

Audit tool for MWF quality management

This checklist aims to help audit the management of MWF quality and should be used in conjunction with the UKLA 'Good Practice Guide for Safe Handling and Disposal of Metalworking Fluids' (UKLA, 2023).

Item	Question	Yes	No
Storage and preparation of MWF			
Temperature	Is the MWF concentrate stored above 5°C?		
Dilution	Is water supplied from mains?		
	Does the water used for dilution of the MWF concentrate meet the manufacturer's recommendations for pH and hardness?		
Monitoring the MWF			
Concentration	Is the concentration of the MWF checked weekly in each machine?		
	Is the concentration of MWF recorded to track changes?		
	Is the concentration within the range advised by the supplier?		
pH	Is the pH of the MWF tested each week?		
	Is the method used for testing pH appropriate with any equipment used being serviced and calibrated where required?		
	Is the pH of MWF recorded to track changes?		
	Is the pH within the range advised by the supplier?		
Appearance	Is there a daily visual check of the appearance of the MWF?		
	Is the MWF free from unusual odour?		
	Are there any signs of biofilm formation, tramp oil, foaming, fines swarf and other foreign bodies?		
	Are the results of these visual checks recorded?		
	Is tramp oil checked weekly? Should be kept to a minimum (recommended below 2%).		
Metal contamination	Are checks performed on the build-up of swarf and metal fines in the sumps of machines?		
Circulation and flow	Is the MWF free-flowing and fully circulating? For example, if the fluid supply system includes 'dead-ends' and 'dead-legs', are these cleaned and flushed regularly?		
Monitoring bacterial growth	Are weekly dip slide tests undertaken?		
	Are dip slide test results consistently below 10,000 CFU/ml (10 ⁴ CFU/ml)? If so the frequency of dip slide tests can be reduced as long as evidence of the results are retained.		
	If weekly dip slide tests are not undertaken, are other means used to demonstrate bacteria growth is consistently below 10,000 CFU/ml (10 ⁴ CFU/ml)?		
	Are the dip slide test results recorded to track changes?		
Operating temperature	Is the temperature of the sumps in machines measured?		
	Are MWF temperatures less than 30°C unless required for the performance?		
Procedures	Are documented procedures in place which describe the management of MWF?		
	Do the procedures describe the actions which need to be taken depending on the monitoring results?		
Machine usage			
Daily checks	Do operators of machines perform daily checks?		
	Do daily checks cover a visual examination of the MWF?		
Maintenance of the MWF supply			
Cleaning	Are machine sumps and supply lines cleaned when contaminated with biofilm and metal residues?		
	Are the machine MWF supply systems thoroughly cleaned when the results of dip slide tests demonstrate heavy bacteria/fungal contamination?		
	Are records kept when the machines are cleaned?		