

MI240 HYDRAULIC

High-performance hydraulic fluid, engineered from a fully biodegradable synthetic ester

Proven benefits include:

Reduced wear & spool valve jamming

Reduced need for cleaning

Fewer maintenance outages

Longer equipment life

Longer fluid life

No varnishing



MI240 HYDRAULIC

ISO VG 46

INTRODUCING THE FUTURE OF HYDRAULIC FLUIDS

MI240 HYDRAULIC (ISO VG 46) is a synthetic ester based lubricating fluid with excellent levels of oxidation resistance. The inherent stability and low carbon residue properties of the fluid provides the following advantages:

- ♦ Cleaner operation and greatly reduced need for cleaning
- ♦ Much longer charge life of the hydraulic fluid
- ♦ Reduced downtime
- ♦ Reduced filter consumables costs
- ♦ Reduced fluid disposal costs
- ♦ Reduced chance of spool valve jamming through contaminated fluid

In addition, MI240 HYDRAULIC (ISO VG 46) is fully and readily biodegradable and non-hazardous. The fluid has excellent inherent film strength (lubricity) resulting in reduced wear at surface interfaces.

ENVIRONMENTALLY ACCEPTABLE HYDRAULIC FLUID

MI240 HYDRAULIC (ISO VG 46) is a synthetic ester-based hydraulic fluid with excellent thermal and oxidative resistance. It is also readily biodegradable, non-toxic and non-hazardous. The fluid is formulated with metal-free, environmentally acceptable additives to protect machinery, reduce deposit formation and enhance performance without compromising the fluid's environmentally friendly credentials.

CHEMICAL AND PHYSICAL PROPERTIES

Test	Method	Unit	Typical values
Water content	IEC60814	ppm	50
Colour	ISO2211	Hazen	150
Acid value	IEC 62021 modified	mgKOH/g	<0.03
ISO Viscosity Group			46
Viscosity Index			150
Viscosity (40°C)	ISO3104	cSt	42.9
Viscosity (100°C)	ISO3104	cSt	7.7
Flash point (closed cup)	ISO 2719	°C	253
Pour point	ISO 3016	°C	-56
Carbon Residue - Micro Method	IP 398 / ISO 10370		<0.10% (M/M)

TECHNICAL ENQUIRIES

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MI240 HYDRAULIC ADVANTAGES

Thermal and Oxidation Stability - Field tests have shown that little or no change has been observed in the viscosity, acid value or additive concentration of the fluid over approximately 5,000 operational hours.

Stay-clean Fluid and Machine - The excellent detergency of MI240 HYDRAULIC (ISO VG 46) means that not only does it stay clean during operation, but also that the fluid can clean deposits formed by the previous oil and enable their removal through in-line filtration thereby reducing unavoidable contamination from previous hydraulic oils.

Field tests have shown a reduction of greater than 80% in particles over one year (~ 5,000 operational fluid hours) following a fluid change with MI240 HYDRAULIC (ISO VG 46).

Maintaining cleanliness of both fluid and equipment provides protection from system failures, particularly close-tolerance valves commonly found in hydraulic equipment, resulting in reduced downtime for repairs and cleaning.

As MI240 HYDRAULIC (ISO VG 46) is capable of removing contamination from previous fluids, regular checking of in-line filters following a fluid change is recommended to ensure efficient running of the machine.

Product Benefit Parameter	Measurement Method	Evaluation
Hydraulic fluid performance, where possible, back-to-back with similar moulding machine.	Laboratory fluid analysis: 250 hr interval tests (FOC).	Trend analysis for viscosity, water, metallic wear, carbon and fluid oxidation.
Reduced cleaning time.	Visual checks and photographs at usual cleaning intervals.	Commentary on difference and improvement. Calculation of monetary value of reduced downtime.
Fluid longevity.	Laboratory analysis: 250 hr interval tests (FOC).	Projection of useful fluid life. Calculation of potential hydraulic fluid cost saving.
Reduced fluid disposal costs.	Commercial evaluation.	Calculation of (i) reduced disposal cost of biodegradable fluid plus (ii) reduced fluid disposal volume based on greatly extended fluid life.
Reduced filtration costs.	Commercial evaluation.	Difference in number of filter cartridges used with MI 240 vs mineral oil.
Reduced number of spool valve sticking incidents.	Logging incidents.	Difference in number of incidents observed with MI240 vs mineral oil.

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MATERIALS SCIENCE HERITAGE

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PERFORMANCE
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