

Corrective maintenance for neat cutting fluids.

Problem	Corrective Measure
Fluid level in tank too low	Top-up; check for leaks
Excess solid impurities	Fit suitable filtering systems, centrifuges or exchange the fluid Liquid impurities (water or solvents) Heat fluid, fit separators Viscosity too high or too low Top-up with an oil of different viscosity containing the same additives, determine causes, check for leaks replacement
Corrosion	Remove water, add corrosion inhibitors
Tramp oils	Reduce leaks of slideway, hydraulic and lubricating oils
Oil mist, Oil vapours	Use low-misting oils, add anti-mist, fit extraction to machines, improve cutting fluid feed to the cutting zone
Foaming	Check pumps for air leaks, check fluid level, add defoamers,

Corrective Maintenance for water miscible fluids.

Problem	Cause	Corrective Measure
Foam	Water is too soft	Use DM water
	Poor air release	Add anti-foaming agents
	Aeration	Check, and if necessary, fill, fluid tanks, their volumes, flow rates and pumps
	Microbiological reaction products	Vent and circulate fluid regularly, check concentration and pH values, if necessary, replace or partially replace cutting fluid
	Defoamer drag-out	Add defoamers
	Dragged-in tramp oils	Remove tramp oils regularly
	High concentration	Add 0.5 % emulsion to dilute to the correct concentration
Odour	Heavily polluted emulsion	Optimize cleaning concept
	Longer periods of machine down time, Insufficient venting of the circulation system	Circulate and vent the fluid
	Contamination with foreign objects	Train personnel
	Insufficient concentration	Check and correct concentration
	pH value too low	Correct the pH value with suitable pH boosters
Emulsion instability	Incorrect emulsion mixing	Check, correct and/or optimize mixing procedures

	pH value too low	Adjust pH value and possibly use bactericides
	Dragged-in salts, water too hard	Add demineralized water
	Dragged-in fluid contaminants	Avoid and, if necessary, remove dragged-in contaminants
Corrosion	pH value too low	Add pH value boosters
	Concentration too low	Check and adjust concentration
	Chloride content too high	Add demineralized water, replace or partially replace fluid
	Conductivity too high	
Skin problems	pH value too high	Check concentration and reduce by adding 0.5 % emulsions
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	Bacterial count too high	Use suitable bactericide Observe and apply skin protection plan
Quality problem / short tool life	Concentration too low	Add concentrate
	Excessive tramp oils	Remove tramp oils regularly, avoid contamination
	Cutting fluid feed	Check fluid feed lines, avoid blockages, Select suitable nozzle layout and fluid jets
	If necessary, select a more suitable cutting fluid	Consult cutting fluid supplier
Filtration problems	Poor filter cake formation	Add wetting agents; check water hardness
	Fungal blockages	Protect the system with biocides, cleaning and disinfection
	Lime soaps	Adjust fluid with demineralized water
	Tramp oil	Remove tramp oils, check compatibility