Dr. Tillwich GmbH
Werner Stehr

Product Specifications

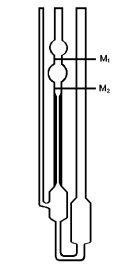
LGN Watch Oil

Article No.: TS5500

Synthetic High Precision Watch Oil

Laboratory Data:

Kinematic Viscosity (DIN)



capillary viscometry

Temperature	ν (mm²/s)
0°C [32°F]	450
20°C [68°F]	125
40°C[104°F]	50
Viscosity Index (ISO)	130
Viscosity-Temperature-Behavior	good

Permanent Low Temperature -40 °C
(72 hrs without crystallization) [-40°F]

Application Temperature -35°C to +90°C
[-31°F to +194°F]

Density 20°C [68°F] (DIN) 0.95 g/cm³

Surface Tension 26 mN/m

Color slightly yellow

Evaporation Rate -0.1 %
(24 hrs/105°C [221°F]) very low

Drop Stability very good

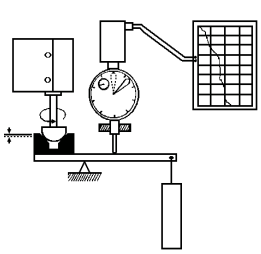
Durability very good

Corrosion Resistance brass: very good
steel: very good

Chemical Name fully synthetic oils on ester base with additives and wetting modifier

Tribological Data:

Test system: sphere on prism (ISO 7148/2)



Friction Behavior
dependent on sliding speed

v (mm/s)	f	friction coefficient f (0.1 / 0.2 / 0.3 / 0.4)
0	0.13	
20	0.04	
50	0.01	
200	0.01	

materials: steel/brass, load 3N, 25°C [77°F]
lubricant: LGN Watch Oil

Wear Behavior
comparison: dry and lubricated with LGN Watch Oil

materials		wear (in mm) (0.01 / 0.03 / 0.1 / 0.3 / 1.0)
St/bs:	lubricated	
	dry	
St/st:	lubricated	
	dry	

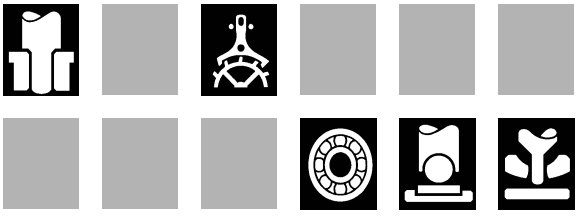
test parameters: load 30N, distance 10 km, 25°C [77°F], v = 28.1 mm/s

Comments:

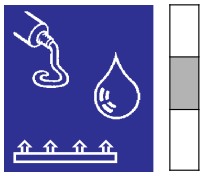
Very good friction behavior even at high loads. Excellent wear reducing properties. Very good adhesion of the oil on the surface: special wetting modifiers prevent the oil from spreading. Point lubrication is possible. No corrosion and oxidation of metallic materials. Very good stability against aging even in contact with non-ferrous heavy metals. For-life lubrication is possible. Lubricity very good at both high and low temperatures. Do not use for lubrication of plastic materials.

Application:

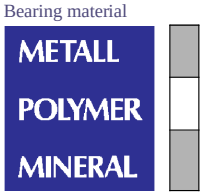
For precision bearings out of jewels and metals (e. g. ruby/steel, sapphire/steel, brass/steel, steel/steel, etc.). in watches, alarm clocks, clock movements. For all radial and axial bearings, jewel bearings, pallet-stones, pivots, escapements, miniature ball bearings.



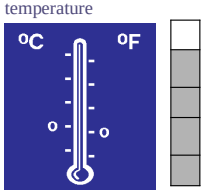
Product



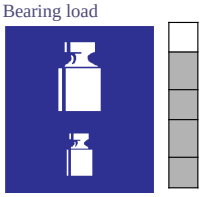
Bearing material



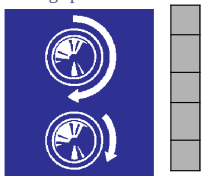
Application temperature



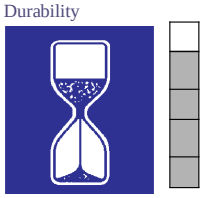
Bearing load



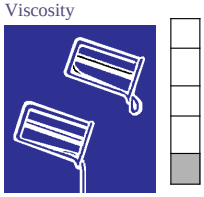
Sliding speed



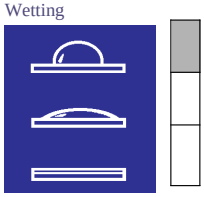
Durability



Viscosity



Wetting



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