

Fomblin PFPE: Lubricants

Product Data Sheet

Fomblin Y Lubricants

Fomblin Y perfluoropolyether fluids have the following unique features:

- Excellent high temperature stability
- Good low temperature properties
- Very good Extreme Pressure (EP) and wear characteristics
- Low evaporative loss
- Good viscosity indices

Typical Properties	Fomblin Y Lubricant Grades						
	Y04	Y06	Y25	Y45	YR	YR1500	YR1800
Approximate ISO Grade	15	22	100	150	320	460	460
Molecular weight (AMU)	1,500	1,800	3,200	4,100	6,250	6,600	7,250
Kinematic viscosity (ASTM D445)							
20°C (cSt)	38	60	250	470	1200	1500	1850
40°C (cSt)	15	22	80	147	345	420	510
100°C (cSt)	3.2	3.9	10	16	33	40	47
Viscosity index (ASTM D2270)	60	70	108	117	135	135	135
Pour point (°C) (ASTM D97)	-58	-50	-35	-30	-25	-25	-20
Evaporation weight loss (ASTM 2595)							
120°C, 22 hr (%)	14	6	—	—	—	—	—
149°C, 22 hr (%)	—	20	2	0.7	0.5	0.3	—
204°C, 22 hr (%)	—	—	15	1.7	1.2	0.9	0.5
Surface tension (ASTM D1331)							
20°C (g/cm ³)	21	21	22	22	24	24	24
Density (ASTM D891)							
20°C (g/cm ³)	1.87	1.88	1.90	1.91	1.91	1.91	1.92
Four ball E.P. wear tests (IP 239)							
Init. Seiz. Load (kg)	224	282	282	251	282	355	316
Welding load (kg)	355	398	398	477	708	708	501
Mean hertz load (kg)	84	107	115	122	124	126	118
Four ball wear test (ASTM D4172 B 75°C, 1 hr, 1200 RPM 40 kg)							
Avg. scar diameter (mm)	0.51	0.63	0.66	0.81	0.90	0.95	1.2

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Fomblin PFPE: Lubricants

Product Data Sheet

Fomblin Z Lubricants

Fomblin Z perfluoropolyether fluids have the following unique features:

- Good low temperature viscosity
- Superior evaporative loss
- Very high viscosity indices
- Very good E.P. and wear characteristics



Typical Properties	Fomblin Z Lubricant Grades			
	Z03	Z15	Z25	Z60
Approximate ISO grade	15	100	150	320
Molecular weight (AMU)	4000	8000	9,500	13,000
Kinematic viscosity (ASTM D445)				
20°C (cSt)	30	160	263	600
40°C (cSt)	18	92	157	355
100°C (cSt)	5.6	28	49	98
Viscosity index (ASTM D2270)	317	334	358	360
Pour point (°C) (ASTM D97)	-90	-80	-75	-63
Evaporation weight loss (ASTM 2595)				
149°C, 22 hr (%)	6.0	0.2	—	—
204°C, 22 hr (%)	n.a.	1.2	0.4	0.2
Surface tension (ASTM D1331)				
20°C (dynes/cm)	23	24	25	25
Density (ASTM D891)				
20°C (g/cm ³)	1.82	1.84	1.85	1.85
Four ball E.P. wear tests (IP 239)				
Init. Seiz. Load (kg)	355	400	501	501
Welding load (kg)	447	631	631	631
Mean hertz load (kg)	104	123	118	118
Four ball wear test (ASTM D4172 B 75°C, 1 hr, 1200 RPM 40 kg)				
Avg. scar diameter (mm)	0.60	0.66	0.90	0.93

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Fomblin PFPE: Lubricants

Product Data Sheet

Fomblin M Lubricants

Fomblin M perfluoropolyether fluids have the following unique features:

- Excellent viscosity indices
- Excellent low temperature torque values
- Very good Extreme Pressure (EP) characteristics
- Very low evaporative loss properties
- Good thermal stability

Typical Properties	Fomblin M Lubricant Grades			
	M03	M15	M30	M60
Approximate ISO grade	15	100	150	320
Molecular weight (AMU)	4000	8000	9,800	12,500
Kinematic viscosity (ASTM D445)				
20°C (cSt)	30	150	280	550
40°C (cSt)	17	85	159	310
100°C (cSt)	5	22	45	86
Viscosity index (ASTM D2270)	253	286	338	343
Pour point (°C) (ASTM D97)	-65	-60	-46	-39
Evaporation weight loss (ASTM 2595)				
149°C, 22 hr (%)	6.5	0.8	—	—
204°C, 22 hr (%)	—	3.0	0.7	0.4
Surface Tension (ASTM D1331) 20°C (dynes/cm)	23	24	25	25
Density (ASTM D891) 20°C (g/cm ³)	1.81	1.83	1.85	1.86
Four ball E.P. wear tests (IP 239)				
Init. Seiz. Load (kg)	316	398	631	500
Welding load (kg)	398	562	631	708
Mean hertz load (kg)	102	114	115	112
Four ball wear test (ASTM D4172 B 75°C, 1 hr, 1200 RPM 40 kg)				
Avg. scar diameter (mm)	0.74	0.92	0.97	1.21

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