Anvol WG 46

Fire resistant hydraulic fluid

Description

Anvol WG 46 is an 'HF-C' type water-glycol based fire resistant hydraulic fluid containing antiwear additives and corrosion inhibitors that provides protection against rust and has shown high levels of anti-wear performance in hydraulic pump tests. Its foam resistance, low temperature flow, emulsion stability and storage stability are also excellent according to storage stability testing.

Applications

Anvol WG 46 is for use in hydraulic systems where, in the event of fluid leakage, there is a significant risk of ignition. Examples of applications include furnace doors, diecasting machines, forging machinery and mining equipment. It can be used in vane, gear or piston-type pumps with pressures up to 206.8 bar (3,000 psi).

As with any water containing fluid, continuous high temperature leads to excessive evaporation. The water content should be checked regularly in service and any corrections made by addition of distilled or de-ionised water. Occasional monitoring of alkalinity is recommended to ensure the correct level of corrosion inhibition.

Care should be taken to ensure the hydraulic system is designed for using water glycol based fluids. Care should also be taken to ensure the compatibility of Anvol WG 46 with paints, seals and metals, and also ensure that the hydraulic pumps and filters used are suitable. A thorough draining and flushing procedure should be followed when converting
from other fluids to water glycol based solutions.

Anvol WG 46 is compatible with the most commonly used nitrile, neoprene, silicone, nylon, butyl rubber and fluoropolymer seal materials. Compatibility with specific seal materials in use should be confirmed prior to changing to Anvol WG 46.
Anvol WG 46 meets the requirements of ISO 12922:2012 Category HFC as defined by ISO 6743-4:2001.

Advantages

- Anti-wear performance gives wear protection to system components
- Fire resistant as defined within ISO 12922:2012
- Low pour point ensures consistent performance over a range of temperature between -20°C to 60°C.

Typical Characteristics

Test	Method	Units	Anvol WG 46
ISO Viscosity Grade	-	-	46
Appearance	Visual	-	Hazy red fluid
Density @ 15°C	ASTM D4052	kg/l	1.07
Viscosity, Kinematic @ 40°C	ASTM D 445	mm²/s	46
Viscosity, Kinematic @ 60°C	ASTM D 445	mm²/s	24

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Viscosity Index	ASTM D2270	-	>200
pH	-	-	9.2
Foam Sequence – Seq I	ASTM D892	ml/ml	10/0
Pour Point	ASTM D97	°C	-51
Water Content	Caculated	%	36
Air Release Value	ASTM D3427	min	7
Rust test - distilled water (24 hrs)	ASTM D665A	Rating	Pass

The above figures are typical of those obtained with normal production tolerance and do not constitute a specification.

Additional Information

Compatibility of Anvol WG 46 with hydraulic components

- **Seal materials**

Suitable materials are: Nitrile, PTFE, Neoprene (Chloroprene), Silicone, Viton, Nylon, Natural Rubber, Butyl Rubber, Ethylene Propylene Rubber.

- **Filters**

Most metal types are compatible, but some paper elements can be damaged by water and only types approved for high water content fluids should be used.

- **Paints**

Most paints are softened and lifted. Vinyl or epoxy resin based are compatible. When changing from mineral oil to water glycol, all paint in the system should be removed unless it is know to be a compatible type.

Fluid maintenance

In service, water can be lost by evaporation and this must be periodically replaced to maintain the correct viscosity and optimum fire resistance. Water content can be determined directly by Laboratory analysis. Only condensate, distilled or de-ionised water should be used for top-up. The required quantity of water should be slowly added to the reservoir with
the system running to ensure thorough mixing.

Operating temperature range

From -20 to +60°C. Anvol WG 46 will remain fluid down to approx -50°C, however, the increased viscosity will limit actual low temperature running.Care must be taken at temperatures above 60°C so water evaporation does not occur too readily and reduce fire resistant properties.

Storage

All packages should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and the obliteration of drum markings.

Products should not be stored above 60°C, exposed to hot sun or freezing conditions.

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