Technical Data Sheet

Previous Name: **Shell Tonna T**

Shell **Tonna** *S2 M 220*

- *Extra Separation from Coolants*

Machine tool slideway oils

Shell Tonna S2 M oils are specially designed for the lubrication of machine tool slides, tables and feed mechanisms. Their enhanced tackiness and stick-slip characteristics combine to offer superior frictional performance on slideways. They are specially recommended in cases where high exposure to soluble cutting fluids exist.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Ready separation from water-miscible cutting fluids**
  Separates completely and immediately from water-miscible metalworking fluids allowing easy removal by skimming. This helps to achieve longer coolant life, better cutting performance and to reduce Health & Safety issues.
- **Good slideway adhesion**
  Provides very effective adhesion to slideway surfaces, resisting wash-off by metalworking fluids and thus reducing oil consumption and giving more uniform working condition for the machine.
- **Good frictional properties**
  “Stick-slip” problems are overcome allowing more accurate positioning. This provides benefits of improved finished surface quality and dimensional accuracy of work pieces.
- **Good anti-wear performance**
  Provides anti-wear protection for slideways, gears, bearings and hydraulic system components.
- **Excellent corrosion prevention characteristics**
  Provides effective prevention 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.

  Shell Tonna S2 M oils can be used also in the hydraulic and gearboxes system although in such applications Shell Tonna S3 M oils are generally preferable.

  The lower viscosity grades are intended for horizontal slide lubrication (Shell Tonna S2 M 32 or 68). For vertical slides use Shell Tonna S2 M 220.

Specifications, Approvals & Recommendations

- Cincinnati Machine P-50 (ISO 220), P-47 (ISO 68), P-53 (ISO 32)
- ISO 19378 / ISO 6743-13 GA and GB DIN CGLP

  For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk, or the OEM Approvals website.

Typical Physical Characteristics

Properties			Method	Shell Tonna S2 M Oils
ISO Viscosity Grade			ISO 3448	220
Kinematic Viscosity	@40°C	mm^2/s	ISO 3104	220
Kinematic Viscosity	@100°C	mm^2/s	ISO 3104	19.1
Viscosity Index			ISO 2909	98
Density	@15°C	kg/m^3	ISO 12185	894
Flash Point (Cleveland Open Cup)		°C	ISO 2592	250
Pour Point		°C	ISO 3016	-15

These characteristics are typical of current production. Whilst 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 authorised collection point. Do not discharge into drains, soil or water.

Additional Information

- **Advice**

  Advice on applications not covered here may be obtained from your Shell representative.