



The Elco Corporation

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Elco 148P Antiwear Hydraulic Fluid Additive

Features

Elco 148P is a multifunctional universal additive for use in preparing premium antiwear hydraulic fluids. When formulated in a suitable base stock, Elco 148P imparts these benefits:

- Extended oil life and pump durability
- Antiwear and EP performance
- Imparts excellent filterability and demulsibility characteristics
- Excellent thermal and oxidation stability
- Designed for Group I - IV base stocks.

Application

Treated at 0.55% volume (0.65% weight) in suitable base stocks, Elco 148P meets or exceeds the requirements of:

- Denison HF-0
- Cincinnati Machine P-68, P-69, P-70
- U.S. Steel 127, 136
- AFNOR NFE 48-603
- GM LS-2
- Sauer-Sunstrand
- Meets DIN 51524 Part II

Characteristics

<u>Physical</u>	<u>Typical</u>
Flash Point	130°C min
Specific Gravity	1.08 (9.0 lb/gal)
Viscosity @ 40°C	225 cSt
<u>Chemical</u>	
Phosphorus	4.1%
Sulfur	9.3%
Zinc	5.5%

Recommended Blending, Handling and Storage Conditions

Elco 148P can be blended with mechanical or in-line blending equipment at temperatures not above 140°F (60°C) or below 60°F (16°C). The additive can be heated to 140°F (60°C) for unloading or transfer, but should not be stored for long periods at temperatures over 120°F (50°C).

Elco 148P

Antiwear Hydraulic Fluid Additive

Performance Characteristics @ 0.55% vol. (0.65% wt.)

<u>Characteristic</u>	<u>Test Method</u>	<u>Group I</u>	<u>Group II</u>
Demulsibility	D 1401	40/40/0 (15)	40/40/0 (10)
Copper Corrosion	D 130	1a	1a
Steel Corrosion	D 665 A&B	Pass	Pass
Foam	D 892		
1 st Sequence		10/0	10/0
2 nd Sequence		0/0	0/0
3 rd Sequence		20/0	10/0
Denison T6C Vane Pump	Denison		
Dry Phase			Pass
Wet Phase			Pass
Hydrolytic Stability	D 2619		
Copper Specimen wt Loss, mg/cm ²		0.15	0.10
Acidity of Water Layer, mg KOH		Basic	Basic
Thermal Stability	CM		
Sludge, mg/100 mL		15.2	8.9
Viscosity Change, %		5.8	1.8
Condition of Copper Rod			
- Visual, CM Color Code		3	2
- Wt Loss, mg/200 mL		5.9	3.8
Condition of Steel Rod			
- Visual, CM Color Code		1	1
- Deposit, mg/200 mL		0.1	0.0
- Metal Removed, mg/200 mL		2.5	1.2
Filterability	Denison		
Dry, sec		92.3	85.6
Wet, 2% Water, sec		110.8	103.2
Filterability	AFNOR		
Dry, FI		1.27	1.06
Wet, (0.2% Water), FI		1.58	1.36
Oxidation, Pressure Vessel	D 2272		
Minutes to 25 PSI Drop		330	410
Oxidation	D 943		
Hours to 2.0 TAN		3200	6000+
Sludge and Corrosion	D 4310		
TAN @ 1000 hours		0.3	0.3
Sludge, mg		76.2	10.6
Copper, mg		48.5	15.1
Iron, mg		Nil	Nil
Four Ball Wear, Scar, mm	D 4172		
Conditions: 40 kg, 1800 rpm, 1 hr, 130°F		0.55	0.58
FZG, Damaging Stage	D 5182	11	11
Vane Pump, 35VQ25	Vickers	Pass	Pass

Rev. 10/04