PETROTM OIL

# LUBENZ SILVER HDEO 5000 series

**High Performance Monograde Diesel Engine Oil**

## Product Data Sheet

### Product Description & Application

LUBENZ SILVER HDEO 5000 CF-4 series are monograde diesel engine oils formulated with high quality base stocks and selected additives to ensure optimum performance and protection for diesel engines requiring an API CF-4/CF-2 specification. Suitable for heavy duty, high output diesel engines where monograde oils are specified. It provides excellent protection in engines, against high temperature piston deposits, wear, corrosion and foaming under severe operating conditions.

### Features & Benefits

- Excellent resistance to shearing at extreme operating conditions and retains its lubrication film.
- Good oxidation & thermal stability reduces sludge build up and keeps the engine cleaner.
- Outstanding wear protection to extend engine efficiency and service life.
- Reduced oil consumption at high operating engine temperatures.
- Improved resistance to deposit formation keeps engine clean to give your vehicle maximum power under extreme operating conditions.
- Optimum TBN reserves provide improved acid neutralization and corrosion protection, especially in old heavy duty diesel engines.

### Specifications

**LUBENZ SILVER HDEO 5000 meets or exceeds following International and Builder specifications:**

- API CF-4, CF, CF-2, CD-2, CD, SF, SG, SJ
- ACEA E2
- MTU OIL Category-1
- MAN 270/271
- MB 228.0/1
- Volvo VDS
- Caterpillar TO-2
- Deutz DQC –I-05
- Allison C3 (SAE: 30)
- Detroit Diesel 7SE-270

### Application

- Suitable for use in heavy duty 2-stroke & 4-stroke turbocharged and naturally aspirated diesel engines.
- It can be used in both On-highway light and heavy duty trucks & construction and mining equipment, where high or low sulfur diesel is used.
- Suitable for certain stationary equipment, such as pumps that run continuously under steady state conditions.

### Typical Characteristics

| LUBENZ SILVER HDEO 5000 | Test Method | Units | 10W | 20W-20 | 30 | 40 | 50 | 60 |
|---|---|---|---|---|---|---|---|---|
| Density @ 15 $^0$C | ASTM D 4052 | gm/cc | 0.880 | 0.888 | 0.892 | 0.900 | 0.904 | 0.906 |
| Viscosity @ 100 $^0$C | ASTM D 445 | cSt | 5.6 | 8.9 | 11.6 | 15.4 | 20.2 | 24.25 |
| Viscosity @ 40 $^0$C | ASTM D 445 | cSt | 32 | 60 | 102 | 158 | 234 | 312 |
| Viscosity Index | ASTM D 2270 | - | 114 | 104 | 100 | 99 | 99 | 98 |
| Pour Point | ASTM D 97 | °C | -33 | -24 | -18 | -18 | -18 | -18 |
| Flash Point (COC) | ASTM D 92 | °C | 214 | 226 | 230 | 236 | 242 | 248 |
| Sulfated Ash | ASTM D 874 | Wt% | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Total Base Number | ASTM D 2896 | mg KOH/g | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |

*The above figures are typical of blends with normal production tolerance and do not constitute a specification.*