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GENERATOR OPERATION & MAINTENANCE

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18 **REFERENCE DATA**

18.1 **Lubricating Oils (ISO VG32 - Gas Turbines)**

(1) Notes

- (a) Lubricant for use in gas turbine driven generators must be a premium quality petroleum based fluid, having excellent oxidation stability, excellent protection against wear and rust formation, good demulsibility and good resistance to foaming. The chemical and physical properties of oils, and a list of approved oils is detailed hereafter.
- (b) To determine the suitability of oils from the approved list, first establish the lowest expected ambient temperature to which the machine will be subjected, and the pour point for the oil should be at least 10°C below this figure. If the ambient is below -20°C, oil with a high viscosity index of at least 140 should be used. Check the operating range of the oil selected relative to the site maximum and minimum ambient temperatures.

(2) Chemical and Physical Properties Of Oils

API Gravity at 15.5°C (60°F):	30 to 33
Viscosity Index for ambient above -20°C:	90 minimum
Viscosity Index ambient below -20°C:	140 minimum
Viscosity:	ISO VG32
Colour ASTM:	2.0 maximum
Flash Point. COC:	160°C (320°F) minimum
Rust Test ASTM:	Pass
Pour Point:	See (3) below
Neutralisation No:	0.2 max desired
Mg KOH/g oil:	1.6 Absolute Limit

(3) Approved List Of Oils

BRUSH Electrical Machines Ltd. recommend the following ISO VG.32 oils for use with gas turbine driven generators, although others may be used. Contact our Engineering Dept. for possible use of other oils.

The information provided is based on the respective oil companies' specifications. Whilst every effort is made to maintain this data up to date, the oil companies reserve the right to review their specifications periodically. Specifications can also vary with the point of manufacture, it is therefore essential, and a Customer responsibility, to verify the suitability of the oil selected against the specification with the local oil supplier before purchasing oil for the initial fill or for any subsequent oil replacement.

<u>Manufacturer</u>	<u>Grade</u>	<u>Pour Point</u>
BP	Energol T HB 32	-12°C
BP	Energol S HF32	-36°C
Caltex	Regal R & O.32	-18°C
Castrol	Perfecto N.A. Light	-33°C
Chevron	GST ISO 32	-33°C
CITGO	Pacemaker T.32	-32°C
Conoco	HYD SP32	-24°C
Esso	Teresso 32	-12°C
Esso	Nuto H 32	-30°C
Mobil	DTE Light	-24°C(UK), -7°C(USA)
Mobil	DTE 13 & DTE 13M	-39°C
Mobil	DTE 724 & DTE 797	-12°C
Petro-Canada	Super Turboflo 32	-30°C (FZG 4)
Petrobas	Marbrax T.R32	-18°C
Q8	Q8 van Gogh	-12°C
Shell	Tellus T.32	-51°C
Shell	Turbo T.32	-6°C
Shell	Turbo CC.32	-12°C
Texaco	Regal R & O.32	-30°C
Total	Azolla ZS32	-21°C