Consequences of high heat on Rock Drill Oils
Oil breakdown within percussive drills

Liquid Shield Polar rock drill oils / air tool lubricant
Powerful, economical protection for miners and equipment

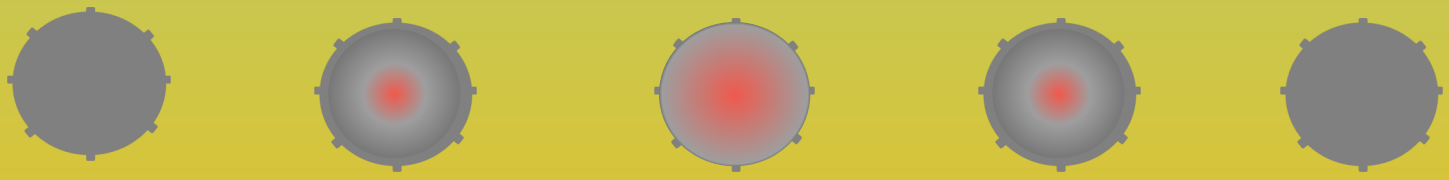
One of the most consequential weaknesses of conventional RDOs is their tendency to deteriorate fairly rapidly in high temperature situations. Percussive drilling creates a great deal of kinetic energy which is partially stored in the hammer mechanism of percussive tools and its associated components.

During drilling, the constant stream of cold compressed air passing the tool components keeps parts surfaces relatively cool. However, when the drilling is paused or stopped, the stored heat within tool components radiates to the surface of the components, and can destroy whatever RDO you're using.

Liquid Shield RDOs are formulated with high temperature tolerant polar esters, which perform much better under heat and pressure, typically resisting heat to 200°F (93°C) higher than standard mineral oil based products.

The illustrations below demonstrate the phenomenon of how reaction to heat is time dependent. In the first photos, an old trick is to rapidly run your finger over a red hot element. If the action is quick enough, there is no damage to the finger. If you aren't fast enough, you will suffer a blister due to heat transfer. If you don't remove your hand in time, severe burning will result. It's the same with RDOs; as long as exposure is minimized by rapid passing of cold air, there will be very little heat damage. However, if the oil rests on the parts for a longer period of time. the heat stored up in the parts will radiate to the surface, and destroy the oils. as depicted in the pictures below.



Liquid Shield Ester

Mineral Oil - 425°F

Rock drill grease - 425°F

Vegetable oil - 425°F

Use Liquid Shield RDOs to protect your equipment against heat damage and subsequent wear problems.
It's a simple and inexpensive way to reduce heat related wear. Introductory prices are available now.

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