



# SYN GEAR

## Features

Irving SYN GEAR oils meet or exceed the following industry standards:

- US Steel 222 and 224
- AGMA 250.04 and 9005-D94
- DIN 51517, part 3
- David Brown S1.53 101
- Cincinnati-Milacron P-35, P-59, P-63, P-74, P-76, P-77, P-78
- FZG Load Stage 12 Pass

## Benefits

- Long life – less waste oil generated
- Compatible with mineral gear oils (except SYN GEAR PG oils)
- Excellent stability
- Wide choice of grades available
- Top level performance

Irving SYN GEAR oils are industrial extreme pressure (EP) gear oils made with synthetic bases and top performance additives. Their chief advantage over mineral oils is their exceptional resistance to thermal and oxidative degradation, which gives a significantly longer oil life where contamination can be avoided. In addition, since synthetic oils have a degree of natural 'multi-grading', Irving SYN GEAR oils offer a wider operating temperature range than the equivalent grades of mineral-based gear oils. This can be important in applications where low temperature start-up may be needed, or where there is a wide variation in ambient temperatures.

Irving SYN GEAR oils have highly effective EP additives to prevent the welding and transfer of metal between the contact surfaces of heavily-loaded gear teeth. This reduces the possibility of damage to the gear surfaces even when shock loading is present.

Irving SYN GEAR oils are non-corrosive to gearbox and bearing materials, and will prevent the rusting of ferrous (iron-containing) metals. They also separate readily from water, allowing it to settle to the bottom of the gearbox where it can be drained away. Water mixed with the oil would reduce its lubricating ability and act as a promoter of oxidation and other degenerative processes.

Irving SYN GEAR PG uses a Poly Glycol synthetic base. These oils have very low coefficient of friction and are ideal for reducing frictional wear damage where rubbing contact occurs, as in worm gear sets. The PG oils are non-corrosive to gearbox and bearing materials that contain copper and its alloys, such as brass and bronze.

Irving SYN GEAR and SYN GEAR PG are not recommended where constant operating temperatures exceed 100°C. In the appropriate grades, these oils are recommended for all types of gear sets except automotive differentials. In those applications, we recommend Irving SYN HDH.



## Typical Performance Results

ISO GRADE	68	100	150	220	220 PG	320	460 PG	1000
AGMA GRADE	2 EP	3 EP	4 EP	5 EP	5 EP	6 EP	7 EP	8A EP
VISCOSITY (D-445)								
cSt @ 40°C	68	100	150	220	240	320	390	1003
cSt @ 100°C	11	15	20.2	27.5	38	36.8	56.0	84.1
VISCOSITY INDEX (D-2270)	152	153	159	161	211	161	220	165
POUR POINT (°C) (D-97)	-38	-38	-40	-38	-31	-40	-29	N/D
FLASH POINT (°C) (D-92)	250	228	248	249	221	266	183	284
TIMKEN LOAD (Kg) (D-2782)	36.2	36.2	36.2	36.2	12	36.2	16	36.2
4-BALL WEAR SCAR DIAM. (mm) (D-2266) 1Hr., 40 Kg, 1200RPM, @ 75°C	0.3	0.3	0.3	0.3	0.36	0.3	0.36	0.3
4-BALL EP (D-2783) LD. WEAR INDEX (Kg)	51	51	51	51	N/D	51	N/D	51
FZG LOAD STAGE	12	12	12	12	12	12	12	12
FOAM PREVENTION (D-892)								
SEQ. I (75°F)	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
SEQ. II (200°F)	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
SEQ. III (75°F)	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
DEMULSIBILITY (D-2711)								
WATER IN OIL %	0.5	0.5	0.5	0.5	N/D	0.5	N/D	0.5
TOTAL FREE WATER (mL)	82.0	82.0	82.0	82.0	N/D	82.0	N/D	82.0
EMULSION (mL)	0	0	0	0	N/D	0	N/D	0
RUST PREVENTION (D-665) WITH DISTILLED WATER	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

## Available Package Sizes

### SYN GEAR 68

- Bulk

### SYN GEAR 150

- 20 L (5.28 US gal.) Pail
- 210 L (55.5 US gal.) Drum
- 500 L (132 US gal.) Cube
- 1000L (264 US gal.) Cube
- Bulk

### SYN GEAR 320

- Bulk

### SYN GEAR 1000

- 205 L (54.2 US gal.) Drum

### SYN GEAR 100

- 20 L (5.28 US gal.) Pail
- 210 L (55.5 US gal.) Drum
- 500 L (132 US gal.) Cube
- Bulk

### SYN GEAR 220

- 20 L (5.28 US gal.) Pail
- 210 L (55.5 US gal.) Drum
- 500 L (132 US gal.) Cube
- Bulk

