



Shell Lubricants

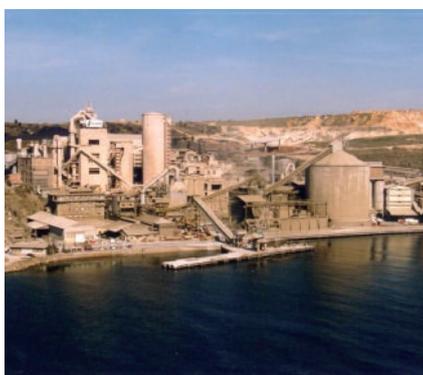
CEMENT

Superior Performance Open Gear Grease along with Shell technical support led to improved operational performance

Total annual customer saving

US\$81,186

€58,800



Lafarge Aliveri belongs to the Lafarge Group, a world leading building material manufacturing company.

The open kiln gear set was experiencing severe operational problems damaging components and increasing downtime.

With Shell technical support administering a thorough analysis of the problem, Shell Malleus GL 3500 was recommended as an alternative product. Its implementation resulted in an impressive 25% reduction in maintenance and production costs.

Company: Lafarge Aliveri

Country: Greece

Application: Kiln open gears

Saving: US\$81,186, (€58,800)

total annual customer saving

Key edge: Shell Malleus GL 3500

JOC0041

DESIGNED TO MEET CHALLENGES





1 The Challenge:

Lafarge Aliveri had severe problems with the girth and pinion gearing of its kiln. After just two years the gear set appearance looked three times worse than the opposite side of the gear set that had operated for 22 years. The customer turned to Shell for a solution.

2 The Solution:

The Shell Technical Team recommended that some remedial work be carried out on the gear set including lightly grinding the rough edges caused by adhesion, smoothing out the sharp edges. A change to Shell Malleus GL 3500 was recommended due to a higher percentage of solid additives and a higher base oil viscosity.

3 The Outcome:

As a result of applying the Shell solution, the wear and appearance of the gearing improved significantly. If these changes had not been made, it is likely that the gear set would have suffered severe failures eventually resulting in its replacement and two to three weeks of production downtime.

4 The Value:

This kiln's gear set was fast approaching failure incurring expensive replacement costs and production downtime. Lafarge Aliveri realised a total cost saving of US\$81,186 (€58,800) per annum from this exercise.

The savings indicated are specific to the calculation date and mentioned site. These calculations may vary from site to site depending on application, operating conditions, current products being used, condition of the equipment and maintenance practices.

Shell Malleus Grease GL

Superior performance open gear grease

Shell Malleus GL is a range of a premium quality, lead and solvent free, full EP lubricants developed for the lubrication and protection of open gears and wire ropes subjected to extremes of ambient temperature and operating conditions. They are a unique blend of high quality paraffinic mineral and synthetic base oils with carefully selected additives to provide optimum performance. Its balanced formulation allows the lubricant to stay soft and pliable over long periods, thus eliminating the build-up of lubricant in the roots of the gear teeth.



Performance features and benefits:

Exceptional physical and mechanical stability

Shell Malleus GL retains its natural protective properties over its long working life

Excellent anti-wear performance

At working temperatures, speeds and pressures, Shell Malleus GL forms a protective cushion between the large gear (girth, bull etc.) and pinion teeth

Superb load carrying capacity

Molybdenum disulphide and other solid lubricants combine to reduce tooth contact zone temperatures, reduce gear surface pitting and alleviate 'stick-slip' conditions

Water repellent

Effectively resists water 'wash-off' by immersion or spray

Corrosion protection

Protects metal surfaces from corrosion in hostile environments such as salt-water conditions. Repels dirt and dust

Main applications:

- Heavily loaded open gears, particularly those found in grinding mills, kilns, shovels, draglines, ship loaders, stackers and re-claimers and excavator applications. When choosing a product to suit your ambient temperature conditions, always consult with your Shell representative for the appropriate grade
- Multi service lubricant that can be used as the one grease (multi purpose and open gear) for the entire machine on most shovels, excavators and draglines (excluding electrical motors bearings)
- Surface dressing of slow moving gears open to the atmosphere
- Plain bearings, pivot pins/bushings and articulations found in earth moving equipment
- Mooring, static and slow moving wire ropes including those intermittently immersed in salt water
- Wide variety of heavy-duty mining and industrial applications

Complementary products

Equipment	Products
Draglines	Shell Malleus, Shell Omala, Shell Albida
Shovels and Extractors	Shell Malleus, Shell Omala, Shell Albida, Shell Tellus
Mills	Shell Malleus, Shell Omala
Crushers and Conveyors	Shell Albida, Shell Alvania, Shell Tactic, Shell Tivela, Shell Omala
Ore Processing	Shell Albida, Shell Alvania, Shell Tactic, Shell Tivela, Shell Omala, Shell Tellus, Shell Corena
Haul Trucks	Shell Rimula, Shell Hyperia, Shell Spirax, Shell Retinax, Shell Albida, Shell Donax
Power Plant	Shell Argina, Shell Gardina, Shell Turbo



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