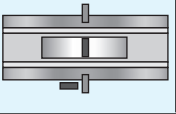


Product Specifications

Laboratory Data:

Viscosity		
Stabinger (ASTM D7042)	Temperature	ν (mm ² /s)
	0 °C [32 °F]	340
	20 °C [68 °F]	100
	40 °C [104 °F]	40
Viscosity-Index (ISO)		150
Viscosity-Temperature-Behaviour		good

Color	yellow
Permanent Low Temperature 72 hrs fluid	-15 °C [+5 °F]
Application Temperature	-10 °C to +80 °C [+14 °F to +176 °F]
Density 20 °C [68 °F] (DIN)	0.92 g/cm ³
Surface Tension	30 mN/m
Evaporation Rate 24 hrs/105 °C [221 °F]	0.4 % very low
Drop Stability	good
Durability	good
Corrosion Resistance	brass: very good steel: very good
Compatibility with Plastics	on request
Composition	partially synthetic oil on base of esters and hydrocarbons with additives

Comments:

Partially synthetic clock and instrument oil on base of different synthetic ester oils, natural hydrocarbons and polyalphaolefines. Type 1-3 is equipped with an additive package for high ageing and oxidation stability as well as corrosion resistance, which ensures its application in the field of horology.

The partially synthetic clock and instrument oil Type 1-3 replaces the ancient classical watch and instrument oils Type 1, 2 and 3.

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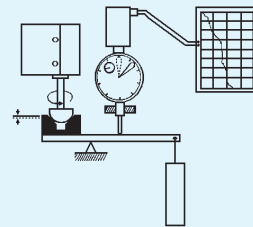
Type 1-3

Article No. TK2213

Partially Synthetic Watch and Instrument Oil

Tribological Data:

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



friction moment M
1/2" sphere
prism
normal load F_N

Friction Behaviour				
dependent on sliding speed				
ν (mm/s)	f	friction coefficient f		
		0.1	0.2	0.3
0	0.17	[Bar chart showing high friction]		
20	0.05	[Bar chart showing medium friction]		
50	0.03	[Bar chart showing low friction]		
200	0.03	[Bar chart showing low friction]		
materials:		steel/brass, load 3 N, 25 °C [77 °F]		
lubricant:		Type 1-3		

Wear Behaviour					
comparison: dry and lubricated with Type 1-3					
materials	wear (in mm)				
	0.01	0.03	0.1	0.3	1.0
St/brass: TK2213 dry	[Bar chart showing high wear]				
St/steel: TK2213 dry	[Bar chart showing high wear]				
test parameters:	load 30 N, distance 10 km, 25 °C [77 °F], $\nu=28.1$ mm/s				

Application:

Watch and instrument oil for metallic sliding combinations and jewel bearings in pocket and wrist watches, small or alarm clocks. For pivot bearings up to 3 mm diameter (0.12 inches), teeth of escape-wheels, cornet-screws, mainsprings.

