Shell GARIA® 601 M-12 and M-22

Neat cutting oils

Shell GARIA® 601 M-12 and M-22 are neat cutting oils for machining of high alloy steels (stainless, heat resistant, austenitic, etc.) and aluminum or magnesium alloys.

Performance Features and Benefits

- Formulation based on hydrotreated mineral oils low aromatic content
- Polar, extreme pressure and antiwear additives - provide high load carrying properties
- Controlled extreme pressure properties - allows for higher metal removal rate, encouraging lower machining costs
- Good tool life
- Excellent surface finish of machined work pieces
- Highly efficient ant-mist additives

Shell GARIA® 601 M-12 and M-22 contain active sulfur - there is a risk of staining of yellow metals.

Shell GARIA® 601 M-12 and M-22 are free of chlorine and heavy metals.

Main Applications

Shell GARIA® 601 M-12 and M-22 are neat cutting oils for machining of high alloy steels (stainless, heat resistant, austenitic, etc.) and aluminum or magnesium alloys. The oils show excellent results in working with many difficult operations like broaching, deep-hole drilling, tapping, shaping, and shaving of gears. Shell GARIA® 601 M-12 and M-22 products are also very good grinding oils.

Advice on applications not covered in this handbook may be obtained from your Shell representative.

Handling and Safety Information

For information on the safe handling, storage, or use of this product, refer to its Material Safety Data Sheet at http://www.epc.shell.com/. If you are a Shell Distributor, please call 1+800-332-6457 for all of your service needs. All other customers please call 1+800-237-8645 for all of your service needs.

Protect the Environment

Do not discharge into drains, soil, or water.

Typical Physical Characteristics

Shell GARIA® 601	**Unit**	**Method**	**M-12**	**M-22**
Appearance			Light brown	Light brown
Kinematic viscosity		ASTM D 445		
@ 40 °C	cSt		12	22
@ 100 °C	cSt		3.1	4.5
Density @ 20 °C	kg/L	ASTM D 4052	0.875	0.875
Flash Point COC	°F	ASTM D 92	329	374
Cu-Corrosion Test		ASTM D 130	4b -4c	4b -4c

These characteristics are typical of current production. While future production will conform to Shell's specification, variations in these characteristics may occur.