



Formerly Known As: **Shell Tonna S**

Tonna S3 M 220

Premium machine tool slideway oils

Shell Tonna S3 M oils are specially designed for the lubrication of machine tool slides, tables and feed mechanisms. Their enhanced tackiness and stick-slip characteristics are combined to offer superior frictional performance on slideways. They are specially recommended in cases where high precision and low speed machines are used as well as in combined lubrication systems.

- Extra Machining Accuracy
- Standard Applications

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Excellent frictional properties**

Specially developed to overcome “stick-slip” problems with slow moving machine tool slides and tables, allowing more accurate positioning. This provides benefits of improved finished surface quality and dimensional accuracy of work pieces.

- **Advanced technology**

Developed in conjunction with machine tool manufacturers to meet the requirements of the most advanced machine tools using a wide variety of slideway materials.

- **Good slideway adhesion**

Provides strong adhesion to slideway surfaces, resisting wash-off by metalworking fluids and those reducing oil consumption and giving more uniform working condition for the machine.

- **Ready separation from water-miscible cutting fluids**

Separates readily from water-miscible metalworking fluids allowing easy removal by skimming.

- **Excellent anti-wear performance**

Provides high levels of anti-wear protection for slideways, gears, bearings and hydraulic system components making the product particularly suitable for machines with combined systems.

- **Excellent corrosion prevention characteristics**

Provides effective protection of machine tool surfaces and components in the presence of water-miscible cutting fluids.

Main Applications



- **Machine tool slideways, tables and feed mechanisms**

Developed for use on a wide range of materials used for machine tool slideway surfaces, including cast iron and synthetic materials.

- **Machine tool hydraulic systems**

Particularly recommended for machines which have a combined hydraulic and slideway lubrication system.

- **Machine tool gearboxes and spindles**

Also suitable for gear and headstock lubrication.

The lower viscosity grades are intended for horizontal slide lubrication (Shell Tonna S3 M 32 or 68). For vertical slides use Shell Tonna S3 M 220.

Specifications, Approvals & Recommendations

- Cincinnati Machine P-50 (ISO 220), P-47 (ISO 68)
- ISO 11158 / ISO 6743-4 HM and HG
- ISO 12925-1 / ISO 6743-6 CKC
- ISO 19378 / ISO 6743-13 GA and GB
- DIN CGLP

For additional questions regarding equipment approvals and recommendations, please consult your local Shell Technical Helpdesk, or the OEM Approvals website.

Typical Physical Characteristics

Properties			Method	Shell Tonna S3 M 220
ISO Viscosity Grade			ASTM D2422	220
Kinematic Viscosity	@40°C	mm ² /s	ASTM D445	220
Kinematic Viscosity	@100°C	mm ² /s	ASTM D445	19.1
Viscosity Index			ASTM D2270	98
Density	@15°C	kg/m ³	ASTM D1298	894
Flash Point (Cleveland Open Cup)		°C	ASTM D92	250
Pour Point		°C	ASTM D97	-15

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

Health, Safety & Environment

- Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from <http://www.epc.Shell.com/>
- **Protect the Environment**
Take used oil to an authorized collection point. Do not discharge into drains, soil or water.

Additional Information

- **Advice**
Product recommendations for applications not covered here may be obtained from your Shell representative.