

Cat[®] HYDO[™] Advanced 30



6,000 Hour Extended Drain Intervals

Caterpillar is introducing a new Cat[®] HYDO Advanced 30 hydraulic oil to the fluid product line. Cat HYDO Advanced 30 compliments the recently introduced Cat HYDO Advanced 10. These new oils are a combination of premium additives and specially selected and controlled higher quality base oils designed to provide extended drain intervals and extra protection to hydraulic system components.

Cat HYDO Advanced 30 and 10 represent a significant performance breakthrough in hydraulic oil technology. These oils have been developed with an optimized formulation that has been subjected to severe qualification testing in the field and laboratory for thousands of hours. The result is the best product available for Cat machine hydraulic systems.

Cat HYDO Advanced 30 is an oil specifically formulated for working in consistently hot climates with temperatures ranging above 40°C (104°F).

Ambient Operating Temperature Range

| Viscosity | Celsius Temperature Range | Fahrenheit Temperature Range |
|------------------|-------------------------------|-------------------------------|
| HYDO Advanced 10 | -20°C minimum to 40°C maximum | -4°F minimum to 104°F maximum |
| HYDO Advanced 20 | -5°C minimum to 45°C maximum | 23°F minimum to 113°F maximum |
| HYDO Advanced 30 | 10°C minimum to 50°C maximum | 50°F minimum to 122°F maximum |



Cat® HYDO Advanced 30



Improved Oil Stability

250% increase in oxidation stability per ASTM D943. Improved oil stability and wear protection make Cat HYDO Advanced last longer.

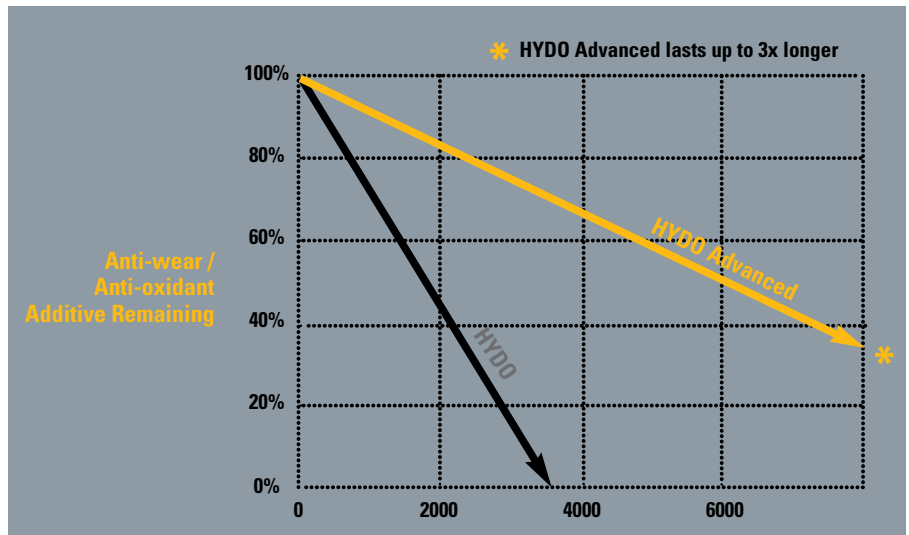


Destructive Pump Test

Cat HYDO Advanced is the best product for Cat machine hydraulic systems. Tested side-by-side under severe wear application conditions, simulated with Cat's proprietary destructive piston pump test, Cat HYDO Advanced clearly out-performed HYDO. Proof of performance? Significantly less visible wear. With Cat HYDO Advanced, the piston pump is in excellent condition after 200 hours. The piston pump with HYDO failed after 178 hours. (Note: test was run with Cat HYDO Advanced 10 and Cat HYDO 10W.)

Features & Benefits

- **6,000 hour extended drain intervals** – up to triple the hours of Cat® HYDO 30 when monitored with Caterpillar® S•O•SSM Services oil analysis program-every 500 hours. Reduces owning and operating costs and increases uptime.
- **Enhances, long lasting anti-wear protection** – specially developed additives form a protective layer on the wear surfaces, reducing component wear in high-pressure piston, vane, and gear hydraulic pumps.
- **Holds water in dispersion** – contains emulsifiers specifically designed to disperse water. Cat does not recommend oils that “separate,” “shed,” or “release” water. Separated water drawn through the hydraulic system can damage pumps and other components. If this water freezes, it can cause serious damage.
- **Backward compatibility** – the only hydraulic oil you need to stock for your maintenance operations. Preferred fill for Cat equipment.
- **Improved filtration properties** – special detergent dispersants keep components clean and improve transport of contaminants through the filters. Compatible with Cat Ultra High Efficiency filters.
- **Improved corrosion protection** – protects metal surfaces from rust. Better corrosion protection than most oils in the Cat line-up.
- **Wide temperature range protection** – maintains consistent wear protection at both cold and hot temperatures. Designed to flow readily at cold temperature start up, and maintains excellent wear protection at operating temperatures.
- **Improved oil stability** – 250% increase in oxidation stability per ASTM D943. Improved oil stability and wear protection make Cat HYDO Advanced last longer.



Longer Lasting Protection

After 2,000 hours of severe field testing in excavators, Cat HYDO Advanced showed clear performance improvements over Cat HYDO, with 80% of HYDO Advanced's anti-wear/anti-oxidant additive remaining compared to 40% for HYDO. At 4,000 hours, HYDO Advanced still showed more than 60% remaining, while HYDO's additive was completely depleted.

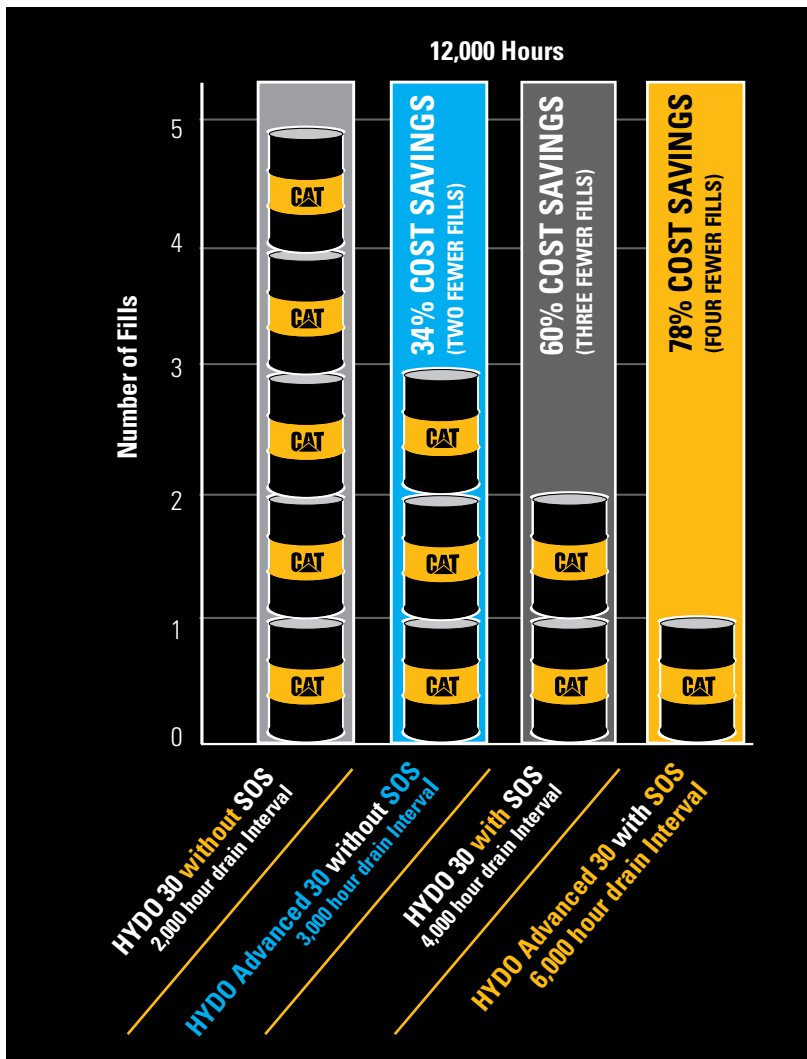
6,000 Hour Extended Drain Intervals

Caterpillar has increased the recommended oil drain interval for hydraulic systems using Cat HYDO Advanced 30 and Caterpillar S•O•SSM Services oil analysis program.

| Hydraulic Oil | Standard | Extended ¹ |
|----------------------|-------------|-----------------------|
| Cat HYDO 30 | 2,000 hours | 4,000 hours |
| Cat HYDO Advanced 30 | 3,000 hours | 6,000 hours |

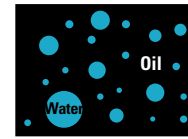
¹ Provided that the oil is:

- Monitored with Caterpillar S•O•S Services oil analysis program every 500 hours.
- Filter change interval is the same.
- Caterpillar hydraulic filters are strongly recommended.

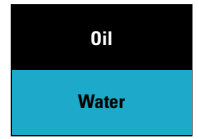


Less Hydraulic Oil Used = Cost Savings

The benefits add up. 6,000-hour extended drain intervals—up to triple the hours of Cat HYDO when monitored with Caterpillar S•O•SSM Services oil analysis program. Reduces owning and operating costs, oil disposal cost, and increases up-time.



Cat HYDO



Industrial Hydraulic Oil

Typical industrial hydraulic oils separate water and oil, which can cause valve sticking or excessive wear on your hydraulic system. Cat HYDO disperses small amounts of water throughout the oil to ensure proper lubrication.

Emulsifiers – are formulated to hold and disperse water so that it does not harm mobile hydraulic systems. Cat Hydo Advanced has emulsifiers which are specifically designed to separate water as shown above. Separated water drawn through the system can damage pumps and other components. If this water freezes, it can cause even more serious damage. Avoid oils whose specifications indicate that they “separate,” “shed” or “release” water.

| Metric Volume | |
|-----------------------------|-------------|
| Package Size | Part Number |
| Bulk Liter – contact dealer | 319-5919 |
| 208 Liter | 319-5923 |
| 200 Liter | 319-5922 |
| 20 Liter | 319-5921 |
| 18 Liter | 319-5920 |

Cat HYDO Advanced 30 Typical Characteristics¹

| Characteristics | HYDO Advanced 30 | HYDO Advanced 30 Advantages |
|--|--|--|
| SAE Viscosity Grade | 30 | |
| Viscosity cSt @ 40°C (ASTM D445) cSt @ 100°C (ASTM D445) Viscosity Index (ASTM D2270) | 90 10.6 100 | Better wear protection, wider operating temperature range |
| Viscosity after Shear ² (cSt, during use) | 10.6 | |
| 4 Ball (40kg/30min/600rpm/93°C ASTM D4172) | 0.30 mm | |
| Pour Point, °C (ASTM D97) | -24 | |
| Brookfield Viscosity @ -20°C (ASTM D2983) mPaS | 13,600 | |
| Zinc, % wt. (ASTM D4951) typical | 0.090 | Corrosion protection |
| Copper Strip Corrosion ³ (3 hr, ASTM D130) | 1A @ 150°C | |
| Rust Protection (ASTM D665B) | Pass | Longer drain interval; lower owning and operating costs |
| Oxidation stability, hours (ASTM D943) | >5,000 | |
| Long Drain Interval, confirmed by field testing | Yes | |
| Filterability, Wet, E DIN ISO 13357-1 | Pass | Reduced filter plugging; improves contamination control due to better filtration |
| Foam Test ⁴ Seq. 1 ml. (ASTM D892) Seq. 2 ml. (ASTM D892) Seq. 3 ml. (ASTM D892) | 0/0 0/0 0/0 | Reduces foaming |
| Cleanliness | No interference with optical particle counters | Accurate contamination control |
| Ability to keep water in emulsion | Yes | Sludge control and water damage prevention |

1 The values shown are typical values and should not be used as quality control parameters to either accept or reject product. Specifications are subject to change without notice.

2 Oils that contain viscosity modifier additives will become thinner during use in this machine. This will reduce protection level.

3 1A is better than 1B, 1A at 150° C is better than 1A at 100° C.

4 New oil, as received, with 0.1% water by volume added.

CAT DEALERS DEFINE WORLD-CLASS PRODUCT SUPPORT.

We offer you the right parts and service solutions, when and where you need them.

The Cat Dealer network of highly trained experts are built to help you maximize your equipment investment.

BUILT FOR IT.™

