



Cement industry

Reliable & cost
saving lubricants

Creating value
all along your process



TotalEnergies

Summary

- Open gear lubrication
- Efficient solutions and services
- Proposed lubrication plan for cement industry
- Ecofriendly solutions
- How to upgrade the range of commodities
- Five good reasons for choosing TotalEnergies

COMPLETE RANGE FOR OPEN GEAR DRIVES

3 technologies for optimum lubrication
covering all lubrication methods



Gearlog[®]:

Thick compound with white solid additives

New technology of high viscosity white compounds, excellent protection during severe conditions and vision of the active flanks



Gear Fluid[®]:

Thick transparent fluids
Outstanding technology of clear products, excellent protection and vision of the active flanks



Grafolog[®]:

Black Aluminium complex greases with solid additives

Traditional grease technology, very good protection and vision of the contact between the active flanks

Priming



BRUSH
COATING

Gearlog P

Grafolog H1

Running in



SPRAY
LUBRICATION



BATH
LUBRICATION



CIRCULATION
LUBRICATION

Gearlog R

Gear Fluid R

Grafolog
H 00 R

Grafolog R Fluid

Service lubricant



SPRAY
LUBRICATION



BATH
LUBRICATION



CIRCULATION
LUBRICATION

Gearlog 200

Gearlog 500

Gearlog 500/1000 D

Gearlog 1000

Gear Fluid 180

Gear Fluid 550

Gear Fluid 550/1000 D

Gear Fluid 1000

Grafolog H

Grafolog M/MT Fluid

AN EFFICIENT AND SIMPLE WAY TO CLEAN OPEN GEAR WHILE OPERATING

Lubriclean EP

- ✓ Less than four hours operation. No production shut down
- ✓ Savings due to:
 - One hour cleaning operation
 - Unstopped production
- ✓ Open gear protection thanks to the presence of EP additives
 - The big players trust this technology

KEY SERVICES TO IMPROVE YOUR EQUIPMENT'S RELIABILITY

Open Gear inspection by our technical experts

- ✓ Complete inspection report: temperatures, vibrations, lubrication system and gear set working flanks checking
- ✓ Maintenance advice & corrective actions proposition
- ✓ Lubrication & mechanical advice
- ✓ Tailor made lubrication solution

Anac: in service oil monitoring Optimize the lifetime of your assets

- ✓ Drain intervals optimization
- ✓ Equipment lifetime extension
- ✓ Total Cost of Ownership (TCO) reduction
- ✓ Dedicated ranges for each industrial application

Tig 6: maintenance software (CMMS)

- ✓ Organization of preventive, condition-based and corrective maintenance
- ✓ Maintenance cost analysis
- ✓ Monitoring of lubricants and spare parts stock

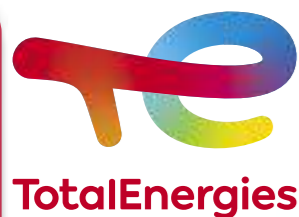
ROTARY KILNS: INTERNAL FACE OF FLOATING KILN'S TYRES LUBRICANTS

Grafolog 1278 S

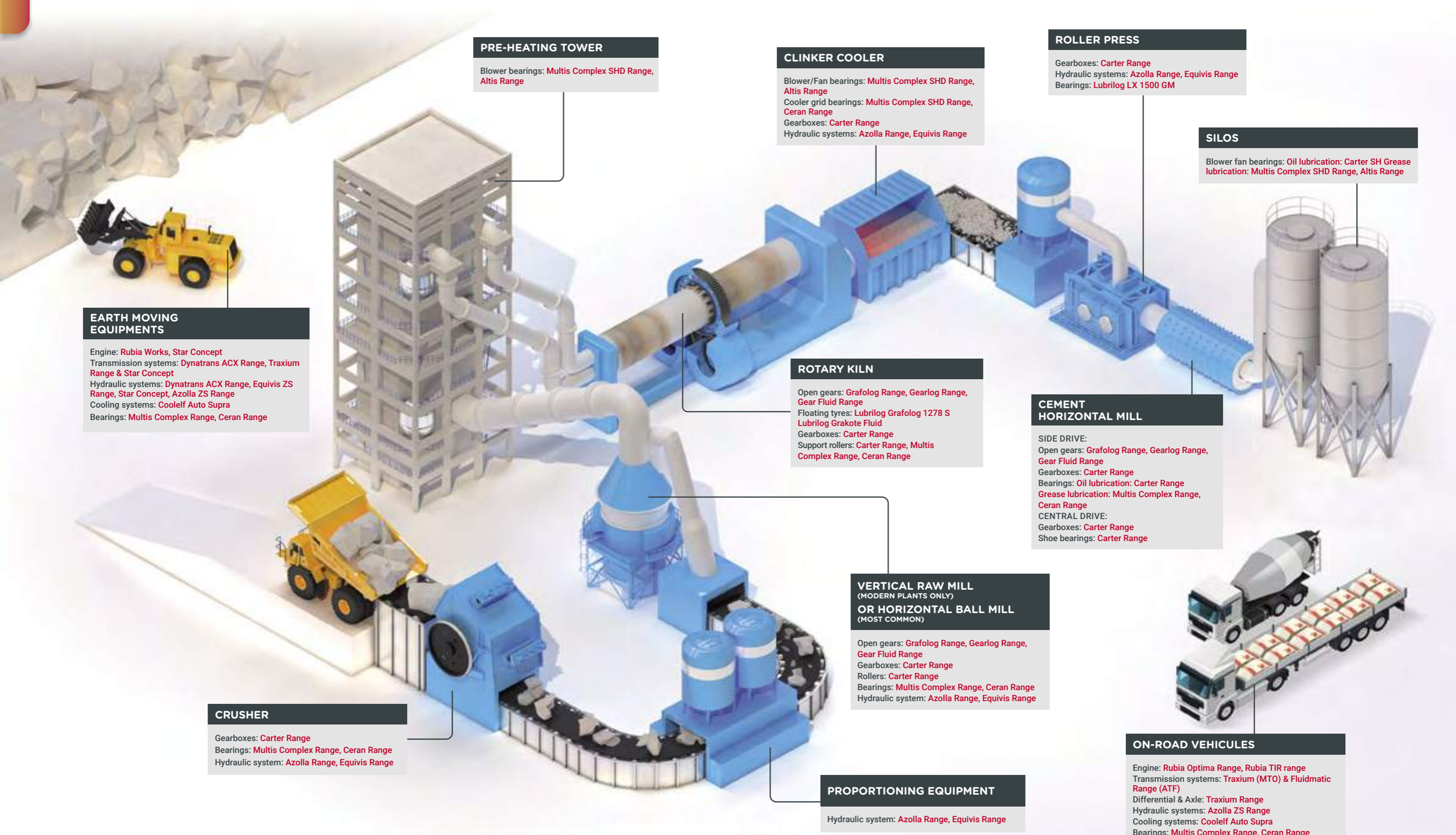
- ✓ Semi-colloidal liquid
- ✓ Water based product with graphite content
- ✓ Fire resistant & no risk for human health

Grakote Fluid

- ✓ Oil based liquid paste
- ✓ Special metallic powder additives



TotalEnergies team is at your disposal to guide you to choose the optimum lubrication solution



EARTH MOVING EQUIPMENTS

Engine: Rubia Works, Star Concept
 Transmission systems: Dynatrans ACX Range, Traxium Range & Star Concept
 Hydraulic systems: Dynatrans ACX Range, Equivis ZS Range, Star Concept, Azolla ZS Range
 Cooling systems: Coolelf Auto Supra
 Bearings: Multis Complex Range, Ceran Range

PRE-HEATING TOWER

Blower bearings: Multis Complex SHD Range, Altis Range

CLINKER COOLER

Blower/Fan bearings: Multis Complex SHD Range, Altis Range
 Cooler grid bearings: Multis Complex SHD Range, Ceran Range
 Gearboxes: Carter Range
 Hydraulic systems: Azolla Range, Equivis Range

ROLLER PRESS

Gearboxes: Carter Range
 Hydraulic systems: Azolla Range, Equivis Range
 Bearings: Lubrilog LX 1500 GM

SILOS

Blower fan bearings: Oil lubrication: Carter SH Grease
 lubrication: Multis Complex SHD Range, Altis Range

ROTARY KILN

Open gears: Grafolog Range, Gearlog Range, Gear Fluid Range
 Floating tyres: Lubrilog Grafolog 1278 S
 Lubrilog Grakote Fluid
 Gearboxes: Carter Range
 Support rollers: Carter Range, Multis Complex Range, Ceran Range

CEMENT HORIZONTAL MILL

SIDE DRIVE:
 Open gears: Grafolog Range, Gearlog Range, Gear Fluid Range
 Gearboxes: Carter Range
 Bearings: Oil lubrication: Carter Range
 Grease lubrication: Multis Complex Range, Ceran Range
CENTRAL DRIVE:
 Gearboxes: Carter Range
 Shoe bearings: Carter Range

VERTICAL RAW MILL (MODERN PLANTS ONLY) OR HORIZONTAL BALL MILL (MOST COMMON)

Open gears: Grafolog Range, Gearlog Range, Gear Fluid Range
 Gearboxes: Carter Range
 Rollers: Carter Range
 Bearings: Multis Complex Range, Ceran Range
 Hydraulic system: Azolla Range, Equivis Range

CRUSHER

Gearboxes: Carter Range
 Bearings: Multis Complex Range, Ceran Range
 Hydraulic system: Azolla Range, Equivis Range

PROPORTIONING EQUIPMENT

Hydraulic system: Azolla Range, Equivis Range

ON-ROAD VEHICLES

Engine: Rubia Optima Range, Rubia TIR range
 Transmission systems: Traxium (MTO) & Fluidmatic Range (ATF)
 Differential & Axle: Traxium Range
 Hydraulic systems: Azolla ZS Range
 Cooling systems: Coolelf Auto Supra
 Bearings: Multis Complex Range, Ceran Range

SOLUTIONS FOR QUARRY & CRUSHERS

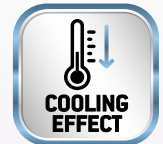
TotalEnergies range of lubricants are specially designed and formulated considering the tough & demanding application of quarry & material handling.

All our products are:

- ✓ Approved by the most demanding OEMs
- ✓ Following the latest emission regulation
- ✓ Suitable for the latest exhaust gas after-treatment systems
- ✓ Offering fuel economy with FE Range

Star Concept: an innovative solution targeting product rationalization and simplification leading to savings.

- ✓ Reduce the number of lubricants from 5 to 2
- ✓ Approved by the most demanding OEMs



ECOFRIENDLY SOLUTIONS

New generation of high-performance biodegradable range of lubricants suitable to satisfy the demanding condition of cement production line.



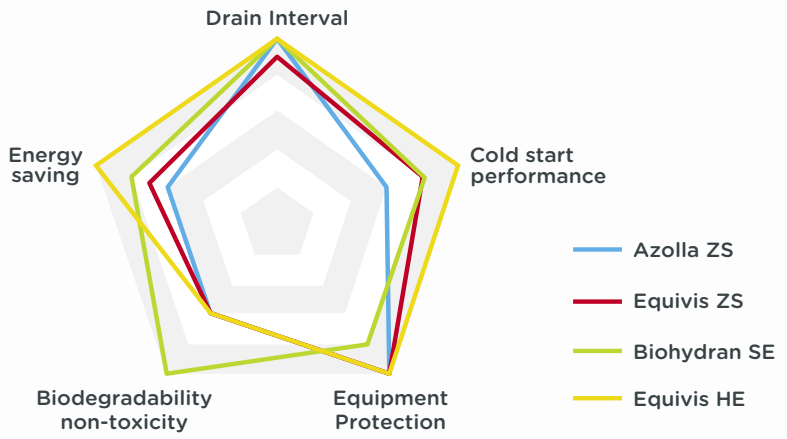
Hydraulic oils: Biohydran Range
Gear oils: Carter BIO Range
Greases: Biomultis EP 2

- ✓ Approved by important OEMs
- ✓ Excellent biodegradability
- ✓ Excellent protection and lubrication of the equipment
- ✓ Low eco toxicity
- ✓ Reduce the carbon footprint

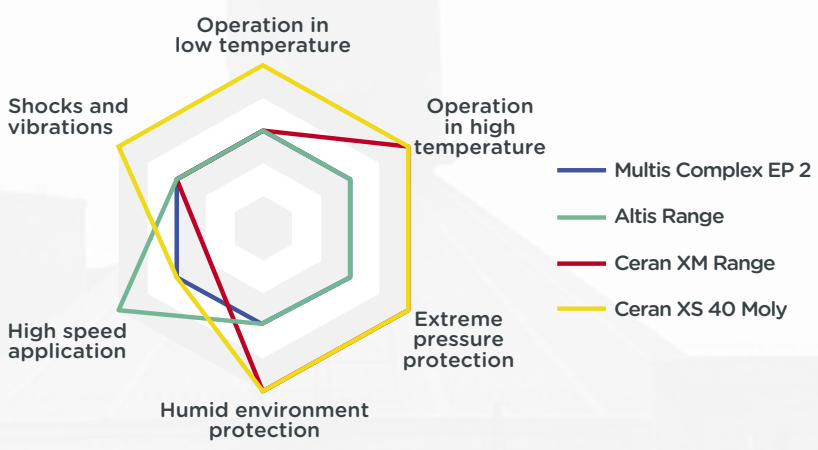
TotalEnergies Lubrificants includes a dedicated range for each application special designed according to its needs and challenges. TotalEnergies offers an exceptional performance that:

- ✓ Extend equipments' lifetime
- ✓ Reduce unplanned downtime
- ✓ Reduce Total Cost of Ownership

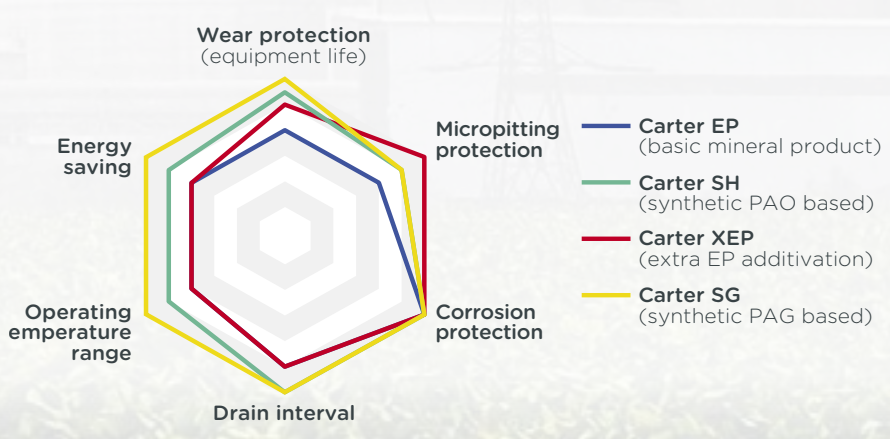
HYDRAULIC RANGE



GREASES RANGE



GEAR OILS RANGE



A major player

With our production, supply chain and commercial presence in more than 160 countries, we deliver a full range of lubricants.

Support and partnership

Thanks to local technical presence, we provide a high level of service to optimize your Total Cost of Ownership.

References & OEMs

TotalEnergies Lubrificants cooperates with equipment manufacturers to create high-technology products for optimal performance and production of your machinery.



Innovation & Research

TotalEnergies Lubrificants invests in biotechnologies to find the most suitable components to reach energy efficiency through formulations designed in our Research Centers.

Quality and environment

TotalEnergies Lubrificants ISO 9001 and 14001 certifications are the guarantee of a long term commitment to quality and environment. From the initial design stage, our R&D teams seek to develop products that minimize toxicity risks and environmental impact.



TotalEnergies



lubricants.totalenergies.com



 ms.metalworking@totalenergies.com

Safety Data Sheets are available at sdstotalms.totalenergies.com



TotalEnergies Industry Solutions