



Formerly Known As: 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.

### 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	ASTM D445	14.0 min	16.2
Penetration, dmm Worked, 60X	ASTM D217	298 - 308	303
Dropping Point °F	ASTM D2265	325 min	360
Flash Point °F	ASTM D92	340 min	473
Corrosion Resistance	ASTM D6138 Distilled Water	0	0
Moisture wt %	ASTM D128	0.10 max	Trace
Oxidation Stability Pressure Drop, 100 hrs, psi	ASTM D942	10 max	4
Oxidation Stability Pressure Drop, 500 hrs, psi	ASTM D942	25 max	10

Properties	Method	Specification AAR	Shell GadusRail S3 AAR AL 1.5
Structural Stability Penetration, dmm after 100,000 strokes	ASTM D217	+/- 25	+5
Dynamic Mechanical Stability, @77°F dmm	Timken	+/- 15	+1/-5
Elevated Temperature Roll Stability @180°F, Penetration, dmm @77°F	ASTM 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 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.