SHELL GADUS S3 REPAIR

PREMIUM OPEN GEAR RUNNING IN GREASE CONTAINING SOLIDS

PREVIOUSLY SHELL MALLEUS RN

DESIGNED TO MEET CHALLENGES

Shell Gadus S3 Repair is a high performance sprayable running in aluminium complex grease, based on a part synthetic base oil blend and contains micronised graphite as solid lubricant. The product chemistry is designed to cause a well-controlled smoothening process to reduce surfaces roughness on new and damaged open gearing.

PERFORMANCE FEATURES

Shell Gadus S3 Repair not only designed to reduce surface roughness of first time operating open gears but also improves used tooth flanks surface with a 'cleaning' and corrective effect.

The product can also be used in case of light tooth damage smoothing surface roughness on the load carrying tooth flanks and increasing the contact area.

SUPERIOR RUNNING IN PERFORMANCE

n   Shell Gadus S3 Repair advanced formulation is designed to ensure a well-controlled smoothening process through chemical reaction in the zones being under higher load. This controlled wear process is designed to allow the gearing to obtain the maximum load distribution between the girth and pinion gearing.

PERIODIC SMOOTH LAPPING OF TOOTH PROFILE

n   It is considered to be a good maintenance practice to apply a 180 kg drum of Shell Gadus S3 Repair once per year, or every 6,000 hours of operation, to remove fatigue micro-cracks or micro-pitting (not really visible to the naked eye) well before they increase in size, causing long-term future irreversible damage.

ENDORSED BY LEADING OPEN GEAR MANUFACTURERS

n   Ferry Capitain, one of the major open gear manufacturers, endorses Shell Gadus S3 Repair.

ENVIRONMENTAL ADVICES

n   Shell Gadus S3 Repair is bitumen and solvent free.

APPLICATIONS

For mining, cement, steel industries and power stations, open gears on:

n   Grinding mills

n   Rotary kilns and dryers.

Shell Gadus S3 Repair is a ready-to-use product, which can be applied through conventional automatic lubrication spraying systems or manual pressurised-air hand spraying equipment.

It is important to consult the appropriate consumption charts to determine the specified quantities of lubricant to apply. Incorrect consumption quantities could result in tooth damage.

OPERATING TEMPERATURE RANGE

n   Automatic spraying system from -15°C to 100°C.

n   Lubrication film from -30°C up to 200°C.

TYPICAL PHYSICAL CHARACTERISTICS

CHARACTERISTICS	00
Colour	Black
Soap Type	Al Complex
Texture (visual)	Tacky
Base Oil Type	Part-Synthetic
Solid Lubricant	–
Density at 15.5°C kg/m^3 (Gardener method)	1.0
Kinematic Viscosity (ISO 3104) @ 40°C mm^2/s @ 100°C mm^2/s	520 32
Base Oil Viscosity (IP 71/ASTM D 445) @ 40°C mm^2/s @ 100°C mm^2/s	– –
Dropping Point °C (IP 396/ASTM D 566-76)	240
Cone Penetration worked @ 25°C 0.1mm (ASTM D 217)	400–430
4 Ball Weld Load N	8000
4 Ball Test Kg (ASTM D 596)	–
4 Ball Wear Scar mm (ASTM D 2266)	–
4 Ball Load Wear Index (ASTM D 2596)	–
FZG A/2.76/50 (DIN 51354) Load Stage pass	–
Rust Test (ASTM D 1743)	Pass
Copper Strip Corrosion 3h @ 100°C	18

CONSUMPTION QUANTITY GUIDELINES

APPLICATION TYPE	DOUBLE-PINION MILL DRIVE (TYPE 4)	SMALL ROTARY DRUM (TYPE 2)
1. Small rotary drums (e.g. dryer units) <750kw	4	–	–
2. Small single-pinion kiln drives <750kw	5	–	–
3. Average single-pinion drives of mills and kilns >751—<2500kw	6	–	–
4. Large single-pinion mill drives and double-pinion kiln drives >250kw	7	–	–
5. Double-pinion mill drives	8	–	–
The above recommended consumption quantities only apply to Shell Gadus S3 Repair. kw = Kilowatt power rating of the electrical motor, driving the gear train			
Required specific consumption quantity (cc/[cm x op. hour])	–	7	5
Flank width (cm)	–	85	40
Consumption quantity/op. hour (cc) cc to kg/by 1000	–	7 x 85 = 595cc	5 x 40 = 200cc
Consumption quantity/24 op. hours (kg)	–	0.59cc x 24op = 14.28kg per day	0.20cc x 24op = 4.8kg per day

In the case of double-pinion drives with pinion lubrication the consumption quantity should be doubled and distributed evenly to both spray bars.
cc = cubic centimeters cm = centimeters of the tooth flank width
op = operating hours per day kg = Kilograms