



## Hyspin DF Top Range

Hydraulic oil HLP-D type

### Description

Castrol Hyspin DF Top™ is a fine filtered zinc-free HLP-D hydraulic oil conforming to DIN 51524-2 with superb wear and corrosion protection, excellent filterability and a very high cleanliness. The special “keep clean” properties ensure the cleanliness of the hydraulic system, long operating life and high system availability.

Castrol Hyspin DF Top also reduces wear in the boundary lubrication zone and through its selected additives suppresses stick-slip effects.

### Application

Castrol Hyspin DF Top is suited for hydraulic systems of all kinds. It has been developed, however, specially for use in situations of high thermal and mechanical stress of the kind that arise, for example, in injection-moulding machines, presses and heavy-load machine tools.

The risk of microscratching on the hydraulic piston rods is minimized regardless of the sealing system used. Very good experience has been reported with carbon fibre and bronze-filled PTFE seals. Castrol Hyspin DF Top can be mixed with other zinc-free mineral oil-based hydraulic oils without any problems. For that reason, hydraulic systems can be converted to Castrol Hyspin DF Top without difficulties.

The most important applications of Castrol Hyspin DF Top include:

- Presses and injection-moulding machines
- Heavy-load machine tools
- Slow-moving hydraulic systems
- Construction machines
- Electro-magnetic multi-disc clutches
- Compressed air tools
- Continuously variable and hydrostatic gears

### Advantages

Longer oil change intervals without restriction of operational and functional safety of the hydraulic systems give Castrol Hyspin DF Top the competitive edge:

- Greater system availability
- Shorter downtime of the systems
- Lower maintenance costs
- Lower disposal costs (not included in the OEM negative list of products containing heavy metals)

## Typical Characteristics

Name	Method	Units	46	68
Density @ 15°C / 59°F	ISO 12185 / ASTM D4052	kg/m <sup>3</sup>	876	883
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	46	68
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	6.8	8.7
Viscosity Index	ISO 2909 / ASTM D2270	-	102	102
Pour Point	ISO 3016 / ASTM D97	°C/°F	-30/-22	-24/-11.2
Flash Point - open cup method	ISO 2592 / ASTM D92	°C/°F	234/453.2	250/482
FZG Gear Scuffing test - A/8.3/90	ISO 14635-1	Failure Load Stage	>12	>12

Subject to usual manufacturing tolerances.

## Storage

All packages should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and the obliteration of drum markings. Products should not be stored above 60°C, exposed to hot sun or freezing conditions.

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Castrol Industrial, Technology Centre , Whitchurch Hill , Pangbourne , Reading , RG8 7QR , United Kingdom

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