Technical Data Sheet

- *Turbo-charger Performance*

# Shell **Rimula** *R2 Extra 20W-50 (CF-4/228.1)*

***Multigrade Heavy Duty Diesel Engine Oils***

**Shell Rimula R2 Extra Energised Protection oils use proven combinations of additives that react to the varying needs of your engine. They include active dispersants to carry away dirt, keeping the engine clean. Each dedicated additive releases its protective energy when needed, to ensure reliable and consistent protection against deposits and wear and to resist thickening by heat. Approved by leading engine makers, suitable for most heavy duty applications including turbo-charged engines.**

ENERGISED PROTECTION
Adapting to your engine's changing needs

## Performance, Features & Benefits

- **Multigrade benefits**
  Compared to monograde oils, Shell Rimula R2 Extra can deliver the user a range of benefits associated with the use of multigrade oils. These include reduction of oil consumption by up to 30%*, longer oil life and improved fuel economy. (* As stated by a leading engine maker)
- **Protection for turbo-charged engines**
  Unlike some lower cost multigrade oils, Shell Rimula R2 Extra can be confidently used in many turbocharged engines to provide protection and long engine life.
- **Piston cleanliness**
  Shell Rimula R2 Extra exceeds the normal standards of piston cleanliness associated with API CF-4 oils - the use of modern formulation chemistry delivers piston cleanliness that meets the standards of Mercedes Benz 228.1, guaranteeing the user consistently high performance in a range of applications.
- **Major engine manufacturer acceptance**
  Shell Rimula R2 Extra meets the recommendation of many major automotive engine builders in Europe and America, providing flexibility to vehicle and equipment owners.

## Main Applications



- **Automotive diesel engines**
  Shell Rimula R2 Extra is the ideal choice for a wide range of turbo-charged and non-turbocharged engines under normal operation. It is particularly recommended for use in older Mercedes-Benz trucks and buses as well as for cost effective lubrication in off-highway applications such as agricultural tractors.

  For more severe operation or application in modern low emission engines we recommend Shell Rimula R3 or Shell Rimula R4 multigrade engine oils.

## Specifications, Approvals & Recommendations

- MB Approval: 228.1
- API: CF-4, CF
- ACEA: E2
- MAN: 271

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 Rimula R2 Extra (CF-4/228.1) |
|---|---|---|---|---|
| SAE Viscosity Grade | | | | 20W-50 |
| Kinematic Viscosity | @40°C | mm²/s | ASTM D 445 | 162 |
| Kinematic Viscosity | @100°C | mm²/s | ASTM D 445 | 18.9 |
| Dynamic Viscosity | @-15°C | mPa s | ASTM D 5293 | 8400 |
| Viscosity Index | | | ASTM D 2270 | 134 |
| Density | @15°C | kg/l | ASTM D 4052 | 0.893 |
| Flash Point (COC) | | °C | ASTM D 92 | 246 |
| Pour Point | | °C | ASTM D 97 | -27 |

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 Rimula R2 Extra (CF-4/228.1) 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 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.