



## PRODUCT DATA

### Castrol Dual Range HV

Castrol Dual Range HV Hydraulic Fluids are exceptional multi-viscosity hydraulic fluids that provide proven anti-wear protection coupled with very shear stable polymers and anti-foam additives for a balanced package. An extreme load carrying capability is indicated where Castrol Dual Range HV Hydraulic Fluids pass the FZG Load carrying test at Stage 12. This outstanding performance provides the extra measure of protection required in high load applications such as hydrostatic transmissions and high speed/high pressure hydraulic circuits.

Castrol Dual Range HV Hydraulic Fluids' high viscosity indexes and their low pour points ensure extra pump protection and efficiency in cold weather starts and provide needed viscosity protection at higher operating temperatures. The products are dyed purple to facilitate leak detection.

### Features and Benefits

- Very shear stable polymers provide universal applications under a wide range of ambient conditions.
  - Excellent viscosity at operating temperatures (particularly under extreme conditions).
- Less wear promotes longer equipment life and better productivity through maximum hydraulic system efficiency.
- Excellent vane and piston pump performance that meets major hydraulic pump manufacturers' requirements.
  - Less failure of hydraulic circuits.
  - Less equipment repair for long term trouble-free service
- Outstanding hydrolytic stability provides additional protection against corrosion in the presence of water. Systems operate more efficiently, while reducing maintenance costs.
- Exceptional oxidation and thermal stability provides resistant to thermal degradation in the presence of entrained air and catalyzing metals.
  - Prevents the formation of sludge and varnish deposits during periods of extended high temperature operation.
- Resistant to the formation of oxidation acids allowing longer pump life, less wear, less down time

### Warranty and Protection Requirements

- Exceeds all manufacturer's warranty requirements for applications requiring a Dennison HF-O approved hydraulic fluid

### Industry Specifications and OEM Approvals by Grade

- Denison HF-O, HF-1, HF-2 Approved
- Vickers 35VQ25A - meets performance requirements
- Vickers M-2950-S Mobile Hydraulic Systems and I-286-S Industrial Hydraulic Systems
- Cincinnati Machine P-68 (ISO 32), P-70 (ISO 46) and P-69 (ISO 68) approved
- Meets Racine S106
- Meets Joy Mining Machinery HO-T (AW 46), HO-S (AW 68)
- Meets DIN 51524 Requirements



## Typical Properties\*

Test	Method	Typical Results			
		ISO Grade	32	46	68
Viscosity at 40° C, cSt	ASTM D-445	32.6	46.5	68	100.3
Viscosity at 100° C, cSt	ASTM D-445	6.2	7.9	10.6	13.9
Viscosity at 100F, SUS	ASTM D-2161	153	216	314	459
Viscosity at 210F, SUS	ASTM D-2161	47	52	61	73
Viscosity Index	ASTM D-2270	141	143	146	141
Flash Point, °C (°F)	ASTM D-92	210(410)	232(450)	240(464)	251(484)
Pour Point, °C (°F)	ASTM D-97	-51(-60)	-45(-49)	-39(-38)	-36(-33)
Dielectric Breakdown	ASTM D877	-	-	-	-
Voltage, KV/0.1 inch		-	35	-	-
Gravity, API	ASTM D-287	31.3	34	30	29
Specific Gravity @60F, g/ml	ASTM D-1298	7.24	7.12	7.3	7.34
Pounds per Gallon	ASTM D-287	0.869	0.859	0.874	0.88

\* Due to continual product research and development, the information contained herein is based on products purchased in the U.S. and subject to change without notification. Typical properties may vary slightly.

## Part Numbers and UPCs

Grade	32	46	68	100
5 Gal. Pail Part No.	41557	42057	42257	
55 Gal. Drum Part No.	41559	42059	42259	42269
260 Gal. Tote Part No.	415547	420547	422547	
Bulk	41550	42050	42250	

## Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the applications referred to above and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDSs are available upon request through your sales contact office, or via the Internet at [www.castrol.com/us](http://www.castrol.com/us). This product should not be used for purposes other than the applications referred to above. If disposing of used product, take care to protect the environment, return used oil to collection center.

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