Technical Data Sheet

# HYDRAULIC HD

## *Lubricant for hydraulic applications of higher category system*

**Hydraulic Fluids special technology to ensure high security and performance that meet the widest range of hydraulic applications, the manufacturing plant machinery and mobile machinery. They have a strong resistance to degradation by thermal and mechanical stress and improve the protection against the formation of deposits which tend to decrease the efficiency of hydraulic power transfer systems.**

## Applications & Benefits

- **Low maintenance costs**

Extended extended gear change compared to conventional hydraulics, as it has a higher resistance to thermal and chemical degradation. Minimizes squeegee formation, ensuring improved reliability and cleanliness of the hydraulic system.

- **Advanced protection**

The proven action of additives reduces and prevents the wear and corrosive effects affecting the metal parts, making it usable in a wide range of operating conditions, including low loads and heavy loads.

- **Thermal degradation resistance**

Highly refined bases with the help of additives allow the lubricant to withstand thermal and chemical degradation, thus reducing the formation of sludge.

- **Demulsivity performance**

Demulsive capacity to avoid formation of stable oil mixtures with water that may be accidentally present in the hydraulic circuits and hence obstructing the degradation of the oil.

- **Foam performance**

Easy release of absorbed air and limited foaming, thus avoiding the inappropriate operation of the power transmission device.

- **Versatility**

Hydraulic HD is recommended for use in a wide range of hydraulic applications in industrial and production environments, in mobile hydraulic power applications such as excavators, cranes except where there are significant thermal dictates for use (HYDRAULIC HVI series is recommended) and marine applications where ISO HM fluids are required.

## Specifications & Approvals

- **Exceeds the specifications listed below:**

**HYDRAULIC HD** Hydraulic Oils are classified as **ISO-L-HM** in accordance with **ISO 6743-4**

DIN 51524 - part II (Classe HLP)
Cincinnati Lamb P68-P69-P70
EATON-VICKERS M-2950-S
U.S. STEEL 127
DENISON HF1-HF2-HF0
AFNOR NFE 48-690/691
GM LH-03/ LH-04/LH-06
MIL PRF 17672 E/D Amd 3

Please remember to always check the owner's manual for the correct selection.
HYDRAULIC HD hydraulic fluids are compatible with all mineral-based lubricants, however, hydraulic fluids should never be mixed with others (such as biodegradable, flame retardant, etc.).

*For further information please contact the Technical Service.

## Chemical-Physical Characteristics

| Test | Method | Hydraulic HD | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ***ISO Grade*** | - | ***15*** | ***22*** | ***32*** | ***46*** | ***68*** | ***100*** | ***150*** |
| Density @ 15°C, kg/dm$^3$ | ASTM D 4052 | 0.850 | 0.850 | 0.855 | 0.855 | 0.865 | 0.870 | 0.875 |
| Viscosity<br>cSt @ 40°C<br>cSt @ 100°C | ASTM D 445 | <br>15.0<br>3.5 | <br>22.0<br>4.5 | <br>32.0<br>5.5 | <br>46.0<br>6.5 | <br>68.0<br>9.5 | <br>100.0<br>11.5 | <br>150.0<br>15.0 |
| Viscosity Index - Unit | ASTM D 2270 | 110 | 110 | 110 | 105 | 105 | 100 | 100 |
| Copper corrosion - 3h @ 100°C | ASTM D 130 | 1B | 1B | 1B | 1B | 1B | 1B | 1B |
| Rust-preventing | ASTM D 665A | Exceeds | Exceeds | Exceeds | Exceeds | Exceeds | Exceeds | Exceeds |
| Pour point, °C | ASTM D 97 | -30 | -30 | -30 | -30 | -30 | -27 | -24 |
| Flash point, °C | ASTM D 92 | 220 | 220 | 225 | 225 | 230 | 230 | 230 |
| Demulsivity, minutes 40/40/0 | ASTM D 1401 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Foaming<br>Trend / Stability | ASTM D 892 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 |
| FZG / exceeded stage | DIN 51354 | - | - | 12 | 12 | 12 | 12 | 12 |

NOTE: The above values are "typical" for normal production tolerance and do NOT constitute a specification.

## Storage, Health & Environment

### - Storage & Health

It is recommended to store the HYDRAULIC HD lubricant under cover. If storage is carried out outdoors, it is recommended to position the drums, preferably under a roof, in a horizontal position and, if kept upright, cover them with a lid to prevent water infiltration. It is advisable not to store the packs at temperatures above 60°C or directly to the sun as it is good to keep them in places not subject to freezing.
HYDRAULIC HD has no health effects when properly used, applying the standard personal hygiene standards.

### - Environment

Do not discharge the new and/or exhausted lubricant into the sewage system, soil or watercourses. Exhausted lubricant must be delivered to an authorized collection point.

## Additional information

- **Safety Data Sheet**

It is provided aside and must be considered for its information or can be easily downloaded from www.rilub.it
Contact your technical service for more information:


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