

UNICUT JINEN SERIES

Cutting Fluids for Semi-Dry Machining

Unicut Jinen Series consists of environmentally friendly biodegradable synthetic-ester cutting fluids specially developed for semi-dry machining.

● SPECIAL FEATURES

1. Outstanding cutting performance when used in minimum quantities in semi-dry machining systems.
2. Excellent environmental friendliness, with biodegradability and safety comparable to that of vegetable oils.
3. Thermal and oxidative stability are superior to that of vegetable oils due to formulation with synthetic ester. In addition, it is less sticky in and around machinery.

● APPLICATIONS

All types of machining in semi-dry systems.

● CONTAINERS

Unicut Jinen MQL	200-liter drums 20-liter cans 4-liter cans x 6
Unicut Jinen MF24W	200-liter drums 20-liter cans
Unicut Jinen MFF	200-liter drums 20-liter cans

● TYPICAL PROPERTIES OF UNICUT JINEN SERIES

Type	Unicut Jinen MQL	Unicut Jinen MF24W	Unicut Jinen MFF
Color(ASTM)	L0.5	≤ L1.5	≤ L1.5
Density (15 °C) , g/cm ³	0.946	0.902	0.909
Kinematic viscosity (100 °C) , mm ² /s	4.41	5.87	7.06
Kinematic viscosity (40 °C) , mm ² /s	19.7	24.2	31.3
Viscosity index	138	202	198
Flash point (COC) , °C	264	278	288
Pour point, °C	≤ -40	-35	-35
Acid number, mgKOH/g	0.04	0.18	0.70
Copper corrosion(100°C, 1h)	1	1	1
Biodegradability OECD 301B , %	72	77	77
Applications	Formulated specifically for MQL machining. Ideal for steel processing	Suitable for MQL machining. Suitable for combined mist (oil film-on-water, etc.) Ideal for aluminum processing	Suitable for MQL machining. Multifunction oil (all-around oil for machine tools)

Note: The typical properties may be changed without notice. (January, 2018)

● **CUTTING PERFORMANCE**

The following shows comparison of the cutting performance based on the calculated tapping energy efficiency in a tapping test.

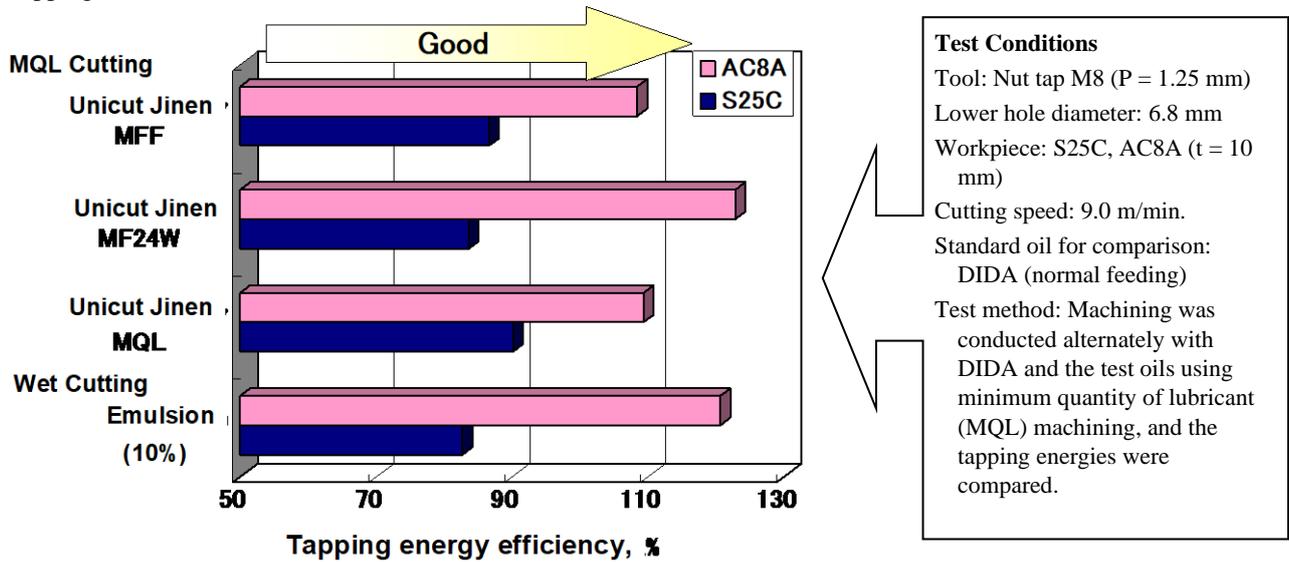


Fig. 1 Comparison of Cutting Performance

● **STICKINESS (Thin-Film Oxidative Stability)**

In minimum quantity of lubricant (MQL) systems, cutting oil mist is likely to stick to the workpieces, inner walls of the metalworking machines, inside the mist collectors, and etc. If the cutting oil has poor thin-film oxidative stability, the film may become sticky and worsen the work environment.

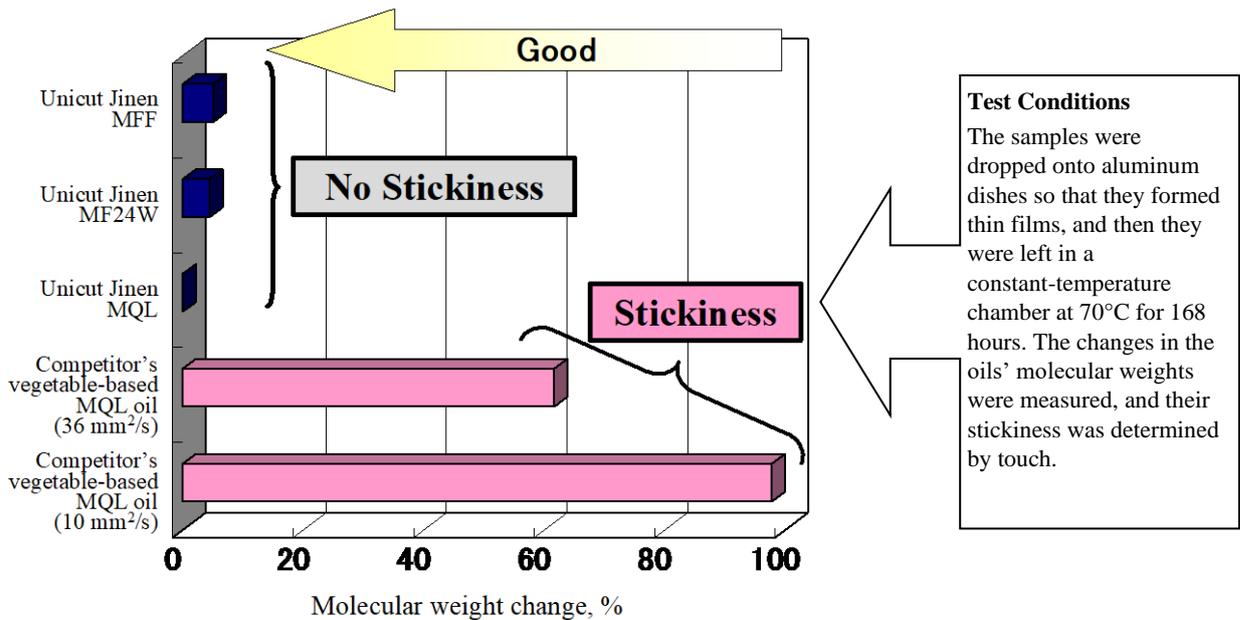


Fig. 2 Comparison of Stickiness



Handling Precautions

▼ Follow these precautions when handling this product.

Unicut Jinen MQL

Composition :	Base Oil(s)
Precautionary pictograms:	
Signal word:	Danger
Hazard Statement:	May be fatal if swallowed and enters airways
Precautionary Statements:	<ul style="list-style-type: none"> • Do not handle until all safety precautions have been read and understood. • Wear protective gloves/protective clothing/eye protection/face protection. • Do not allow the eyes to become exposed to the product. Do not swallow the product. • Wash hands thoroughly after handling. • Do not eat, drink or smoke when using this product.
Prevention	
Response	<ul style="list-style-type: none"> • IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. • IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. • If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician. • IF ON SKIN: Wash with plenty of soap and water. • Do NOT induce vomiting.
Storage	<ul style="list-style-type: none"> • The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight. • Containers that have been opened must be tightly sealed. • Store locked up.
Disposal	<ul style="list-style-type: none"> • Dispose of contents/container in accordance with local/regional/national/international regulations. • If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.

Unicut Jinen MF24W, Unicut Jinen MFF

Composition :	Base Oil(s), Additives
Precautionary pictograms:	Not applicable
Signal word:	Not applicable
Hazard Statement:	Not applicable
Precautionary Statements:	<ul style="list-style-type: none"> • Do not handle until all safety precautions have been read and understood. • Wear protective gloves/protective clothing/eye protection/face protection. • Do not allow the eyes to become exposed to the product. Do not swallow the product. • Wash hands thoroughly after handling. • Do not eat, drink or smoke when using this product.
Prevention	
Response	<ul style="list-style-type: none"> • IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. • IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. • If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician. • IF ON SKIN: Wash with plenty of soap and water.
Storage	<ul style="list-style-type: none"> • The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight. • Containers that have been opened must be tightly sealed.
Disposal	<ul style="list-style-type: none"> • Dispose of contents/container in accordance with local/regional/national/international regulations. • If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.