

System setup

Is MQL the same as traditional flood coolant?

Minimum Quantity Lubrication (MQL) is not the same as traditional flood coolant. In fact, it is very different. Many people new to MQL are used to a flood coolant mindset and have trouble making the distinctions:

1. **MQL does not use a coolant.** Traditional flood coolant uses a circulated liquid designed for heat transmission to carry heat away from the interface of the cutting tool and the work piece.
2. **MQL uses a lubricant.** With MQL, friction is reduced within the cutting tool/work piece interface through the use of a lubricant. Advanced lubricants such as Coolube reduce friction, and therefore heat, so well that there is no need to carry heat away using a coolant.
3. **Coolant uses a flood.** For coolant to work, the interface must be flooded with coolant which must then have a place to go when it has done its job and absorbed the heat. This requires constant recirculation of gallons and gallons of coolant.
4. **MQL uses minimum quantities.** Advanced MQL lubricants do their job so well that typically, only a few ounces are used during an 8 hour shift
5. **Coolant requires extra equipment.** Because coolant is re-used until it is no longer viable, it requires equipment to recirculate and filter/clean it. Sump-side coalescers, skimmers, filters, sump vacs, and test kits are common equipment required for the use of coolant.
6. **MQL requires minimum equipment.** With MQL, you need a quality applicator such as a Unist Coolubricator or Serv-O-Spray which has the ability to accurately dispense lubricant and to do it consistently. There is no need for any additional equipment.
7. **Flood coolant is not a sensitive process.** Applying coolant is a simple process. As long as enough coolant is applied to flood the interface, it will work.
8. **MQL requires hitting a lubrication 'sweet spot.'** With Minimum Quantity Lubrication, each cutting operation has an appropriate amount of lubricant or 'sweet spot' which must be hit to experience MQL's benefits. Luckily, adjusting your MQL applicator to hit the sweet spot is simple when you follow some basic guidelines.
9. **Coolant is anything but dry.** Coolant tends to splash and get thrown from the interface. This can result in a mess with coolant coating equipment, parts, chips/swarf, and floors. Since coolant remains after the cutting process, it can create secondary messes during its filtration or disposal phases.
10. **MQL is near-dry.** Such a small quantity of lubricant is applied in MQL that there is no mess to clean up. When applied properly, only a very thin film of lubricant remains on finished parts and chips/swarf are virtually dry meaning they can be recycled for greater profit. With MQL, your equipment and floors stay clean.
11. **Coolant requires disposal.** Once coolant is no longer usable, it requires costly disposal
12. **MQL lubricants are consumed** No excess MQL lubricant remains to

System setup

require disposal or clean up.

13. **Coolant is cheap per gallon but an expensive process to maintain.** When you consider the additional equipment required to utilize coolant, the increased housekeeping costs, and disposal costs, coolant quickly becomes an expensive proposition.
14. **MQL is an inexpensive process to maintain.** MQL lubricants are more expensive than coolants per gallon. This may be true, but when you consider that only ounces are used per shift, you see that a gallon can go a long way. When you factor in the benefits of MQL in reduced housekeeping, cleaner parts, increased chip/swarf recycling values, healthier employees, and reduced equipment costs, MQL quickly becomes a less expensive proposition than coolant

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Author: Unist

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