

MAK MARQUENCH OIL 220

Superior quality heat treatment oil for Marquenching

MAK Marquench Oil is a superior quality heat treatment oil formulated exclusively from highly refined, thermally stable base stock and special additive. This oil is specially developed for Marquenching application. The life of quenching oil depends on the control of temperatures. Therefore, it is essential that the heating, cooling and agitation systems work properly. The additive package provides excellent resistance to oxidation and break down of the oil and ensures longer operating life. The oil has very low evaporation loss even at elevated temperatures and resists the formation of volatile decomposition products. It allows uniform hardening of parts with improved grain structure and with minimum distortion. It provides consistent and repeatable mechanical and metallurgical properties.

Applications:

MAK Marquench Oil is categorised as hot oil and recommended for hot quenching. It is suitable for marquenching application with bath temperature up to 200°C. This oil is also used for applications like quenching steels with high alloy content, difficult quenching operations, production of very hard parts especially where distortion of the quenched parts cannot be tolerated etc. MAK Marquench Oil is particularly recommended for various gear parts where reduced distortion is important.

Performance/ Benefits:

Excellent Oxidation Resistance – Outstanding resistance to sludge and deposit formation. Keeps the work piece clean. Longer operating life and lower operating cost.

Excellent Thermal Stability – provides resistance to break down of oil and deposit formation for optimum life and performance.

Low Volatility – reduces fume generation, decomposition of product and oil consumption. Provides conducive working environment.

High Flash Point – limits the risk of fire and offers safe working environment.

Good Rust Protection – Offers superior rust protection for work pieces.

Excellent Thermal Conductivity – improved the rate of heat transfer. Proper rate of heat transfer maintains quenching speed, allow uniform hardening and reduce warpage.

Non-Corrosive & Non-Toxic – no corrosion of the work pieces, maintains metallurgy and dimensional uniformity. Provides safe working environment to the operators.

Consistent Performance – offers uniform hardening with minimum distortion that allows consistent mechanical and metallurgical properties

Specification:

- IS 4543:1977 (Reaffirmed 2014)

Typical Physico-Chemical Data: MAK Marquench Oil 220

Characteristics	Method	Value
Appearance	Visual	Light Brown & Clear
Density, @15°C, kg/m ³	ASTM D 1298	0.8920
Copper Corrosion, 100°C, 3 hrs.	ASTM D130	1b
Kinematic Viscosity @40°C, cSt	ASTM D445	157
Kinematic Viscosity @100°C, cSt	ASTM D445	15.1
Viscosity Index	ASTM D2270	96
Pour Point, °C	ASTM D97	-3
Flash Point, (COC), °C	ASTM D92	250
GM Quench Speed, Sec	ASTM D3520	20
Maximum Cooling Rate, °C/s	ASTM D6200	85-90

Values for cooling rate is typical for new oil. It will vary for used oil due to oxidation and contamination.

Storage & Handling:

The product should be stored inside. Keep it properly sealed to avoid contamination. Avoid freezing. Shelf life is 3 yrs. under protected storage conditions.

Health & Safety:

They are unlikely to be hazardous when properly used in recommended applications. Contamination of the oil from other oils, greases, chemicals, dirty water etc. can occur during the use. It should be avoided. Regular monitoring of the in-use product is recommended.