

## UNIGEAR S3 INDUSTRIAL GEAR OIL

United Unigear S3 Industrial Gear Oils comprise a family of extreme pressure gear lubricants designed to operate over a very wide range of temperatures and conditions. These fluids possess excellent high temperature oxidation stability and superior low temperature fluidity. United Unigear S3 Industrial Gear Oils have the ability to rapidly separate from water and prevent the formation of anti-lubricating emulsions. The incorporation of special additives in United Unigear S3 Industrial Gear Oils protects equipment from rust, corrosion and foam. In addition, extreme pressure additives provide optimum protection against shock loading and offer high load carrying capabilities.

United Unigear S3 Industrial Gear Oils find applications in virtually all types of industrial settings. Some typical applications includes gear sets and oil circulating systems in steel mill, foundries, glass and bottle manufacturing plants, injection molding machines, paper mills, electrical wheel motors used in surface mining and quarries, shearing arms in underground coal mining, cement kilns, petroleum and chemical processing plants.

### APPLICATIONS / BENEFITS

- Excellent low and high temperature performance.
- Prevents rust and corrosion.
- Reduces galling, scuffing and welding of gear teeth.

Typical test results for ISO 220 are :

TEST DESCRIPTION	METHOD	RESULTS
<b>Extreme Pressure Properties</b> Timken Load Arm Test Min OK Load, lb	ASTM D-2782	70
<b>Four Ball Extreme Pressure Test</b> Load Wear Index (LXI), Kg Weld Load, Kg	ASTM D-2783	53.7 250
<b>Weld Load, Kg FZG 4 Square</b> Test, Load Stage FZG Total Wt, Loss, mg	DIN 51354	12 Pass 16.7
<b>Rust Test</b> Part A Part B	ASTM D-665(IP135)	Pass Pass

**TYPICAL CHARACTERISTICS**

TEST DESCRIPTION	METHOD	TYPICAL RESULTS			
ISO Viscosity Grade		68	100	150	220
Specific Gravity @ 15 °C	ASTM D 4052	0.884	0.888	0.896	898
Flash Point, °C	ASTM D 92	228	232	252	260
Pour Point , °C	ASTM D 97	-9	-9	-9	-9
Kinematic Viscosity @40°C (cSt)	ASTM D 445	67.2	98.2	151	226.4
	ASTM D 445	8.6	11.1	14.7	19.18
Viscosity Index	ASTM D 2270	98	98	96	95
Color	ASTM D 1500	<1.5	<1.5	<2.0	<2.5

TEST DESCRIPTION	METHOD	TYPICAL RESULTS			
ISO Viscosity Grade		320	460	680	1000
Specific Gravity @ 15 °C	ASTM D 4052	0.900	0.905	0.912	0.911
Flash Point, °C	ASTM D 92	266	272	268	250
Pour Point , °C	ASTM D 97	-6	-6	-6	-6
Kinematic Viscosity @40°C (cSt)	ASTM D 445	327.4	463	670.3	1030
	ASTM D 445	24.4	30.5	48.8	68.5
Viscosity Index	ASTM D 2270	95	95	125	132
Color	ASTM D 1500	<3.0	<3.5	<3.5	<3.5

**MEETS THE REQUIREMENTS OF**

- AGMA 9005-E02
- DIN51517 Part 3 2004-01
- ISO 12925-1 CKC/CKD
- US Steel 224