## Product Data Sheet

## Harmony Synthetic Hydraulic Fluid ZF

## Zinc-Free Hydraulic Oil for Demanding Service

High performance, zinc-free lubricants specially formulated to offer excellent low and high temperature performance beyond the capabilities of conventional mineral base industrial hydraulic oil. These specially formulated lubricants are recommended for use in mobile and other hydraulic equipment operating over a wide temperature range. Their superior oxidation stability helps to extend drains and to minimize sludge and varnish deposits.

## Features and Benefits

- Outstanding oil life and anti-wear performance
- Ash-less technology helps reduce impact on environment
- Synthetic base stocks provide excellent low temperature performance
- Excellent air release and anti-foam properties helps prevent pump cavitation
- Stable high Viscosity Index (VI) allows for wider temperature operation with consistent viscosity


## Applications

- Bosch Rexroth
- U.S. Steel 126, 127, 136
- Parker Dennison HF-0, HF-1, HF-2
- Machine tools, grinders
- Non-detergent oil for compressors
- DIN 51524, Part 2
- AFNOR E 48-603/ISO 11158
- Vane, gear, and axial piston hydraulic pumps
- Die Casting Machines
- Severe service in marine and mobile hydraulic units


## Typical Properties

| Product Code | Test Method | $\mathbf{3 3 4 3 2 8}$ | $\mathbf{3 3 4 3 3 0}$ | $\mathbf{3 3 4 3 3 2}$ | $\mathbf{3 3 4 3 3 4}$ | $\mathbf{3 3 4 3 3 6}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| ISO Grade |  | 22 | 32 | 46 | 68 | 100 |
| Viscosity, $\mathbf{c S t}$ @ 40 |  |  |  |  |  |  |
| $\mathbf{}^{\mathbf{C}}$ | ASTM D 445 | 22.5 | 32.0 | 46.2 | 68.5 | 100 |
| Viscosity, $\mathbf{c S t}$ @ $\mathbf{1 0 0}^{\circ} \mathbf{C}$ | ASTM D 445 | 4.8 | 5.9 | 7.6 | 10.2 | 13.5 |
| Viscosity Index | ASTM D-2270 | 139 | 134 | 134 | 132 | 130 |
| API Gravity | ASTM D-4052 | 33.7 | 32.6 | 31.2 | 30.8 | 28.6 |
| Flash Point, ${ }^{\circ}$ F | ASTM D-92 | 424 | 428 | 434 | 448 | 464 |
| Pour Point, ${ }^{\mathbf{0}} \mathbf{C}$ | ASTM D-5949 | -44 | -42 | -40 | -40 | -40 |
| Copper Corrosion | ASTM D-130 | 1 b | 1 b | 1 b | 1 b | 1 b |
| Steel Corrosion, A \& B | ASTM D-665 | Pass | Pass | Pass | Pass | Pass |

These properties are typical of current production, minor variations are to be expected in normal manufacturing.

