



Brayco 1720 Series

Speciality Perfluoroether Lubricants

Description

Castrol Brayco™ 1720 Series oils are clear, colorless low molecular weight perfluoroether oils. They are inert to virtually all chemicals and safe to use in direct contact with oxidants such as LOX/GOX and chlorine. Castrol Brayco® 1720 Series Oils are non-flammable and non-toxic. Castrol Fluoroclean™ X100 and Castrol Fluoroclean™ HE can be used to remove these lubricants.

Application

Castrol Brayco® 1720 Series Oils are suitable for use as gear, pump and general purpose lubricating oils where direct or indirect contact with aggressive chemicals, oxidants and low temperatures are routine. They can also be used as vacuum pump oils in operations requiring vapor pressures as low as 10^{-4} torr. Perfluorinated fluids in general exhibit excellent shelf lives due to their intrinsic inertness.

Operating Temperature Ranges :-

- Castrol Brayco® 1721 -54°C to 93°C (-65°F to 200°F)
- Castrol Brayco® 1722 -34°C to 149°C (-30°F to 300°F)
- Castrol Brayco® 1723 -34°C to 163°C (-30°F to 325°F)
- Castrol Brayco® 1724 -29°C to 177°C (-20°F to 350°F)

Limitations :-

Castrol Brayco® 1720 Series oils are compatible with all commonly used materials, plastics and elastomers. Castrol Brayco® 1720 Series oils may be adversely affected by Lewis Acid catalysts such as $AlCl_3$ at elevated temperatures. Newly exposed surfaces of aluminum, magnesium and titanium may react with Castrol Brayco® 1720 Series oils under certain conditions. Such systems should be thoroughly evaluated before using this product. Surfaces should also be free of organic rust inhibitors prior to oil application to ensure proper lubrication.

Typical Characteristics

Name	Method	Units	1721	1722	1723	1724
ISO viscosity grade	-	-	5	22	32	68
Specific Gravity @ 16°C / 60°F	ASTM D287	-	1.848	1.885	1.887	1.907
Density of finished grease @ 16°C / 60°F	In-house test	lb/gallon	15.4	15.7	15.72	15.89
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm ² /s	1.43	4.04	5.19	9.46
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm ² /s	5.1	21.8	30.1	67.7
Kinematic Viscosity @ 20°C / 68°F	ISO 3104 / ASTM D445	mm ² /s	10.3	56.4	79.1	198.1
Kinematic Viscosity @ 0°C / 32°F	ISO 3104 / ASTM D445	mm ² /s	22	240	310	800
Kinematic Viscosity @ -20°C / -4°F	ISO 3104 / ASTM D445	mm ² /s	90	1,600	2,100	7,000
Kinematic Viscosity @ -40°C / -40°F	ISO 3104 / ASTM D445	mm ² /s	2,500	18,000	30,000	-
Kinematic Viscosity @ -54°C / -65°F	ISO 3104 / ASTM D445	mm ² /s	60,000	250,000	-	-
Viscosity Index	ISO 2909 / ASTM D2270	-	-	60	101	114
Pour Point	ISO 3016 / ASTM D97	°C/°F	-69 / -90	-57 / -70	-48 / -55	-42 / -45
Evaporation Loss, 22 hrs @ 60°C / 140°F?	ASTM D972	%wt	6.3	1.4	1.6	0.7
Evaporation Loss, 22 hrs @ 120°C / 248°F	ASTM D972	%wt	-	18	26.2	9.3
Four Ball Wear test - Wear Scar Diameter (40 kgf / 75°C / 600 rpm / 2 hrs)	ASTM D2266	mm	0.59	0.55	0.52	0.42
Four Ball Weld Load test - Weld Point	ASTM D2783	kgf	250	250	315	315
Four Ball Weld Load test - Load Wear Index	ASTM D2783	kgf	50	75	85	115
Knudsen Vapour Pressure @ 20°C / 68°F	-	Pa	13.3	0.133	0.0133	0.0133
Knudsen Vapour Pressure @ 100°C / 212°F	-	Pa	13.3	13.3	13.3	13.3
Surface Tension	ASTM D1331	N/m	0.019	0.021	0.021	0.021

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