HYDRANSAFE FR-NSG 38

Lubrication

High performance fire-resistant phosphate ester based hydraulic fluid.

APPLICATIONS

Hydraulic circuits

- **HYDRANSAFE FR-NSG 38** is a high performance, fire resistant hydraulic fluid based on selected phosphate esters and designed for hydraulic circuits which require the use of safety fluids.
- **HYDRANSAFE FR-NSG 38** is especially designed for use in electrohydraulic governor systems of steam turbines, including systems using fine tolerance servo valves.
- Working temperature : - 10 to + 120°C.

SPECIFICATIONS

International specifications

- ISO 6743/4 - HFDR
- ISO 12922 - HFDR
- AFNOR E48-602 / 48-603 - HFDR

OEMs

- GEC ALSTHOM - SBV PR 1001C
- ABB – HTGD 690 149 V0001K
- SIEMENS KWU - TLV 9012 02
- EDF Electricité de France HN 20-S-41
- WESTINGHOUSE

ADVANTAGES

HYDRANSAFE FR-NSG 38 is a fluid free of water which displays superior fire resistance properties (ISO Standard 12922). It has an excellent overall performance in hydraulic circuits and hydraulic governor systems of steam turbines according to OEM requirements :

- Good lubrication performance and anti-wear properties.
- Excellent oxidation stability.
- Low volatility.
- Prevention of foaming and very quick air release.
- Good resistance to hydrolysis and very quick demulsibility.
- Excellent shear stability.
- Good filterability.

SPECIAL INSTRUCTIONS

HYDRANSAFE FR-NSG 38 is not miscible with conventional hydraulic mineral oils or with water-glycol fluids. However **HYDRANSAFE FR-NSG 38** can generally be mixed in any proportion with phosphate ester based fluids.

Certain precautions must be taken when using **HYDRANSAFE FR-NSG 38** especially in an equipment designed to be used with a mineral oil :

- Seals and hoses : these fluids are not compatible with conventional elastomers. Use only fluorinated elatomers (Viton – Teflon).
- Paints : **HYDRANSAFE FR-NSG 38** will cause normal paints to dissolve or swell. It is best to avoid using paints on tanks (special resins are available that are compatible with phosphate esters).

As a general rule we recommend that the user consult AFNOR E 48-640 on “How to use fire-resistant fluids”.

TYPICAL CHARACTERISTICS	METHODS	UNITS	HYDRANSAFE FR-NSG 38
Appearance	Visual	-	Clear yellow fluid
Specific gravity at 20 / 20°C	ISO 3675	-	1.130
Kinematic viscosity at 40°C	ISO 3014	mm^2/s	43.4
Kinematic viscosity at 100°C	ISO 3014	mm^2/s	5.0
Acid Number	ISO 6619	mgKOH/g	0.06
Pour Point	ISO 3016	°C	- 20
Water Content	ISO 760	%	< 0.06
Chlorine content	microcoulometric	ppm	25
Volume Resistivity at 20°C	IEC 247	Mohm m	100
Foaming			
Seq. 1	ISO 6247	ml/ml	30 / 0
Seq. 2		ml/ml	10 / 0
Seq. 3		ml/ml	10 / 0
Air Release at 50°C	ISO 9120	min	1
Demulsification	ISO 6614	min	1
Particulate contamination	ISO 4406	Class	15 / 12
Fire Resistance Properties			
Flash Point OC	ISO 2592	°C	270
Fire Point	ISO 2592	°C	368
Autoignition Temperature	ASTM D2155	°C	575
Spray Test Persistence of burning	VII Lux. § 3.1.2. ISO 15029-1	s (cotation)	6 (passe)
Spray test Ignitability Index Class	VII Lux. § 3.1.3. ISO 15029-2	class	D
Spray Test Persistence of burning	Factory Mutual standard Std 6930	s (cotation)	3 (passe)
Spray Flammability Parameter (SFP)		Group	Group 1
Wick Ignition Persistence of burning	ISO 14935	s (cotation)	5 (passe)
Hot Manifold test at 704°C	ISO 20823	cotation	passe

Above characteristics are mean values given as information.