

# INDUSTRIAL GEAR OIL FORMULATIONS BASED ON NUFLUX™ TECHNOLOGY

## FORMULATIONS ISO VG 150-680



### DESCRIPTION

Evonik's NUFLUX™ technology formulations are designed to produce high-performance gear oils covering ISO viscosity grades from 150 to 680. These oils are formulated to meet the most stringent standards for industrial gear lubrication.

### BENEFITS

NUFLUX™ technology provides:

- Protection of gears and bearings against scuffing and wear
- Protection against micropitting
- Wide operating temperature windows with excellent low-temperature performance
- Protection against the formation of sludge, deposits, rust and corrosion
- Prevention of foam and entrained air

### APPLICATIONS

NUFLUX™ formulations are recommended for industrial gear applications requiring extreme pressure (EP) protection, for operations experiencing a wide range of temperatures, and for applications where extended drain intervals are necessary. In particular NUFLUX™ ISO VG 320 is recommended for wind turbine gear lubrication.

### NUFLUX™ FORMULATIONS MEET THE REQUIREMENTS OF:

- DIN 51517-3
- ANSI/AGMA 9005-F16
- ISO 12925-1 (CKD)
- IEC 61400-4

### NUFLUX™ FORMULATIONS ISO VG 220-680 ARE APPROVED BY:

- Siemens MD for Flender gear units (Rev.15)
- Hansen Industrial Transmission NV for use in HP1, HP2, HPP, I4, P4 and M3ACC gearboxes

### NUFLUX™ ISO VG 320 IS APPROVED BY:

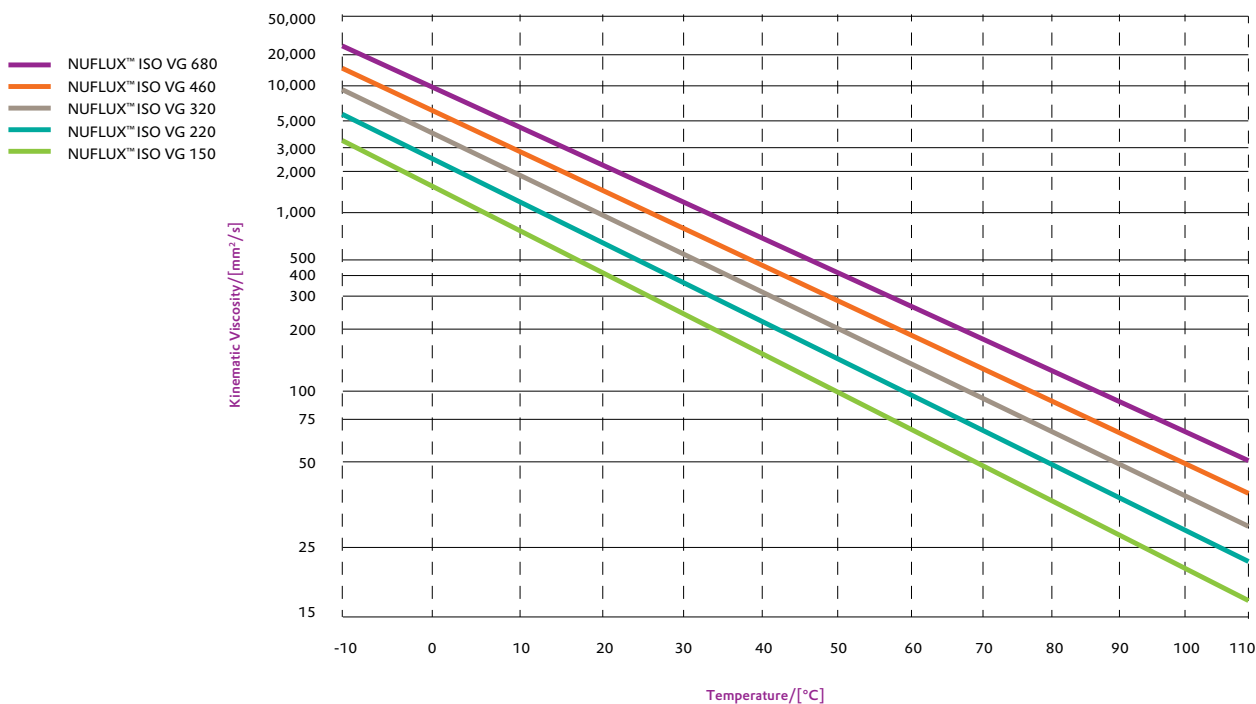
- Winergy and Moventas for field testing in wind turbines
- FAG Schaeffler for wind turbine applications

## NUFLUX™

## Typical Properties

ISO Viscosity Grade	150	220	320	460	680
Density at 15°C [ASTM D4052], g/cm <sup>3</sup>	0.876	0.883	0.891	0.897	0.904
Flash point [ASTM D92], °C	>220	>220	>220	>220	>220
Viscosity at 40°C [ASTM D445], mm <sup>2</sup> /s	150	220	320	460	680
Viscosity at 100°C [ASTM D445], mm <sup>2</sup> /s	21	28	37	49	66
Viscosity Index [ASTM D2270]	160	160	165	165	168
Pour Point [ASTM D97], °C	-39	-39	-39	-36	-33
FE8 roller wear (D-7/80-80) [DIN 51819-3], mg	1	1	1	1	1
FZG Scuffing (A/8.3/90) [DIN 14635-1], failure load stage	>12	>12	>12	>12	>12
Micropitting protection [FVA 54/VII], failure load stage	10	10	10	10	10
Micropitting protection [FVA 54/VII], micropitting load capacity	High	High	High	High	High
Four Ball Weld Point [ASTM D2783], kgf	>250	>250	>250	>250	>250
Timken OK Load [ASTM D2782], lbs	>90	>90	>90	>90	>90

## Typical Properties



For more information, contact Mukund Bhure.

mukund.bhure@evonik.com

PHONE 1-215-706-5872

www.evonik.com/oil-additives