



Previous Name: Shell Alvania Grease DTR

# Shell GadusRail S3 AAR AL 1.5

- Extra Protection
- Lithium Calcium

*Premium railroad axle box grease*

Shell GadusRail S3 AAR AL is a long life grease specifically formulated to meet the Association of American Railroads (AAR) Specification M-942-2012. It features a lithium/calcium mixed soap thickener in an all HVI paraffinic mineral base oil system combined with a high performance additive package. Shell GadusRail S3 AAR AL is also formulated to meet Timken’s standard for Dynamic Mechanical Stability. It gives exceptional mechanical stability, even at elevated temperatures.

The high quality additive system is designed specifically for the grease to be used in railroad axle journal roller bearings, which are designed not to be lubricated in the field, including those in the newer, more heavily loaded double stacked container cars. The additive system also promotes superior protection against oxidation.

## DESIGNED TO MEET CHALLENGES

### Performance, Features & Benefits

- Excellent mechanical stability over a wide range of temperatures.
- Superior protection against oxidation.
- Endurance at elevated temperatures for long periods.
- Passing performance in the more severe Roll Stability Test run at an elevated temperature of 180°F for 96 hours.
- Passing performance in the Timken Dynamic Mechanical Stability test.
- AAR approved.

### Main Applications



- Mainly railroad axle journal bearings.
- Bearings subjected to heavy loads without the need for frequent relubrication or concern with mechanical stability breakdown.

### Specifications, Approvals & Recommendations

- AAR Specification M-942-2012 for interchange services
- 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	Specification AAR	Shell GadusRail S3 AAR AL 1.5
Product Code		M-942-2012	71037
Base Oil Viscosity @100°C cSt	D445	14.0 cSt min	16.2
Penetration, dmm Worked, 60X	D217	298 - 308	303
Dropping Point °F	D2265	325 min	360
Flash Point °F	D92	340 min	473
Corrosion Resistance	D6138 Distilled Water	0	0
Moisture wt %	D128	0.10 max	Trace
Oxidation Stability Pressure Drop, 100 hrs, psi	D942	10 max	4
Oxidation Stability Pressure Drop, 500 hrs, psi	D942	25 max	10
Structural Stability Penetration, dmm after 100,000 strokes	D217	+/- 25	+5

Properties	Method	Specification AAR	Shell GadusRail S3 AAR AL 1.5
Dynamic Mechanical Stability, dmm @77°F	Timken	+/- 15	+1/-5
Elevated Temperature Roll Stability @180°F, Penetration, dmm @77°F	D1831	290-340	320

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 GadusRail S3 AAR AL 1.5 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.