

Technical Data Sheet



Water soluble semi synthetic cutting fluid RLT-F6-55

Description

RLT-F6-55 water-soluble semi-synthetic cutting fluid is compounded with high-quality lubricant, extreme pressure agent and anti-rust additives. The formula is free of heavy metals, sodium nitrite, phenols and other hazardous substances, conforming to environmental and occupational health standards.

This product features outstanding biological stability and superior anti-foaming performance, coupled with excellent comprehensive properties including lubrication, anti-rust and cooling capacity. It is applicable to conventional machine tools and flexible automated machining production lines.

Applicable Materials & Machining Processes

- Workpiece materials: Aluminum alloy, cast iron, alloy steel, carbon steel, die steel and other ferrous & non-ferrous metals
- Machining operations: Turning, milling, drilling, grinding

Typical physical and chemical properties

Test Item	Test Standard	Technical Specification
Appearance	Visual inspection	Transparent liquid
pH Value (5%wt)	pH meter test	8.8 ~ 9.2
Cast Iron Rust Resistance (35°C ± 2°C, RH > 95%) Single piece: 24h; Laminated piece: 8h	JB/T 9189-2016	Grade 0, No Rust Observed
Metal Corrosion Test (55°C±2°C) Steel disc Red copper LY12 Aluminum	GB/T 6144	24h, qualified 8h, qualified 8h, qualified
Defoaming Performance (Distilled Water System)	GB/T 6144	Foam height ≤2mL after standing for 10min
Nitrite Content	Precision nitrite test paper	Not detected

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Product Advantages

1. **Excellent Lubricity:** Specialized extreme pressure lubricant additives reduce tool wear, prolong cutter service life and improve workpiece surface finish.
2. **High Anti-Foaming Capacity:** Scientific formula suppresses foam generation fundamentally, avoiding foam overflow on machine tools.
3. **Strong Hard Water Tolerance:** Stable performance when prepared with regular tap water, no flocculation or precipitation.
4. **Dual Anti-Rust Protection:** Provides long-term rust inhibition for ferrous metals and anti-corrosion protection for non-ferrous metals (aluminum, copper).
5. **Long Service Life & Biostability:** Resists bacterial and mold reproduction, reduces fluid replacement frequency and lowers comprehensive production cost.

Recommended Usage Method

1. **Pre-treatment:** Thoroughly clean the machine tool liquid tank and pipeline to remove residual old cutting fluid, oil sludge and bacteria.
2. **Dilution preparation:** At ambient temperature, slowly add RLT-F6-55 concentrate into water under continuous stirring, stir evenly until forming stable homogeneous working fluid; tap water or deionized water are both acceptable.
3. **Working concentration recommendation:** 5% ~ 10% mass fraction
 - Light load grinding/finishing machining: 5%~7%
 - Heavy load cutting/alloy steel rough machining: 8%~10%

Packaging Specifications

- 18L/drum ● 200L/drum (or customized according to customer requirements).

Storage & Handling

- Store in a dry, well-ventilated area.
- Keep container tightly sealed when not in use.
- Avoid contamination with water or other substances.

Shelf life: 12 months under recommended storage conditions.