Technical Data Sheet

Shell **Rotella** *DD+ 40*

Two-stroke heavy duty Diesel Engine Oil

Shell Rotella DD+ Oil 40 is a high performance, heavy duty engine oil designed specifically for all two-stroke diesel engines manufactured by Detroit Diesel Corporation.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Low ash technology**
  Reduced risk of valve distress and build-up of combustion chamber deposits. Meets requirements of Detroit Diesel for valve seat deposit control.
- **High thermal and oxidative stability**
  Maintains excellent standard of engine cleanliness.
- **Excellent protection**
  Against corrosion. Less risk of scuffing and accelerated wear.
- **Advanced detergent technology**
  Long term deposit control and retention of TBN.
- **Shear stable SAE 40 & 50 monograde**
  Complete lubrication in all critical areas.

Main Applications

- **Detroit Diesel two-stroke engines**
  Suitable for all Detroit Diesel two-stroke engines, in all applications including '149' engines used in mine haul trucks.
- **Certain 4-cycle engines**
  Can be used in certain 4-cycle engines in off-highway applications.

Specifications, Approvals & Recommendations

- API Service Classification : CF-II, CF
- Detroit Diesel Corporation : 7SE 270 8810 (Sulphated Ash - less than 0.8%) - All equipment.

  For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

Typical Physical Characteristics

Properties			Method	Shell Rotella DD+ 40
SAE Viscosity Grade				40
Kinematic Viscosity	@40°C	cSt	ASTM D445	138
Kinematic Viscosity	@100°C	cSt	ASTM D445	14.4
Viscosity Index			ASTM D2270	103
Density	@15°C	kg/m3	ASTM D4052	899
Flash Point (COC)		°C	ASTM D92	250
Pour Point		°C	ASTM D97	-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

- **Health and Safety**

  Shell Rotella DD+ 40 is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

  Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

  Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from your

Shell representative.

- **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.