

## Metalworking fluid

### ISO L-MAF

# FESOL<sup>®</sup> 09

FESOL<sup>®</sup> 09 is semi-synthetic water-soluble metalworking fluid based on mineral oil, emulsifier and suitable additives that provide excellent anticorrosion protection, enduring of extreme pressures, and biostability provides durability in application.

#### ADVANTAGES

- Excellent lubricating and anticorrosion properties,
- High precision and quality of treated surfaces,
- Long life,
- Mild odour,
- High microbiological resistance,
- Excellent stability and anticorrosion protection in hard water,
- Low foaming in soft water,
- Economical,
- It does not irritate or dry out the skin.

#### QUALITY LEVEL

ISO 6743-7, L-MAF,  
ISO/TS 12927

#### APPLICATION

FESOL<sup>®</sup> 09 is recommended for the processing of steel, grey iron, non-ferrous and light metals and its alloys, in medium and heavy duty processing modes. It is suitable for cooling and lubrication in systems for making black seam-welded tubes and profiles. It can also be used as a hydraulic medium.

Type of procesing	Grey iron	Low-alloy steel	High-alloy steel	Al and alloys	Mg and alloys	Cu and alloys
Grinding	**	**	**	-	-	-
Milling Turning	***	***	***	**	-	**
Making of seam-welded tubes	***	***	***	-	-	-
Drilling	***	***	***	**	-	**
Tapping	**	**	**	**	-	**

\*\*\* the best, \*\* acceptable, \* satisfactory, - not satisfactory

#### RECOMMENDED APPLICATION CONCENTRATIONS

Grinding	3%
Milling, drilling, turning	5%
Tapping, reaming, cutting	8%
Making of black seam-welded tubes and profiles	3 - 5%

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Hydraulic medium

4 - 6%

#### ADDITIVE CONTENT

Oil type and content:		Mineral oil (max 50%)				
Additive content						
EP	AW	Boron	Amines	Chlorine	Esters	Nitrites
+	+	+	+	-	+	-
Stability in hard water		20°dH (360 ppm CaCO <sub>3</sub> )				

#### TYPICAL CHARACTERISTICS

CONCENTRATE			
CHARACTERISTICS	METHOD	UNITS	VALUE
Appearance	visual	-	clear
Density at 20°C	EN ISO 3675	g/ml	0,960
Kinematic viscosity at 40°C	ISO 3104	mm <sup>2</sup> /s	35
EMULSION			
CHARACTERISTICS	METHOD	UNITS	VALUE
Appearance	visual	-	semi-milky
pH value at 5% concentration	ISO 4316	-	9,6
Corrosion on grey iron (chips/paper) 5%	DIN 51361/2	degree	0/0
Factor for refractometer		1,09	

Friction coefficient in the cutting zone:  $\mu = 0,09 - 0,12$

#### STORAGE

Store in covered area. If stored outdoors, it is necessary to place the drums in a horizontal position to prevent the accumulation of water on the surface of the drum. Do not store at elevated temperatures or in locations exposed to direct sunlight, nor at the temperatures below 0°C.

All necessary instructions can be found in the product SDS. It contains the details of possible hazards, warnings and first aid measures, as well as the impact on the environment and the necessary measures for the storage and handling.

#### PACKING

Plastic pails of 20 L and tin drums of 180 kg.

Data are orientational, manufacturer reserves the right to make changes in order to improve product quality.