

Shell Irus Fluid C

High performance HFC-type fire-resistant hydraulic fluid



Shell Irus Fluid C is an advanced water-glycol fire resistant hydraulic fluid containing powerful additives to enhance its anti-wear, anti-corrosion and anti-oxidation properties. The water content is approximately 40% by weight.

Applications

Irus Fluid C is particularly suitable for demanding hydraulic applications where there is a high fire risk, such as those found in the Metal and Mining industries.

In order to reduce the water evaporation Irus C, as for all the ISO HFC type of fluids, should be used below 55°C with a suggested max temperature of 45°C.

Performance Features and Benefits

- **Fire Resistant for high risk installations**
As demonstrated in the 7th Luxembourg Report fire resistance tests the product contribute significantly to reduce the fire risk both in presence of flame and hot surfaces.
- **Excellent Components and Fluid duration**
This guarantees reliable operation especially compared with fluids of older technologies.
- **Improved wear performances against minimum industry standard**
As demonstrated in the vane pump testing required by the 7th Lux. Report the product offers significantly better antiwear performances than the minimum required by the standard.

Fluid Life

The life of Irus C is comparable to mineral oils in properly maintained systems. The exact life has to be determined by Fluid Condition Monitoring, please consult your Shell Representative for further advice.

Control of water content

Water content should be controlled within 35% to 45% by weight. Condensate or de-ionized water should be used for any additions, which should be made slowly whilst the fluid is circulating. Even better is to top up an amount of fresh fluid such to bring the water content back within the limits.

An approximate check of the water content can be made from the viscosity of the fluid or its density. Accurate determination of the water content can be made in a laboratory with the Karl Fisher method.

Lubrication and Component Life

In general, water-glycol fluids are less effective bearing lubricants than petroleum mineral hydraulic oils, but are entirely satisfactory in systems containing pumps with plain bearings or lightly loaded ball and roller bearings designed to operate with water glycol

fluids. However, in common with other water-based fluids a reduction in bearing life can be expected. This will normally be included in the 'derating' made by the pump manufacturer. In order to increase as much as possible the reliability of the system and reduce its maintenance costs is important that all components are checked with their manufacturer on whether they are suitable/compatible with water glycol products.

Conversion from other type of fluids

Specific attention should be given in case of converting to Irus C systems that were previously using lubricants of different types than ISO HFC (eg. mineral oils or ISO HFDU type of products). In such a case it is suggested you seek advice from your Shell Representative about the change over procedure you should follow.

Specifications and Approvals

Irus C is tested and approved by the UK Health and Safety Laboratory (Buxton) for fire resistance according to European legislative requirements.

Resistance to flame (UK) test - Lux 7th 3.1.2
Stabilised flame heat release test - Lux 7th 3.1.3
Wick test - Lux 7th 3.2.2

Irus C is compliant with the essential technological test criteria of the "Safety & Health Commission for the Mining & Other Extractive Industry 7th Edition 4746/10/91" also known as "7th report of Luxembourg".

Irus C meets also the following requirements:
ISO 6743-4 (1999) HFC Type Fluid,
ISO 12922 (1999) HFC Type Fluid,
DIN 51502 HFC 46

Advice

Advice on applications not covered in this leaflet may be obtained from your Shell representative.

Health and Safety

Guidance on Health and Safety are available on the appropriate Material Safety Data Sheet which can be obtained from your Shell representative.

Protect the environment

Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

Typical Physical Characteristics

Shell Iruv Fluid C	
ISO Fluid type	HFC
Appearance (visual)	Transparent red
Kinematic viscosity (ASTM D445) @ -20°C mm ² /s 0°C mm ² /s 20°C mm ² /s 40°C mm ² /s	1875 358 112 47
Density @ 15°C kg/m ³ (ISO 12185)	1059
Pour point °C (ISO 3016)	-57

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.