

## HYDRAUNYCOIL FH 4541

ISO 12922 - Category HFDU

FIRE RESISTANT HYDRAULIC FLUID  
ISO VG 46

### DESCRIPTION :

HYDRAUNYCOIL FH 4541 is a fire resistant fluid based on a carboxylic ester. Its temperature operating range is comprised between -25 °C to +120 °C. It contains a specific corrosion inhibitor to prevent from corrosion of steel, copper, aluminium and other metals.

HYDRAUNYCOIL FH 4541 is also readily biodegradable.

### APPLICATION :



HYDRAUNYCOIL FH 4541 is recommended for hydraulic equipments where fire risk is a concern.

HYDRAUNYCOIL FH 4541 is widely used in high pressure equipments in the steel and aluminium industry where it has proven its high efficiency. The high level of biodegradability of HYDRAUNYCOIL FH 4541 is an additional benefit highly appreciated in the tunnelling industry.

HYDRAUNYCOIL FH 4541 is compatible with most of usual elastomers (see table below) and paintings.

In most cases, HYDRAUNYCOIL FH 4541 can be used directly in existing systems - designed for mineral-oil based hydraulic fluids - without any modification.

System conversion can be achieved by a straightforward drain-refill procedure. However, to keep the full benefit of fire resistance properties, ensure that the equipment is completely drained prior to fill it with HYDRAUNYCOIL FH 4541.

### ADVANTAGES :

- Very good anti-wear and anti-corrosion performances
- High flash and auto-ignition points
- Good filterability
- Excellent air release
- Non-toxic
- High level of biodegradability

CHARACTERISTIC	UNIT	RESULT	TEST METHOD
- Appearance	-	Clear, bright and free from sediments and other impurities.	visual examination
- Density at 20°C	kg/dm <sup>3</sup>	0.923	ISO 12185
- Flash point, COC	°C	320	ISO 2592
- Fire point	°C	348	ISO 2592
- A.I.T.	°C	>400	ASTM E 659
- Pour point	°C	-36	ISO 3016
- Kinematic viscosity at 100°C	mm <sup>2</sup> /s	9.63	ISO 3104
40°C		48.7	
-20°C		1839	
- Viscosity Index	-	187	ISO 2909
- Acid number (pH=11)	mg KOH/g	1.14	ISO 6619
- Foaming at 24°C	ml/ml	0/0	ISO 6247
94°C	ml/ml	0/0	
24/94°C	ml/ml	0/0	
- Air release	min.	4	ASTM D 3427
- Demulsibility	min.	30	ISO 6614
- Filterability	-	1.1	NFE 48-690
- Rusting test (sea water)	-	Pass	ISO 7120/B
- Copper corrosion	-	1a	ISO 2160



CHARACTERISTIC	UNIT	RESULT	TEST METHOD
- Vickers V105 C pump test Total wear	mg	14	DIN 51389
- FZG	damage stage	12	DIN 51354
- 4-ball test results 1hour – 392 N	mm	0.41	ASTM D 4172
- Specific heat at 20°C	kCal/kg/°C	0.460	ASTM D 2766
- Thermal Conductivity	Watt/m°K	0.158	PLTL-73
- Bulk Modulus	KPa	1.728E+06 (Secant) 2.016E+06 (Tangent)	ASTM D 6793
- Coefficient of thermal expansion	°C <sup>-1</sup>	6.10 <sup>-4</sup>	-
- Biodegradability	% %	> 60 ≈ 90	ISO 9439 CEC L33 A93

## ELASTOMER COMPATIBILITY

DESCRIPTION	ISO Class.	Compatibility
Butadiene Acrylonitrile (nitrile < 30%)	NBR	N
Butadiene Acrylonitrile (nitrile > 30%)	NBR	Y
Polychloroprene ( temperature < 100°C)	CR	Y
Viton	FPM	Y
Ethylene Propylene Rubber	EPDM	N
Polyurethane	AU	Y
Teflon ®	PTFE	Y
Natural Rubber	IR	N

TFH4541-2E1a

March 2006 – E1



66, Avenue des Champs Elysées BP 414 75366 PARIS CEDEX 8 FRANCE

Tél. : 33 (0)1 45 61 50 00 • Fax : 33 (0)1 45 61 50 13

E-mail : [info@nyco.fr](mailto:info@nyco.fr) • <http://www.nyco.fr>