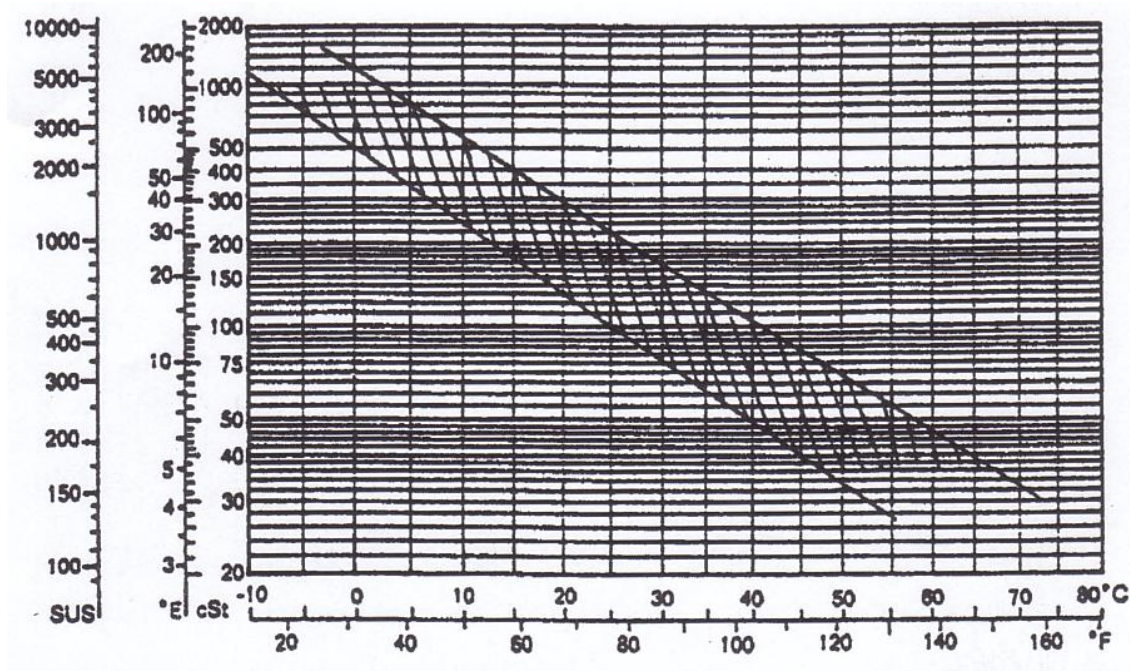


REQUIREMENTS FOR HYDRAULIC OIL

A solvent refined mineral oil of good quality, containing additives against foaming shall be used. The viscosity shall be within the limits in the diagram below. For work in tropical waters only, choose viscosity on the upper limit and for only arctic conditions on the lower limit. The viscosity of the oil shall be within the limits also after a long time of service.



Shearing stability (for oils containings VI-improvers) decrease of viscosity at 98,9°C after shearing 250 cycles.

max. 20% DIN 51382

Density (20°C)

max. 910 kg/ m³

Flash point (COC)

min. 180°C ASTM D 92

Emulsion test

30 min. / 3 ml ASTM D 1401

Air release (50°C)

10 min. DIN 51381

Corrosion test on copper (3h 100°C)

degree 2 DIN 51759

Prueba de oxidación (24 h)

0 ASTM D 665 B

Oxidation stability increase of
Neutralizing number after 1000 h max.

2.0 mg KOH/g oil ASTM D 943

Influence on packing material (mat 70 NBR/769
Messrs Carl Freudenberg GmbH) after 100 h and 80°C

Change in volume

-1 to +4%

DIN 53521

Change in hardness

± 4 shore

DIN 53505

Do not mix motor oil with other types of oil, even if they fulfil the requirements in this specification. Very small amounts of motor oil in e.g. turbine or hydraulic oils mean that the quality of these oils is considerably lowered.

The oil is changed when laboratory tests show that something of the following has happened:

1. Too high neutralizing number.
2. Too low remaining amount of EP-additives.
3. Too high amounts of insoluble particles in the oil.
4. The viscosity is not within the limits in the diagram above.