



specialty fluids

EDM 118

Advances in EDM machine capabilities means it is time for a more advanced fluid that can keep up to the new 'fuzzy logic' being offered. A growing awareness of health and safety requires a fluid that is kinder to the work place and the operator's skin. Here comes EDM 118 a true 'work horse' fluid giving outstanding qualities to the value conscious user. Although not a full synthetic it provides most of the same benefits at a fraction of the cost. Among the benefits you can expect are:

- high flash point without sacrificing flush
- proven shop performance
- crystal clear fluid means you can see the work piece
- low viscosity means excellent flushing for faster and better cuts
- little or no evaporation means long fluid life
- high dielectric strength means you can maximize the benefit of today's 'fuzzy logic'
- lowest power factor means all of the power works for you not against you
- less skin problems caused by defating the skin
- no odor means better working conditions for your employees
- compatible with most fluids and filters
- good for use with all metals

Property	EDM 118
Specific Gravity	0.830
Viscosity	3.2
Pour Point	-51°C
Flash Point	135°C
Aromatic Content	<0.01%
Dielectric Strength	>40 kv*
Acid Number	<0.01
Power Factor	0.15%

*test suspended

Call us at 1-877-737-9414 for application recommendations. Your operators will appreciate working with EDM 118, the class act of dielectric fluids.



Explanation of EDM Oils

EDM oils act as insulators for electric current. An electric current can only pass through the oil when sufficient voltage is applied. The amount of voltage needed to overcome the insulating power of the oil is called the “DIELECTRIC STRENGTH”. (The higher the dielectric strength of the oil, the more insulation it provides and the more controlled the process.) When the applied voltage is high enough so that the current can pass through the oil, the current will actually heat up the metal enough that it will melt it or “burn” it. At this point, the EDM oil acts to cool the metal, and flush away any burnt off metal. This process occurs thousands of times a second, and can be used to form a variety of designs and shapes. The “POWER FACTOR” of an oil measure the amount of current that leaks through the oil before the “DIELECTRIC STRENGTH” is reached. A higher “POWER FACTOR” means more current is leaking through the oil, which could lead to arcing and/or dimensional inaccuracies in the finished product.

EDM Fluid Test Procedures

Dielectric Strength (ASTM D877)

The amount of voltage that needs to be applied before an electric current can pass through the oil. The fluid is generally acceptable for use if the DIELECTRIC STRENGTH is 30 kV or greater.

Power Factor (ASTM D1298)

The POWER FACTOR is the measure of the electric losses in an electrical insulating fluid. The loss can be attributed to several source contaminants, which degrade the insulating factor of the oil by allowing some current to flow uncontrolled through the oil. As contaminants increase, the current leakage increases, and so do the dielectric losses. These losses are called POWER FACTOR. The results are recorded in terms of the percentage of applied current, which leaks through the oil. A power factor of zero would represent the perfect oil.

Desirable Characteristics of a Dielectric Fluid

1. Dielectric Strength: higher is better.
2. Power Factor: lower is better.
3. Viscosity: lower is better.
4. Flash point: higher is better.
5. Acid number: lower is better.
6. Aromatics: none is best.



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