperage ≥ 80 Amper, $r_a 3.2 \div 5.0 \mu\text{m}$

WIRE EDM

The range of dielectric synthetic fluids for plunge or perfusion wire EDM for the new technologies intended for the manufacture of matrix dies and punches in Carbide and tools in PKD, consists of three viscosity grades.

They are formulated with high-purity hydrocarbon substances with a high viscosimetric stability.

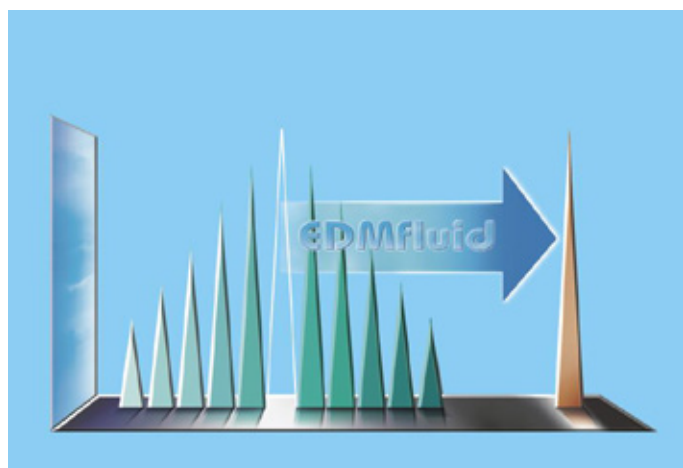
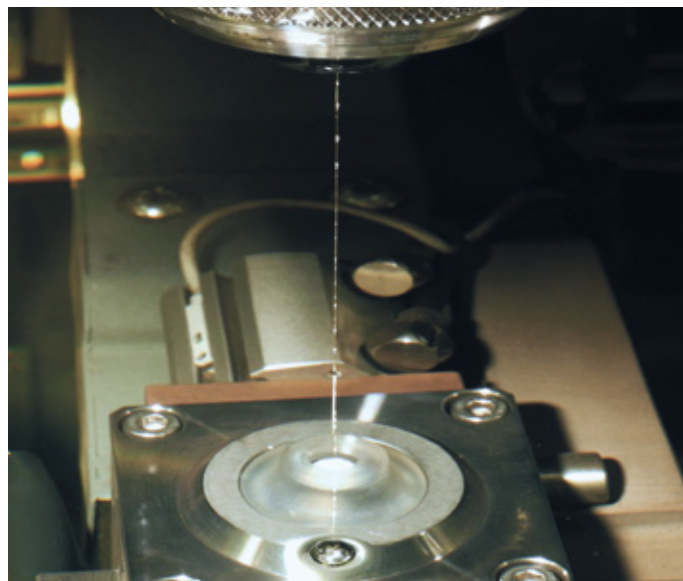
EDMfluid® series W

Especially developed for:

- Machining Carbide, avoiding the phenomena resulting from the cobalt solubilization which arise with demineralized water-based wire EDM machines.
- Processing industrial polycrystalline (PKD).
- Eliminating all corrosion phenomena due to the use of demineralized water.
- Meeting the new technologies of wire micro EDM and PKD tools manufacture.

The operational benefits deriving from their formula level are the following:

- Opportunity to choose the optimal viscosimetric grade in connection with the wire diameter used and the thickness of cut to be performed.
- Very reduced distillation ranges.
- Very high viscosimetric stability resulting from their very narrow distillation range.
- Constant flushing and cleaning properties in the cutting area.
- Lesser evaporation compared with to the traditional fluids with high distillation range.
- Irrelevant presence of light aromatic hydrocarbons ($\leq 0.0001\%$ in volume).
- Very low content of heavy aromatic hydrocarbons ($\leq 0.001\%$ in volume).
- Easily filtrable.
- High, constant surface finishing.



PRODUCT	VISCOSITY AT 20°C cSt	FLASH POINT (ASTM D 93) °C	DISTILLATION RANGE (°C)
EDMfluid® W 60	1.68	≥ 68	6
EDMfluid® W 85	1.9	≥ 85	6
EDMfluid® W 100	2.4	≥ 95	6

EDM MICRO-DRILLING AND NANO DIE SINKING EDM

Two formula concepts are envisaged for these application technologies. The EDMfluid AD series formulated with synthetic hydrocarbons is suitable for both high-dimensional accuracy micro-drilling technology and nano sinker EDM process.

EDMfluid® series AD

The range consists of three fluids formulated with high-purification degree synthetic hydrocarbon substances characterized by very narrow distillation ranges. Their characteristics are such to meet the most up-to-date needs of both high-dimensional, geometrical accuracy Micro-Drilling technology and Nano Die Sinking applications.

Thanks to the synergistic interaction among the chosen synthetic paraffinic bases and specific additives capable of hastening the formation of the ionization channel they ensure the following benefits compared with the conventional fluids.

- Opportunity to choose the optimal viscosity grade with relation to the dimensions of hole and volumetric geometry to be generated.
- Very reduced distillation ranges.
- Very high viscosimetric stability resulting from their very narrow distillation range.
- Constant flushing and cleaning properties inside the drilling pipes.
- Lesser evaporation compared with the conventional fluids with same viscosity.
- Irrelevant presence of light aromatic hydrocarbons (≤ 0.0001 % in volume).
- Very low content of heavy aromatic hydrocarbons (≤ 0.001 % in volume).
- Easily filtrable.
- High, constant surface finishing.

PRODUCT	VISCOSITY AT 20°C cSt	FLASH POINT (ASTM D 93) °C	DISTILLATION RANGE (°C)	SCOPE OF APPLICATION
EDMfluid® AD 70	1.68	≥ 70	6	For holes with diameter ≤ 0.6 mm and nano EDM
EDMfluid® AD 80	1.9	≥ 85	6	For holes with diameter between 0.6 mm and 1.5 mm and nano EDM
EDMfluid® AD 90	2.4	≥ 90	6	For holes with diameter above 1.5 mm and nano EDM

EDMfluid® series WF

This series consists of two different hydrocarbon-free formula concepts specifically developed for the requirements of fast micro-EDM drilling using water-based technology.

They are characterized by:

- High chemical and physical stability.
- High filtration rate.
- Lack of unpleasant smells.
- High erosive performance.
- Excellent rust inhibitor and anticorrosive protection of machined pieces.

PRODUCT	COLOR	SCOPE OF APPLICATION
EDMfluid® WF 100	Light blue	Suitable for all water micro-drilling machines, excluding GFM Solutions and Sodick.
EDMfluid® WF 200	Colorless	Specific for GFM Solutions and Sodick water micro-drilling machines.

EDM GRINDING

EDM grinding is suitable for manufacturing and sharpening polycrystalline diamond tools (PKD). The series consists of three viscosity grades: the first two are specific for machining PKD, while the third one is specific for the new grindings machines able to machine both PKD and Carbide with EDM grinding and abrasive grinding with diamond wheels with a single fluid boasting a “double” function: dielectric fluid and lubricoolant.

EDMfluid® series GR

Compared with the conventional fluids these products ensure the following benefits:

- High viscosimetric stability.
- High chemical and physical stability.
- Lack of odors and smokes.
- Very reduced tendency to evaporate.
- High flash point with relation to their viscosity.
- High filtration rate.
- High finishing degree.
- Irrelevant presence of light aromatic hydrocarbons ($\leq 0.0001\%$ in volume).
- Very low content of heavy aromatic hydrocarbons ($\leq 0.001\%$ in volume).
- Excellent cooling and cleaning power in the abrasive grinding for GR 10 grade.

EDMfluid® series GR 10



EDMfluid® series GR 2



PRODUCT	VISCOSITY AT 20°C cSt	FLASH POINT (ASTM D 93) °C	COLOR	SCOPE OF APPLICATION
EDMfluid® GR 1	2.9	≥ 108	Colorless	EDM grinding of PKD
EDMfluid® GR 2	4	≥ 115	Colorless	EDM grinding of PKD
EDMfluid® GR 10	13	≥ 155 (ASTM D 92)	Colorless	EDM grinding of PKD and abrasive grinding of carbide

STEELFLUID IN THE WORLD



- Austria
- Belgium
- Bulgaria
- Cyprus
- United Arab Emirates
- Finland
- France
- Germany
- Greece
- India
- Israel
- Italy
- Lithuania
- Malta
- Morocco
- Poland
- Portugal
- United Kingdom
- Czech Republic
- Romania
- Russia
- Slovakia
- Slovenia
- Spain
- Switzerland
- Turkey
- Ukraine
- Hungary



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