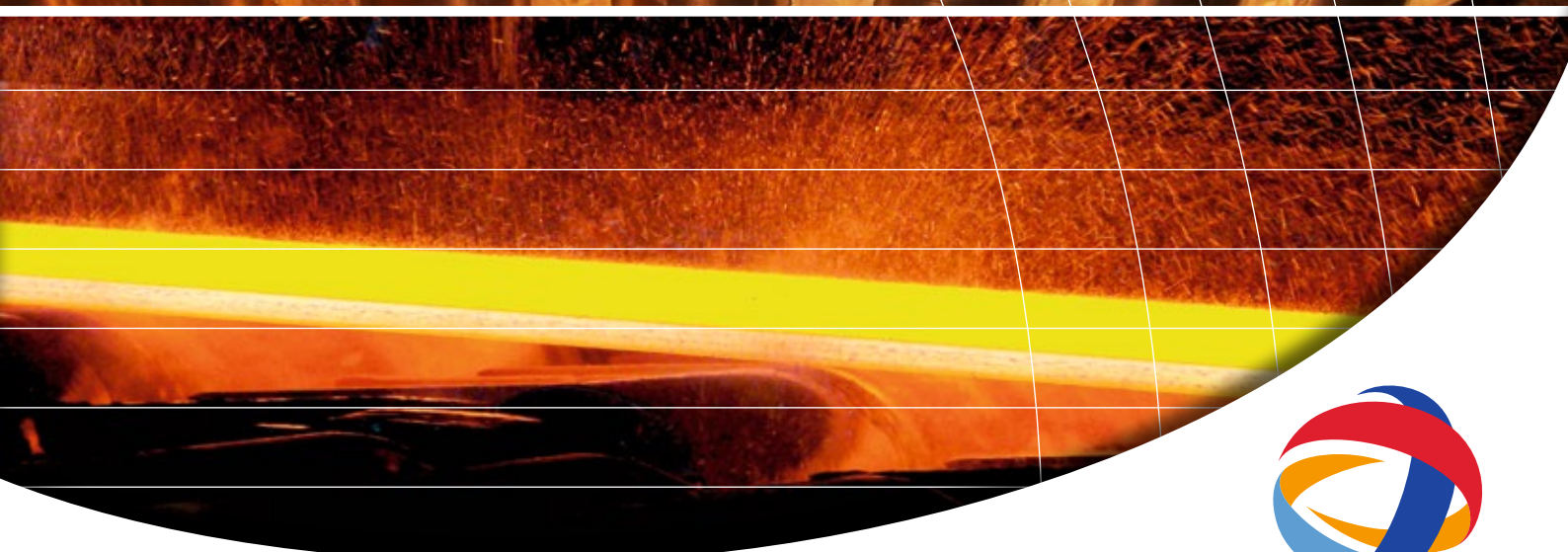
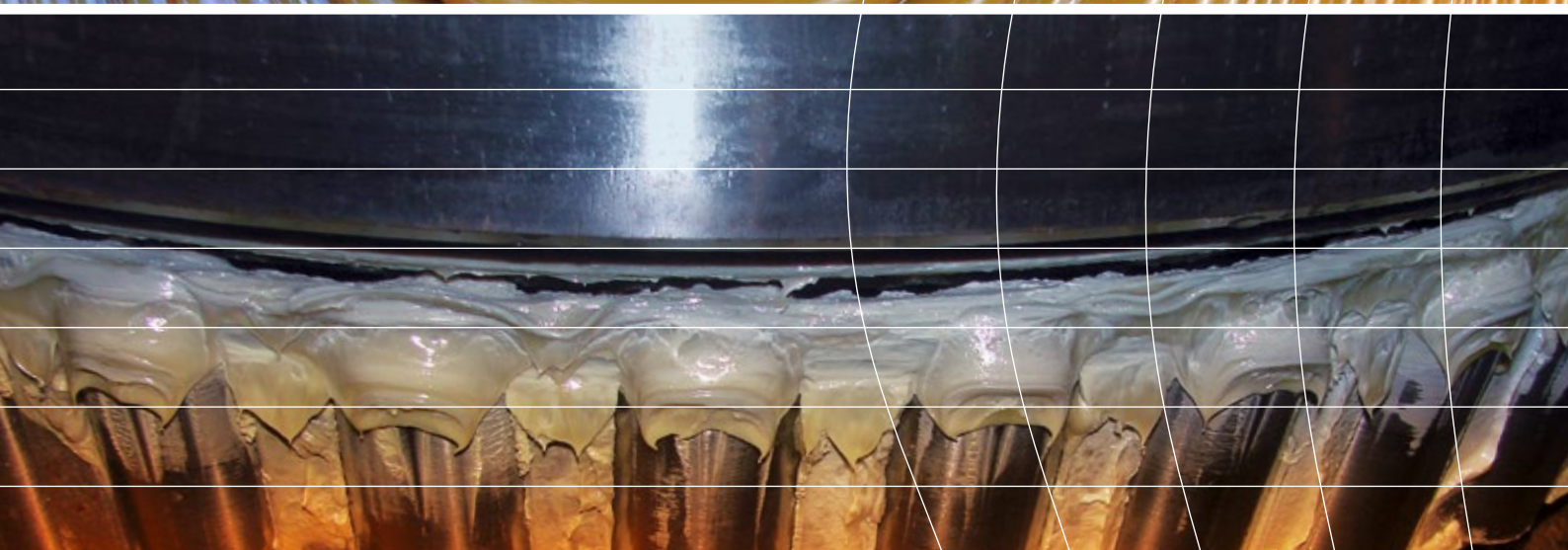


CERAN Greases for your most severe applications

Always a step ahead of technology



TOTAL



TOTAL

CERAN Greases, 20 years of expertise in this unique technology

Our customers seek reduced maintenance costs, optimal protection and extended life-time for their equipment. This is why the Industry is always looking for greases offering the best performances in lubrication:

- Mechanical stability,
- Resistance to water,
- Protection against corrosion,
- Preservation of performances at high and low temperatures.

Total brings you the solution: **the CERAN range**. Effectively, with 20 years' experience in the field of calcium sulfonate complex greases, Total is now launching the 5th generation of CERAN and is staying a technology ahead of its competitors to meet today's and tomorrow's demands.

CERAN's advantages



- **Minimize grease references on site**

The wide range of applications covered by CERAN greases helps you rationalize your grease inventories.

- **Secure your equipment**

The new thickener offers improved corrosion protection. It is the BEST choice for maximum long-term protection for your equipment.

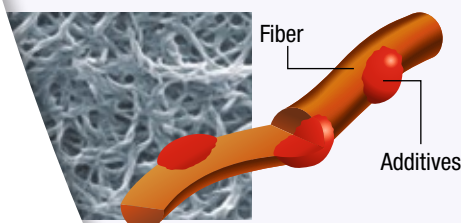
- **Decrease your grease consumption**

Choosing the best quality greases also provides significant reduction in overall consumption that equates to long-term savings.

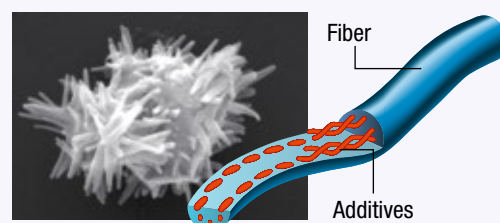
Why is CERAN a better technology?

Compared to standard greases, the CERAN range has a particular soap structure made of fibers and micelles. This unique structured arrangement provides outstanding grease properties, especially in regard to mechanical stability, corrosion inhibition, and water resistance.

■ STANDARD GREASE



■ CERAN GREASE

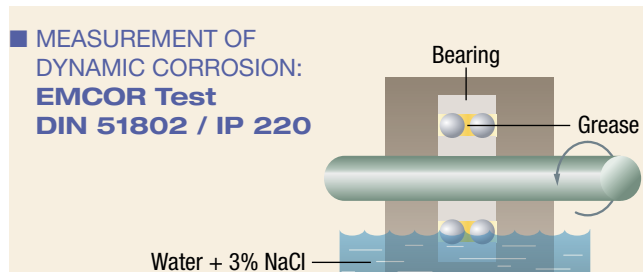


Outstanding properties

dedicated to your equipment requirements

Excellent corrosion protection

A ball bearing filled with TOTAL CERAN and operated for a week in an environment contaminated with salted water, shows no sign of corrosion (EMCOR test).



Remarkable pumpability (grade 1.5)

CERAN XS 40 MOLY has been successfully field-tested by Total Russia in arctic conditions, down to -44°C.



Exceptional thermal stability



According to standardized tests (dropping point, oil separation, endurance), TOTAL CERAN greases exhibit good thermal

behavior in use over a large temperature range from -50°C for CERAN XS 40 MOLY up to 180°C for CERAN XM 460. CERAN greases do not fluidify at temperatures approaching 300°C and return to their original grease structure after cooling temperature.

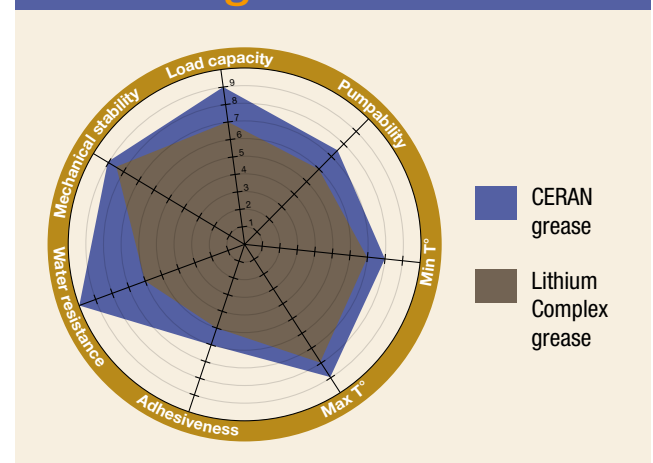
Unique water resistance



In many industries, greases come in contact with water and tend to continually liquefy. CERAN greases maintain their consistency and swell, which further increases the seal of the bearing and

guarantees that there will be no leaching out. This makes less grease necessary for good lubrication. Even mixed in 40% of water, TOTAL CERAN products preserve all their consistency.

Overview of CERAN advantages



The green advantage



- TOTAL CERAN greases contain no heavy metals and no components representing a danger to health or the environment.
- In the steel industry, CERAN greases provide “best in class” performance in regard to resistance to water washout. The process water is less contaminated with the loss of grease. Our CERAN range enables savings in the water treatment additives, filter cleaning and helps you reduce your environmental impact.

A multi-purpose range for all your applications

	Applications	Product specificity	Grade NLGI	Temperature range (°C)	Base oil viscosity (cSt)
CERAN XM 100	<ul style="list-style-type: none"> Paper industry for high speed applications Civil engineering and industry 	Multi-purpose	1-2	-30 to +160	100
CERAN XM 220	<ul style="list-style-type: none"> Steel, paper industry and Public Works 	Multi-purpose	1-2	-30 to +180	220
CERAN XM 220 MOLY	<ul style="list-style-type: none"> Heavy loaded applications, shocks Mining (in temperate to warm zones), quarries, civil engineering works 	5% MoS ₂	1-2	-30 to +180	220
CERAN XM 460	<ul style="list-style-type: none"> Industrial applications under severe conditions (heavy loads, dust, water, high temperatures...) 	Multi-purpose	1-2	-25 to +180	460
CERAN XM 720	<ul style="list-style-type: none"> Heavy duty industrial applications Steel industry 	Extreme conditions	1-2	-25 to +180	720
CERAN XS 80	<ul style="list-style-type: none"> Industrial applications with a very wide range of temperatures 	Synthetic	1-2	-50 to +180	80
CERAN XS 320	<ul style="list-style-type: none"> Industrial applications with a very wide range of temperatures and high loads 	Synthetic	1-2	-30 to +180	320
CERAN XS 40 MOLY	<ul style="list-style-type: none"> Mining applications in arctic conditions 	Synthetic 5% MoS ₂	1-2	-50 to +180	40
CERAN CA	<ul style="list-style-type: none"> Metal cables, rails, winches, chains 	Adhesivity	0	-25 to +150	325
CERAN AD PLUS	<ul style="list-style-type: none"> Metal cables, rails, winches, capstans, open gears and chains Cement plants, mines, quarries, offshore 	Adhesivity	0-1	-20 to +150	> 1,700
CERAN ST 2	<ul style="list-style-type: none"> Multi-purpose applications in industry (coiler, rolling mill) Offshore environment (cables, gears, screen eccentric bearing) 	Adhesivity	2	-25 to +180	180
CERAN GEP	<ul style="list-style-type: none"> Gears, transmissions, open gears of sugar cane mills 	Pulverizable Graphite	0	-25 to +180	695
CERAN MS	<ul style="list-style-type: none"> Heavy loads and very high temperatures, subject to shock loading and vibration 	2% MoS ₂	1-2	-20 to +180	650

Our latest innovation: CERAN now available in new packaging!



■ Automatic lubricator **GREASYMAT** is the ideal tool for a reliable lubrication. Simple, dependable, economical and efficient, it makes the lubrication of hazardous or hard-to-reach points easier.



■ **LUBE-SHUTTLE** is a new type of screw-in cartridge. Practical, really economical and quick to implement, it will make your life easier.

Take their word for it!

Many customers have already chosen **CERAN** greases because of their wide range of applications and the extreme temperatures they can withstand. They recommend **CERAN**:



In public works

"We use the CERAN XM 220 grease in many pieces of equipment in the quarry. We are particularly satisfied with this calcium sulfonate complex grease since it enabled us to reduce the number of references on site and make the drain intervals longer. My maintenance team really appreciated the ease of application the new Lube-Shuttle packaging offers."

Head of quarry, EIFFAGE Group

In steel plants

"We have been using CERAN XM 220 grease since December 2012. During that period the number of work roll bearings failures was reduced, resulting in a 32.5% reduction in downtime and savings upward of €50,000 (us\$ 66,000)."

MECHEL Chelyabinsk Metallurgical Plant
(ChMK, Russia)



In paper mills

"We have no central lubrication system for the PM3 machine; the rolls are lubricated with a grease. The production of paper begins in this part of equipment, which is exposed to a very wet environment. The most important point was to find a high-performance grease that would resist these difficult conditions. We have been using CERAN XM 220 for 2 years without any problem."

Maintenance engineer, HAMBURGER HUNGARIA KFT

On board ships

"We have been using TOTAL Ceran AD Plus on many vessels in our fleet since its introduction and have been delighted by the performance. The outstanding adhesive properties ensure the grease stays where it is applied and does not drop off, resulting in loss of lubrication. It also rules out the consequential safety issues of having grease on the deck."

Robert K, Technical Superintendent
in a dredging company



A major player

With our production, supply chain and commercial presence in more than **150 countries**, we deliver a full range of lubricants to **cover all your needs**.

Support and partnership

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

References & OEMs

Total Lubrificants cooperates with **equipment manufacturers** to create high-technology products for optimal **performance** and **protection** of your machinery.

5 good reasons for choosing TOTAL

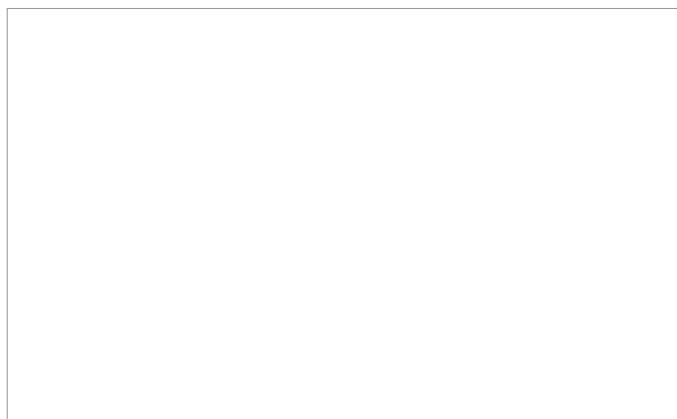
Quality and environment

Total Lubrificants **ISO 9001 certification** is the guarantee of a **long term commitment** to quality. From the initial design stage, our R&D teams seek to develop products that **minimize toxicity risks** and **environmental impact**.

Innovation & Research

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

Safety Data Sheets are available at www.quickfds.com



www.lubricants.total.com
www.lubricants.total.com/pro/industry.html



The right choice in lubricants

TOTAL