# Mobil Velocite™ Oil Numbered Series

Mobil Industrial , Republic of Madagascar

Spindle and Hydraulic Oils

### Product Description

The Mobil Velocite™ Oil Numbered Series oils are premium performance products primarily designed for the lubrication of high-speed spindles in machine tools. They are also used in some critical hydraulic, circulation systems and air line oilers where the appropriate viscosity grade is selected. They are formulated from select high-quality, low viscosity base oils and additives that impart good resistance to oxidation and protection from rust and corrosion. They possess very good resistance to foaming and separate readily from water.

### Features and Benefits

The Mobil Velocite Oil Numbered Series provide exceptional lubrication of close-tolerance bearings which helps keep the bearings running cool and helps maintain the precision required by many of today's critical machine tools. Although the Mobil Velocite Oil Numbered Series oils were designed for spindle bearings, they exhibit the required properties to function as low pressure hydraulic and circulating oils as long as the proper viscosity is selected. This feature can help minimise inventory costs and reduce the potential for product misapplication.

| Features | Advantages and Potential Benefits |
|---|---|
| Good Oxidation Resistance | Helps reduce critical deposit formation<br>Improves oil life |
| Very Good Rust and Corrosion Protection | Improves equipment life<br>Provides increased precision long-term |
| Effective Water Separation | Resists emulsion formation<br>Keeps moisture out of critical lubrication areas<br>Allows easy removal of moisture from system reservoirs |

### Applications

- High speed spindle bearings in machine tools and equipment where high speeds and fine clearances are involved
- Precision grinders, lathes, jig borers and tracer mechanisms
- Mobil Velocite Oil No 3 is recommended for "zero clearance" type spindle bearings which operate with extremely close clearances
- For sleeve type spindle bearings having greater clearances, the choice of viscosity depends on the relation between clearance and spindle speed
- Low pressure hydraulic systems where appropriate viscosity is selected
- Air line oilers (Mobil Velocite Oil No. 10)
- For some sensitive instruments such as telescopes, laboratory equipment, etc.

### Properties and Specifications

| Property | NO 3 | NO 4 | NO 6 | NO 8 | NO 10 |
|---|---|---|---|---|---|
| Grade | ISO VG 2 | ISO VG 5 | ISO VG 10 | ISO VG 15 | ISO VG 22 |
| Copper Strip Corrosion, 3 h, 100 C, Rating, ASTM D130 | | | 1A | 1A | 1A |

| Property | NO 3 | NO 4 | NO 6 | NO 8 | NO 10 |
|---|---|---|---|---|---|
| Copper Strip Corrosion, 3 h, 60 C, Rating, ASTM D130 | 1A | 1A | | | |
| Density @ 15 C, kg/l, ASTM D4052 | 0.802 | 0.822 | 0.844 | 0.854 | 0.862 |
| Flash Point, Cleveland Open Cup, °C, ASTM D92 | 84 | 102 | 180 | 194 | 212 |
| Kinematic Viscosity @ 100 C, mm2/s, ASTM D445 | | | 2.62 | 3.28 | 4 |
| Kinematic Viscosity @ 40 C, mm2/s, ASTM D445 | 2.1 | 4.83 | 10 | 15 | 22 |
| Pour Point, °C, ASTM D97 | -36 | -15 | -15 | -9 | -30 |
| Rust Characteristics, Procedure A, ASTM D665 | PASS | PASS | PASS | PASS | PASS |
| Total Acid Number, mgKOH/g, ASTM D974 | 0.06 | 0.06 | 0.06 | 0.06 | 0.1 |
| Viscosity Index, ASTM D2270 | | | 98 | 97 | 95 |

**Health and Safety**

Health and Safety recommendations for this product can be found on the Material Safety Data Sheet (MSDS) @ http://www.msds.exxonmobil.com/psims/psims.aspx

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