



## SYNTHETIC ALL SEASON Hydraulic Oils

### Description

**Synthetic Anti-wear Hydraulic Oils** are high viscosity index synthetic hydraulic oils formulated to meet the requirements of major hydraulic equipment manufacturers. They are designed to outperform conventional oils by controlling varnish and flowing better at low temperatures while resisting viscosity loss at high temperatures. In many situations, a single viscosity grade can be used year round.

**Synthetic Anti-wear Hydraulic Oils** exceed seal compatibility requirements for Denison HF-0 and DIN 51524 for longer seal life.

ISO Viscosity Grade	22	32	46	68
Denison HF-0, HF-1, HF-2		X	X	X
Vickers 1-286S, M2950S		X	X	X
DIN 51524 Parts 2 & 3		X	X	X
Cincinnati Milicron P-68		X		
Cincinnati Milicron P-70			X	
Cincinnati Milicron P-69				X

### Features/Benefits

- ✓ **High Viscosity Index Extends Operating Temperature Range**
- ✓ **Low Pour Points and Brookfield Viscosity Improve Cold Temperature Operation and Reduce Pump Cavitation**
- ✓ **Strong Varnish Control Properties and Oxidation Resistance Improve System Reliability**
- ✓ **Zinc-based Anti-wear Protects Pumps and Motors from Wear**
- ✓ **Shear Stable Viscosity Delivers Consistent Performance and Protection**
- ✓ **Exceeds Seal Compatibility Requirements for Denison HF-0 and DIN 51524 for Long Seal Life**
- ✓ **Controls Foam and Quickly Releases Air for Responsive Hydraulics**

### Physical, Chemical & Performance Properties

Product Number	TBD	427	428	429
ISO Viscosity Grade	22	32	46	68
Viscosity @ 100°C, cSt	5.3	6.5	8.5	11.1
Viscosity @ 40°C cSt	23.9	32.2	47.0	68.4
Viscosity Index	160	163	160	154
Brookfield Viscosity @ -20°C	760	1300	1980	3870
Specific Gravity (g/ml)	0.8413	0.8458	0.8519	0.8597
Flash Point, °C (°F)	226 (439)	224 (435)	244 (471)	250 (482)
Pour Point, °C (°F)	-48 (-54)	-45 (-49)	-43 (-45)	-40 (-40)