

# MULLEN CIRCLE BRAND

## HYDRAULIC OIL *AntiWear*

**Mullen  
Circle Brand  
Blended Products:**

*Cutting Oils  
Circle Cut #729  
Soluble Oils  
Synthetic Coolants*

*Semi-Synthetic Coolants  
Rust Preventives  
Cleaners  
Grease*

*Hydraulic Oil  
Compressor Oil  
Gear Oil  
Way Oil*

*Spindle Oil  
Machine Oil  
Synthetic Oil*

*Made In U.S.A.*



**Mullen Circle Brand, Inc.**  
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[Solutions@MullenOil.com](mailto:Solutions@MullenOil.com)



### *Premium Antiwear Lubricants For Modern Hydraulics*

**Antiwear Hydraulic Oils** are premium grade lubricants designed to meet the needs of modern hydraulic equipment. **Antiwear Hydraulic Oils** are blended from virgin base oils and premium additive technology. These products exhibit exceptional resistance to thermal degradation, excellent demulsibility and are inert to copper alloys. **Antiwear Hydraulic Oils** meet or exceed the following:

Denison HF-0  
Denison HF-1  
Denison HF-2  
Bosch RexRoth RDE 90235  
DIN 51524, Pt 2 (HLP)  
ISO 6743/4(HM)  
ASTM D6158-05 (HM)  
ISO 11158-05 (HM)

SS 155434  
AFNORNF E 48-603 (HM)  
VDMA 24318  
SEB 181 222  
U.S. Steel 127 & 136  
Cincinnati Machine P-68,69,70  
Eaton E-FDGN-TB002-E

*More ==>*

**...Providing Solutions To Industry Since 1912...**



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## ANTIWEAR HYDRAULIC OILS

	#22	#32	#46	#68	#100	#150	#220	#320	#460
<b>ISO Grade</b>	22	32	46	68	100	150	220	320	460
<b>SAE Grade</b>	5	10	20	20	30	40	50	—	—
<b>Viscosity, SUS @ 100 F</b>	110	160	240	353	520	750	1150	1673	2404
<b>Flash Point, F</b>	400	400	400	400	400	400	400	400	400
<b>Pounds/Gallon</b>	7.1	7.1	7.29	7.43	7.56	7.65	7.67	7.68	7.69

### Oxidation Stability, ASTM D-943

Hours To 2.0 Tan

4500 Hours

### Thermal Stability ASTM D-2070

Copper Rod Visual  
Deposit, mg

2  
5.3

### Demulsibility, ASTM D-1401

Oil/Water/Emulsion (Minutes)

40/40/0 (5)

### Steel Corrosion Test, ASTM D-665

Distilled Water  
Synthetic Seawater

No Rust  
No Rust

### Foam Tests, ASTM D-982, Seq I, II, III

Foam, ml, 10 Minutes

None

### Copper Corrosion, ASTM D-130

1a

### Wear Test, Four Ball

400 N, 1800 rpm, 1 Hour

.5 mm

### FZG Test, DIN 51354, Part 2

12 Pass

### \*\*\*\*\* Cross Reference \*\*\*\*\*

ISO 32 Hydraulic Oil = Mobil DTE 24

ISO 46 Hydraulic Oil = Mobil DTE 25

ISO 68 Hydraulic Oil = Mobil DTE 26

*...Providing Solutions To Industry Since 1912...*

**Cutting Fluids \* Industrial Lubricants \* Greases \* Cleaners**

The Information Given Herein Is Believed To Be Reliable, But No Guarantee Is Made Nor Liability Assumed.