



SARASWATI OIL EMPORIUM

SOE Annealing 32

SOE Annealing 32 is a superior quality quenching oil formulated exclusively from highly refined base stock and special additive. This oil is compounded with fatty oils. It offers longer bath life at elevated temperatures. The antioxidant additive provides excellent resistance to oxidation and break down of the oil and ensures longer operating life. The oil contains rust inhibitors, wetting agents that alter surface tensions and aid cooling during the vapor phase to achieve specific quenching characteristics. It has good wetting characteristics and has a higher cooling rate than the conventional quenching oils. The quenching oil allows uniform hardening of parts with improved grain structure and with minimum distortion. It provides consistent and repeatable mechanical and metallurgical properties.



APPLICATIONS:

SOE Annealing 32 is suitable for use at bath temperatures up to 80°C. Compounded quenching oils are used to provide good proportion of hardness and toughness and offer least warpage with standard steels. This type of quenching oils are used for the hardening of Carbon steel, Gray iron and High-alloy steel. It can be used in quenching of variety of high speed tool steel and ball Bearings, Nut, bolts, Bright bars, Tools, Automotive components and Industrial components.

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 and deposit formation for optimum life and performance.

- **High Flash Point** – limits the risk of fire and offers safe working environment.
- **Low Volatility** – reduces fume generation, decomposition of product and oil consumption. Provides conducive working environment.
- **Excellent Thermal Conductivity** – wettability additive improves the rate of heat transfer. Proper rate of heat transfer maintains quenching speed, allow uniform hardening and reduce warpage.
- **Consistent Performance** – offers uniform hardening with minimum distortion that allows consistent mechanical and metallurgical properties
- **Non-Corrosive & Non-Toxic** – no corrosion of the work pieces, maintains metallurgy and dimensional uniformity. Provides safe working environment to the operators.
- **Good Rust Protection:** Offers superior rust protection for work pieces.

SPECIFICATIONS:

- IS 2664:1980 (Reaffirmed 2014)

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.

TYPICAL PHYSICO-CHEMICAL DATA: SOE ANNEALING 32

| Characteristics | Method | Value |
|-----------------------------------|-------------|---------------------|
| Appearance | Visual | Light Brown & Clear |
| Density, @15°C, kg/m ³ | ASTM D 1298 | 0.911 |
| Copper Corrosion, 100°C, 3 hrs. | ASTM D130 | 1b |
| Pour Point, °C | ASTM D97 | -3 |
| Flash Point, (COC), °C | ASTM D92 | 186 |
| Kinematic Viscosity @40°C, cSt | ASTM D445 | 22.6 |
| Kinematic Viscosity @100°C, cSt | ASTM D445 | 4.35 |
| Viscosity Index | ASTM D2270 | 99 |
| GM Quench Speed, Sec | ASTM D3520 | 23 |
| Maximum Cooling Rate, °C/s | ASTM D6200 | 70-75 |

