



# Shell Lubricants

CEMENT

Extreme temperature synthetic grease, Shell Malleus ET, helps to achieve production targets through consistent performance

Total annual customer saving

**US\$8,000**



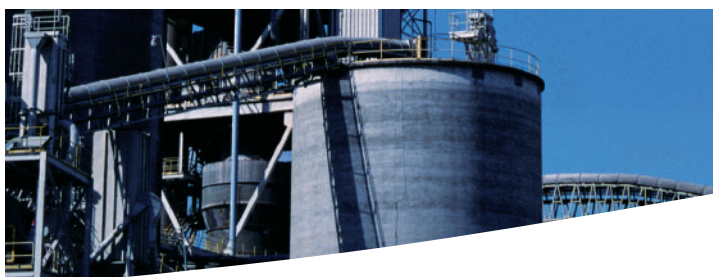
*Dandot Cement's principal activities are to manufacture and market clinker and cement in Pakistan.*

**The customer was experiencing unscheduled downtime and production problems due to component failures and breakdowns.**

The Shell Technical Team recommended the use of Shell Malleus ET (extreme temperature) grease to treat the customer's cooling system. Its ability to adapt to extreme temperatures led to an improvement in operational performance and a reduction in unscheduled downtime.

**Company:** Dandot Cement  
**Country:** Pakistan  
**Application:** Cooling system  
**Saving:** US\$8,000 total annual customer saving  
**Key edge:** Shell Malleus ET

JOC0006



DESIGNED TO MEET CHALLENGES





## 1 The Challenge:

While trialing various products from alternative suppliers, the customer was experiencing numerous unplanned breakdowns due to component failures leading to an increase in operational costs and unplanned downtime. Looking for a better quality grease that would protect components and improve operational performance, the customer approached Shell for a solution.

## 2 The Solution:

The Shell Technical Team assessed the situation on site and recommended Shell Malleus ET as a high performing alternative product choice. Shell Malleus ET is a synthetic grease designed to perform well in extreme temperature environments. Trial tests were conducted and monitored on the customer's cooling systems, demonstrating excellent results.

## 3 The Outcome:

After opting to trial Shell Malleus ET, the customer experienced several operational benefits including:

- The elimination of component failures and downtime
- An increase in production due to consistent and reliable operation
- Exceptional operational performance in a high temperature environment

## 4 The Value:

After implementing Shell Malleus ET, the customer's operational problems were resolved due to the lubricant's high performance qualities in extreme environments. Along with eliminating operational breakdowns, component protection was enhanced and productivity increased. As a result of this exercise, a total annual cost saving of US\$8,000 was achieved.

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 ET

#### Extreme-temperature synthetic grease

Shell Malleus Grease ET is an extreme pressure grease, blended for industrial applications operating at temperatures up to 600°C. It is a fine dispersion of small particle size graphite incorporated in a synthetic fluid with an ashless, inorganic (non-soap), non-abrasive thickening agent.

#### Main applications

Typical applications include:

- Kiln car bearings
- Furnace and coke oven door gears
- Drying tunnel mechanisms
- Cooling systems

#### Grease performance

High temperature grease performance is severely limited by the nature of the base fluid and thickener which may degrade at high temperatures, destroy the grease structure and form harmful deposits.

At elevated temperatures the liquid phase of Shell Malleus Grease ET evaporates leaving behind a non-abrasive amorphous graphite lubricant.

Graphite is a lamellar solid giving good lubricating performance and low coefficients of friction in severe environments. Shell Malleus Grease ET also gives good service in lower temperature applications.



#### Complementary products

Equipment	Lubricants
Heavy Duty Vehicles	Shell Rimula, Shell Spirax, Shell Retinax
Crusher	Shell Omala, Shell Albida HD
Grinding Mill 1	Shell Omala HD Shell Omala F Shell Tivela S, Shell Albida HD
Rotary Kiln	Shell Omala RL, Shell Omala HD, Shell Malleus ET, Shell Malleus OGH, Shell Malleus GL, Shell Malleus RN, Shell Albida HD
Grinding Mills 2	Shell Malleus GL, Shell Omala F, Shell Alvania SDX, Shell HD, Shell Tellus
Cement Mill Additivition	Shell Malleus OGH, Shell Malleus GL, Shell Malleus RN
Gear System	Shell Omala



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