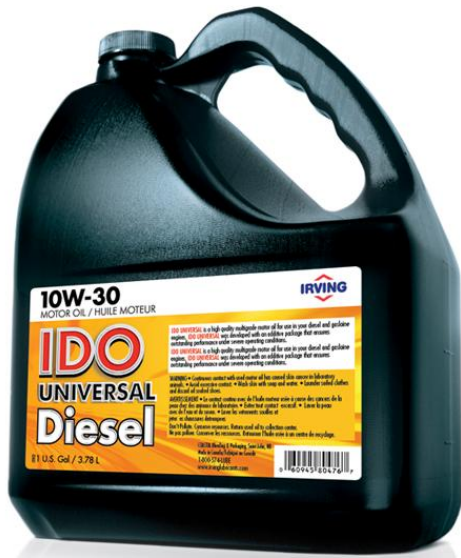


IDO UNIVERSAL

Mixed Fleet Diesel Engine Oil



Features

- High viscosity/low ash formulations
- Promotes engine cleanliness
- Excellent resistance to high temperature

Benefits

- Multipurpose . reduces inventory
- Excellent hydraulic oil (SAE 10W, 20W and 30)
- Suitable for truck manual transmissions (SAE 50)
- Approved for Allison C-4 transmissions (SAE 10W and 30)
- Suitable for other power-shift and industrial automatic transmissions
- Proven performance over breakdown millions of miles

IDO UNIVERSAL oils are blended from select high viscosity index (VI) base stocks and low-ash additives with sufficient detergent to ensure excellent engine cleanliness, minimize ring-sticking and liner-scuffing, prevent sludge formation and stuck valve lifters, reduce bearing corrosion and engine rusting. The low-ash feature reduces combustion chamber deposits, and the high VI base stocks together with oxidation inhibitors provide protection against extreme operating temperature oil breakdown as well as lacquer and varnish deposits. Anti-wear additives reduce wear, and antifoam inhibitors provide enough protection for use even in transmissions and hydraulic systems.

IDO UNIVERSAL was developed to meet the needs of mixed fleet operators in order to solve the problem of selection and application as well as to reduce inventory. **IDO UNIVERSAL** exceeds all the automotive gasoline and diesel engine manufacturers requirements in the appropriate grades. These oils can be used in all high and medium speed diesel engines in automotive and construction applications and certain diesels in marine service. In appropriate grades, this oil is also suitable for use in transmissions and hydraulic systems. **IDO Universal 10W** and **30** grades have Allison C-4 approval for use in their heavy-duty automatic transmissions.

The **5W40** grade is a synthetic blend that provides extra protection for severe duty and has the added benefit of excellent cold start performance while still providing the same protection at high-temperatures as SAE* **30** and **40** grade oils.

IDO UNIVERSAL meets or exceeds the following performance requirements:

	10W	20W	30	40	50	5W40	0W30
CH-4						M	M
CF-2			M	M	M		
CF	X	X	X	X	X	M	M
SL						M	
SJ			X	X	X	M	M
Allison C-4	M		M				
Cat. TO-2 - Performance	M	M	M	M	M	M	M
DDC 7SE 270			M	M	M		

*SAE : Society Of Automotive Engineers

IDO UNIVERSAL

Typical performance results

SAE GRADE	10W	20W	30	40	50	5W40	0W30
VISCOSITY (D-445)							
cSt @ 40°C	41.7	48.9	103.2	142.8	219.1	99.1	57.8
cSt @ 100°C	6.7	7.3	11.7	14.1	19.2	14.0	10.0
VISCOSITY INDEX (D-2270)	110	110	101	95	99	144	160
DENSITY (KG/L) @ 15°C	0.883	0.885	0.891	0.894	0.900	0.859	0.862
POUR POINT (°C) (D-97)	-36	-36	-32	-9	-12	-45	
FLASH POINT. (°C) (D-92)	228	232	264	276	278	218	192
COLD-CRANK SIMULATOR (D-2602)							
cP @ -15°C (max. 9500)	—	2539	—	—	—	—	—
cP @ -20°C (max. 7000)	—	—	—	—	—	—	—
cP @ -25°C (max. 7000)	3686	—	—	—	—	—	—
cP @ -30°C (max. 6600)	—	—	—	—	—	5904	—
cP @ -35°C (max. 6200)	—	—	—	—	—	—	6024
LOW TEMPERATURE PUMPABILITY (D-3829)							
cP @ -20°C (max. 60000)	—	2539	—	—	—	—	—
cP @ -25°C (max. 60000)	—	—	—	—	—	—	—
cP @ -30°C (max. 60000)	8959	—	—	—	—	—	—
cP @ -35°C (max. 60000)	—	—	—	—	—	48600	—
cP @ -40°C (max. 60000)	—	—	—	—	—	—	54460
TOTAL BASE NUMBER (D-2896)	7.6	7.5	8.2	8.0	8.0	10.8	11.0
ZINC CONTENT (% wt)	0.09	0.09	0.09	0.09	0.09	0.14	0.13
SULPHATED ASH (% wt) (D-874)	1.0	1.0	1.0	1.0	1.0	1.4	1.4

Available sizes & part numbers

IDO UNIVERSAL	946ml. (1 US qt)	3.78L (1 US Gal)	18.9L (5.0 US Gal)	60L (15.85 US Gal)	205L (54.2 US Gal)	500L (132 US Gal)	1000L (264 US Gal)	1200L (317 US Gal)	Bulk
10W	F0008915	F0008926	F0089040		F0014550	F0008955	F0008960		B0008901
20W20	F0009215		F0089340		F0028750	F0009255	F0009260		B0009201
30	F0009315	F0009326	F0089440		F0014350	F0009355	F0009360	F0009365	B0009301
40	F0009415		F0089540		F0014450	F0009455	F0009460		B0009401
50			F0089640	F0009545	F0009550				B0009501
0W30	F0065015	F0065026	F0080040		F0065050		F0065060		B0065001
5W40		F0009626	F0089740		F0009650	F0009655	F0009660	F0009665	B0009601

Check with sales representative or website for the latest product approvals.



Lubricants

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