



## PETROLEUM HYDRAULIC FLUID

**NATO CODE H-520 – DCSEA 415/A – DEF STAN 91-48 Iss.2 – OM-18**

### DESCRIPTION

Hydraunycoil FH 5 is a petroleum-based hydraulic fluid with a viscosity of 14 cSt at 40°C. It contains anti-corrosion and anti-wear additives.

Hydraunycoil FH 5 has an extremely wide operating temperature range (from - 54°C to + 135°C in air-tight circuits and - 54°C to + 90°C in open circuits) and a viscosity index exceeding 300.



### APPLICATION

Hydraunycoil FH 5 is used in hydraulic systems of military aircraft (jet fighters, transport aircraft, helicopters) or missiles, as well as general purpose hydraulic fluid for ground equipment (tanks, artillery...).

| Characteristic   | Unit                             | Typical Result | DCSEA 415/A Limits  | Test method      |
|--|----------------------------------|----------------|---|------------------|
| - Density at 20°C  | -                                | 0.872          | --  | ASTM D 4052      |
| - Appearance   | -                                | limpid red oil | red oil   | Visual           |
| - Kinematic viscosity  |                                  |                |   |                  |
| At 200°C   |                                  | 2.1            | -   |                  |
| At 100°C   |                                  | 5.39           | min. 5.0  |                  |
| At 40°C  | mm <sup>2</sup> /s               | 14.12          | min. 13.0   | ASTM D 445       |
| At - 40°C  |                                  | 426            | max. 500  |                  |
| At - 54°C  |                                  | 1944           | max. 2500   |                  |
| - Low temperature stability, 72 h @ - 54°C                       | -                                | pass           | no gelling, clouding, crystallization, solidification or separation | FED-STD-791-3458 |
| - Flash point, Pensky-Martens                                    | °C                               | 91             | min. 82   | ASTM D 93        |
| - Auto-ignition temperature                                      | °C                               | 245            | -   | ASTM E 659       |
| - Pour point   | °C                               | - 69           | max. - 60   | ASTM D 97        |
| - Total acid number  | mg KOH/g                         | 0.04           | max. 0.20   | ASTM D 664       |
| - Evaporation loss, 6 h at 71°C                                  | %w                               | 16.2           | max. 20.0   | ASTM D 972       |
| - Foaming test (tendency/stability) at 24°C                      | cm <sup>3</sup> /cm <sup>3</sup> | 42/0           | max. 60/0   | ASTM D 892       |
| - Steel on steel wear, 4-ball machine, scar diameter, 1h at 392N | mm                               | 0.9            | max. 1.0  | ASTM D 4172      |
| - Corrosion and oxidative stability 168 h @ 135°C                |                                  |                |   |                  |
| Acid number change   | mg KOH/g                         | 0.03           | max. 0.2  |                  |
| Viscosity change at 40°C   | %                                | 6.9            | - 5.0 to + 20.0   | FED-STD-791-5308 |
| Steel weight change  | mg/cm <sup>2</sup>               | 0.0            | max. +/- 0.2  |                  |
| Cadmium plated steel w. ch.                                      | mg/cm <sup>2</sup>               | 0.0            | max. +/- 0.2  |                  |
| Aluminium weight change  | mg/cm <sup>2</sup>               | 0.0            | max. +/- 0.2  |                  |
| Magnesium weight change  | mg/cm <sup>2</sup>               | 0.0            | max. +/- 0.2  |                  |
| Copper weight change   | mg/cm <sup>2</sup>               | 0.0            | max. +/- 0.6  |                  |
| - Elastomer NBR-L compatibility, 168h at 70°C                    | %v                               | 28.5           | 19.0 to 30.0  | FTM-S-791-3603   |
| - Copper corrosion, 72h at 135°C                                 | rating                           | 2a             | max. 2e   | ASTM D 130       |
| - Water content  | mg/kg                            | 57             | max. 100  | ASTM D 1533      |

The values above are typical values. They do not constitute any contractual commitment.  
Sales specifications are available on request. The present technical data sheet replaces all the previous editions.

