BENEFITS OF A TRUE WATER SOLUBLE OIL

The terms "water soluble coolant" or "coolants" are general terms which can refer to any metalworking fluid that is mixed with water. This includes what are known as synthetics (chemical base), semi-synthetics (chemical/oil base) and water-soluble oils (oil base). There are many reasons why coolants containing greater than 40% mineral oil, typically classified as soluble oil, are a benefit in most every metalworking application, including both metal cutting and metal forming.

Mineral oil is one of nature's most universal lubricants, possessing the physical properties to lubricate over a wide temperature range. When oil is emulsified in water, its lubricating properties are complemented by the cooling and flushing benefits of the water, to provide a highly effective universal metalworking fluid. The cooling function of the water also serves to prevent the molecular breakdown of oil under high heat. This natural breakdown, typically seen in automobile engines, is prevented as the water keeps the soluble oil well below such extreme temperatures.

In addition to the lubricating benefits of a high mineral oil coolant, there are also formulation advantages. A high mineral oil content in the coolant allows the maximum amount of additives to be built into the product; additives that prevent rust, corrosion and growth.

Hangsterfer's Water Soluble Oils contain approximately 60% mineral oil and 40% additives. Synthetic or semi-synthetic coolants cannot accommodate as high an additive level. These products typically contain from 0 to 30% mineral oil and 10 to 30% additive. The remainder, some times as much as 90%, is water. At a typical in-service concentration of 20:1, a Hangsterfer's Water Soluble Oil compares to the average synthetic or semi-synthetic as follows:

	Lubricant Component of Concentrate	Lubricant Component at 20:1 Dilution
Water Soluble Oil	100%	5%
Semi-synthetic	30%	<1.5%
Synthetic	15%	<0.75%

This means that when you compare the three types of formulations at a 20:1 dilution, the water-soluble oil contains a considerable amount more lubricating additives per given mass of diluted coolant than other technologies. The greater density of lubricating additives in the water-soluble oil means better cutting performance, superior machine lubrication and protection. This is the main reason machine tool manufacturers recognize the importance of a high quality water-soluble oil.

In addition, the Hangsterfer's Water Soluble Oil formulations are user and machine friendly formulations preventing dermatitis and protecting vital machine components such as seals, gaskets, paint, bearings, spindles and slideways. All of which help insure machine tool warranty and guarantees.

Many coolant users have found out the hard way that there are great differences between coolant qualities. As an ***ISO 9001 Certified*** company, products manufactured by Hangsterfer's are of the highest quality available. With the use of high quality Water Soluble Oils from Hangsterfer's, you are assured that the maximum efficiency and reliability during your machining operation can and will be achieved.

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