Shell & Whitmore Reliability Solutions, LLC

Technical Data Sheet

Formerly Known As: **Whitmore® Matrix® LC**

# Shell **Gadus** ***(Matrix EP Winter)***

***Extreme-Service Grease***

- *Extreme Pressure*
- *Water Resistant*
- *Multipurpose*

Shell Gadus (Matrix EP Winter) is a heavy-duty extreme pressure grease. This grease answers demands for a calcium sulfonate complex grease that is pumpable in cold weather and is suitable for higher speed bearings.

## DESIGNED TO MEET CHALLENGES

## Performance, Features & Benefits

### Features

The thickener system in Shell Gadus (Matrix EP Winter) has a protective effect like that of molybdenum disulfide, protecting equipment from wear under difficult conditions of extreme load and slow speed.

Other properties of Shell Gadus (Matrix EP Winter) include long life, outstanding wear protection and excellent rust protection which is inherent from the calcium sulfonate thickener remains.

For high water wash and underwater applications choose Shell Gadus (Matrix EP 1) or Shell Gadus (Matrix EP 2)

### Benefits

- LONG LIFE - reduced relubrication frequency.
- WEAR PROTECTION – suitable for use in very heavily loaded bearings.
- WIDE TEMPERATURE RANGE – can be used from -30°F (-34°C) to over 100°F (38°C).

## Specifications, Approvals & Recommendations

For a full listing of equipment approvals and recommendations, please consult your local Shell & Whitmore Reliability Solutions Helpdesk.

## Main Applications

Shell Gadus (Matrix EP Winter) has been used with great success on frac pump plungers in ambient conditions ranging from -30°F (-34°C) to over 100°F (38°C).

## Typical Physical Characteristics

| Properties | | | Method | Shell Gadus (Matrix EP Winter) |
|---|---|---|---|---|
| **Worked Penetration - 60 strokes** | @25°C | | ASTM D217 | 390-410 |
| **Dropping Point** | | °F (°C) | ASTM D2265 | 350 (177) |
| **Viscosity,** Base Oil | @40°C | cSt | ASTM D445 | 44 |
| | @100°C | cSt | | 6 |
| **Viscosity,** Base Oil with Polymer | @40°C | cSt | ASTM D445 | 82 |
| | @100°C | cSt | | 9.6 |
| **Density**<br>**Specific Gravity** | @60°F (15.5 °C) | lb/gal<br>g/cc | Gardner Method | 8.320<br>0.997 |
| **Four Ball EP,** Weld Point | | kg | ASTM D2596 | 500 |
| **Four Ball Wear,** Scar Width | | mm | ASTM D2266 | 0.60 |
| **Rust Test** | | | ASTM D1743 | Pass |
| **US Steel Mobility** | @-20°F (-29°C) | g/min | | 40 |
| **Color** | | | | Green |
| **Thickener** | | | | Calcium Sulfonate |

These characteristics are typical of current production. Whilst future production will conform to Shell & Whitmore Reliability Solutions specification, variations in these characteristics may occur.

## Health, Safety & Environment

- **Health and Safety**

  Shell Gadus (Matrix EP Winter) 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 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**

  Advice on applications not covered here may be obtained from your Shell & Whitmore Reliability Solutions representative.