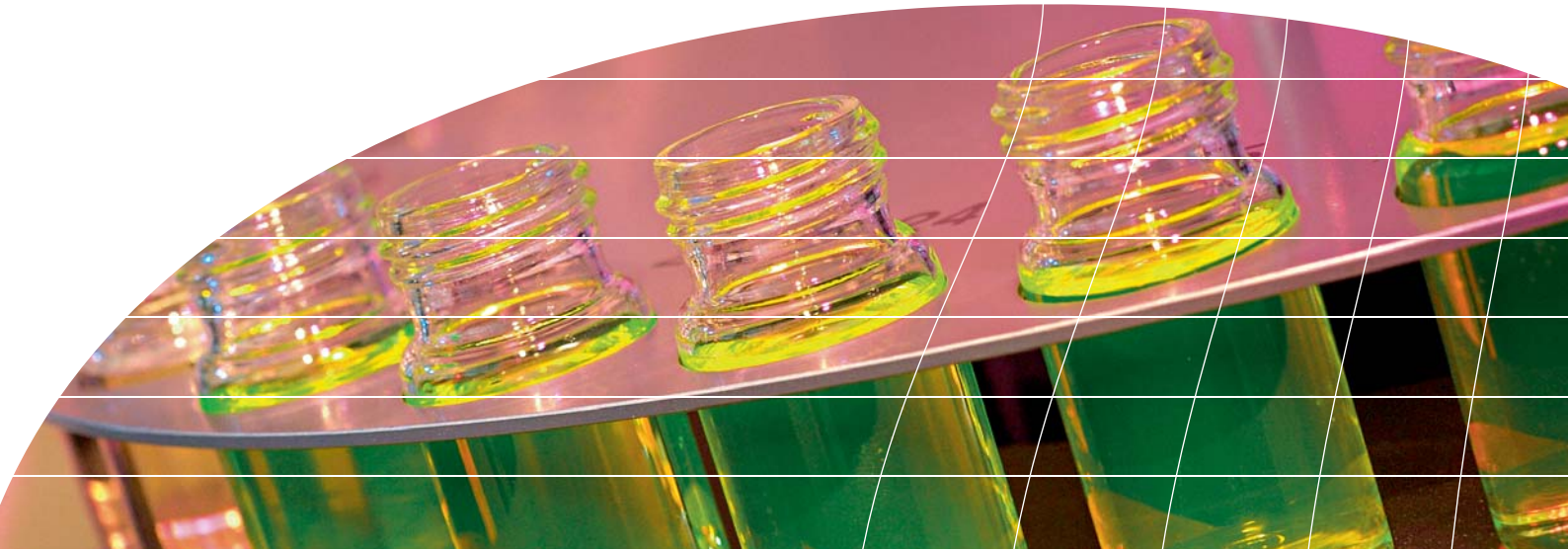


# Coolants for the industry

SUPRA reduces the heat to improve your productivity



**TOTAL**



**TOTAL**

## Organic technology based coolants

Large investments are needed for the purchase of high performance power generation equipment. To draw the best efficiency of your investment while protecting it, you need to maintain its cooling systems in an excellent condition.

COOLELF SUPRA and GLACELF SUPRA, our premium quality coolants based on the latest organic technology will bring high performance and extended service life to your equipment, as well as reducing the overall maintenance costs.

### ■ Outstanding performance of the COOLELF SUPRA & GLACELF SUPRA:

- excellent heat transfer for the engine cooling,
- reinforced freezing and boiling protection,
- very high protection of the cylinders at high temperature,
- excellent protection of the engine materials against corrosion and cavitation,
- exceptional service-life of the coolant.

### ■ Your advantages:

- **protect** your investment over time
- **optimize** the performance of your equipment
- **save** on maintenance operations, downtime and waste management

## ANAC COOLANT, coolant analysis service

Through sampling of in-service coolant, ANAC COOLANT provides:

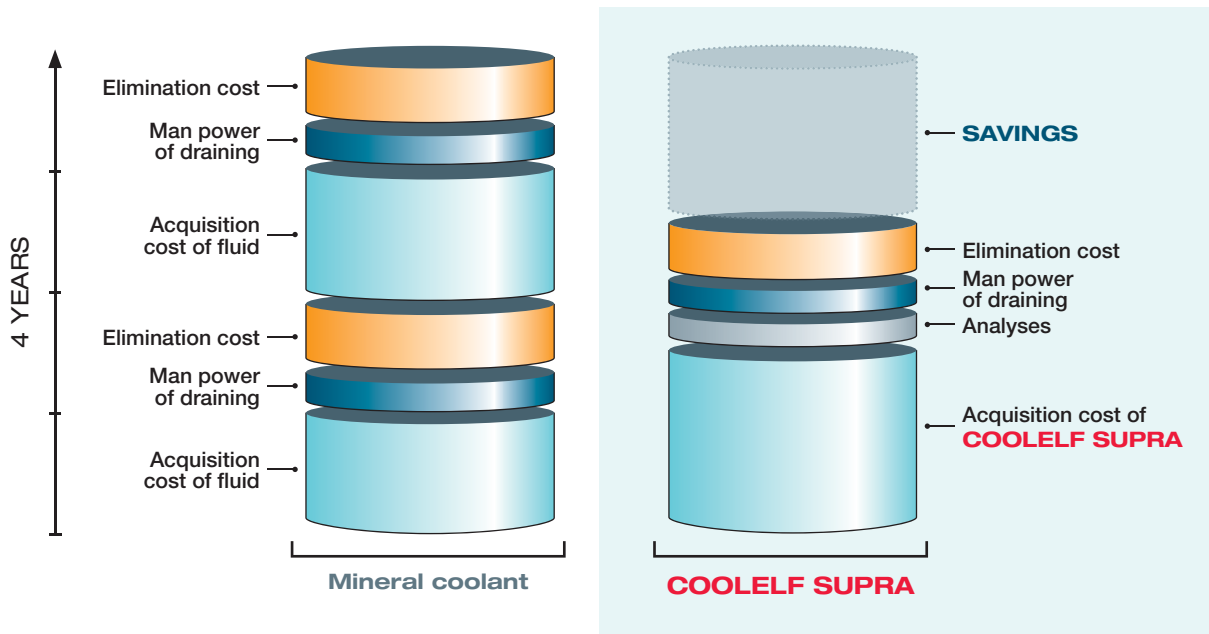
- a **complete diagnosis** of the condition of the coolant
- **recommendations** on maintenance and draining, to optimize the operating conditions of your equipment

ANAC COOLANT analysis service enables you to enhance both reliability and service life of your equipment, leading to operation cost savings.

# The proven performance

## Bigger savings with better protection

### COST SAVINGS



Proven experience of COOLELF SUPRA with our customers shows a possible extension of the coolant service life, provided that regular monitoring by analysis is performed.

### ADVICE

Switching from a conventional mineral technology coolant to COOLELF SUPRA only requires a careful flushing of the concerned cooling system to remove any deposits present in the cooling system.

### PROTECTION OF THE CYLINDERS

Liners after 400 hours of thermal shock tests on 6.2 L engine



Mineral coolant



**COOLELF SUPRA**

Excellent protection against cavitation

### PROTECTION OF THE HEAT EXCHANGER TUBES

Results after 18 months on 4MW Wärtsilä SACM preheating circuit



Mineral coolant



**COOLELF SUPRA**

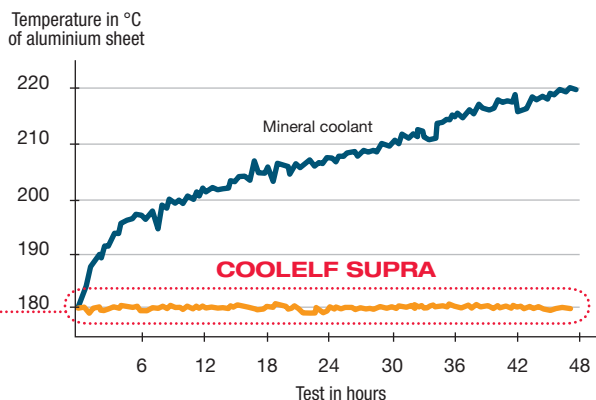
Absence of deposit with COOLELF SUPRA GF NP

BENCH TESTS AND ON-SITE OPERATION TESTS ON DIESEL AND GAS ENGINES SHOW THAT THE ORGANIC INHIBITORS USED IN THE SUPRA RANGE OF COOLANTS GIVE OPTIMAL RESULTS.

**EXCELLENT HEAT TRANSFER CAPACITY**

Results of the dynamic corrosion test ASTM 2570  
48 hours - 122.5 W/cm<sup>2</sup>

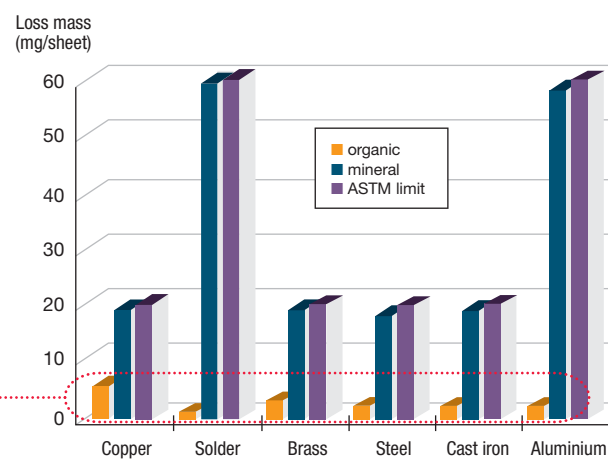
The temperature of the metal remains equal  
**ENGINE COOLING GUARANTEED**



**EXCELLENT PROTECTION AT HIGH TEMPERATURE**

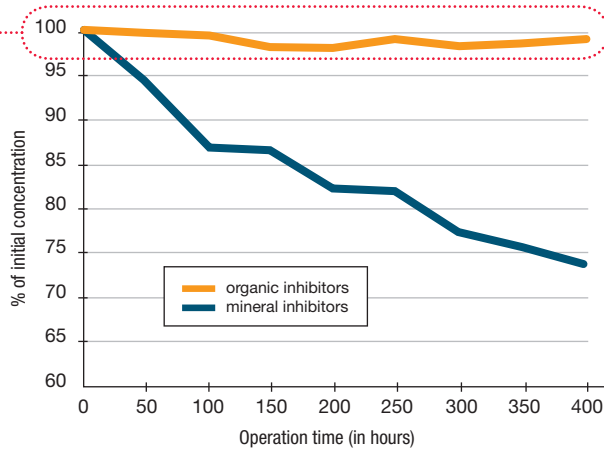
Results of the dynamic corrosion test ASTM 2570

Excellent results due to the strong anti-corrosion and anti-cavitation protection  
**PROTECTION OF THE CYLINDERS GUARANTEED**



**PRESERVATION OF INHIBITORS**

The protection provided by coolelf supra product range is  
**MAINTAINED OVER TIME**



# OUR PRODUCT LINE FOR YOUR APPLICATIONS

ALL OUR PRODUCTS ARE MONOETHYLENE GLYCOL BASED, EXCEPT COOLELF/GLACELF MPG SUPRA (MONOPROPYLENE GLYCOL BASED). THEY ARE ENVIRONMENTALLY-FRIENDLY AND COMPATIBLE WITH ELASTOMERS AND PLASTICS.



Industrial application	Ready-mixed coolant	Concentrated antifreeze*	Specifications
Generator sets Gas-engines Cogeneration power plants	<b>COOLELF SUPRA</b> Antifreeze protections: -26 °C, -37 °C	<b>GLACELF SUPRA</b> Antifreeze protection: -20 °C to -69 °C depending on % of dilution	<ul style="list-style-type: none"> <li>• ASTM D 3306, D 4656, D 4985</li> <li>• BS 6580</li> <li>• SAE J 1034</li> <li>• AFNOR NF R 15-601</li> </ul>
Windmill generators	<b>COOLELF SUPRA</b> Antifreeze protections: -26 °C, -37 °C	-	<ul style="list-style-type: none"> <li>• DEUTZ Power System</li> <li>• Perkins</li> <li>• GE Jenbacher</li> <li>• Rolls-Royce: Bergen</li> <li>• Waukesha: VHP</li> <li>• Wärtsilä: 200</li> </ul>
Railways locomotive diesel engines	<b>COOLELF SUPRA</b> Antifreeze protections: -26 °C, -37 °C	-	<ul style="list-style-type: none"> <li>• SNCF (National railways in France)</li> </ul>
Nuclear power plants using safety generator sets Low temperature regions	<b>COOLELF SUPRA GF NP</b> Antifreeze protection: -37 °C	-	<ul style="list-style-type: none"> <li>• ASTM D 3306, D 4656, D 4985, D 5345</li> <li>• BS 6580, BS 5117</li> <li>• SAE J 1034</li> <li>• AFNOR NF R 15-601</li> </ul> <p><b>EDF PMUC approved</b></p>
Warm temperature regions	<b>COOLELF CHP SUPRA</b> Antifreeze protection: -7 °C	<b>GLACELF CHP SUPRA</b> Antifreeze protection: -7 °C to -15 °C depending on % of dilution	<ul style="list-style-type: none"> <li>• ASTM D 3306, D 4985</li> <li>• BS 6580, BS 5117</li> <li>• SAE J 1034</li> <li>• AFNOR NF R 15-601</li> </ul> <ul style="list-style-type: none"> <li>• DEUTZ Power System</li> <li>• Wärtsilä: 200, 220</li> </ul>
Pharmaceutical industries: combined generation/heating installations	<b>COOLELF MPG SUPRA</b> Antifreeze protection: -26 °C	<b>GLACELF MPG SUPRA</b> Antifreeze protection: -17 °C to -38 °C depending on % of dilution	<p>COOLELF MPG SUPRA:</p> <ul style="list-style-type: none"> <li>• ASTM D 4656</li> <li>• Wärtsilä</li> <li>• BS 6580</li> <li>• AFNOR NF R 15-601</li> </ul> <p>GLACELF MPG SUPRA:</p> <ul style="list-style-type: none"> <li>• AFNOR NF R 15-601</li> <li>• ASTM D 3306</li> <li>• Wärtsilä</li> </ul>
<b>Additional products</b>			
Diesel engines and gas engines requiring no antifreeze protection Plastic and synthetic injection moulds	<b>WT SUPRA</b> Aqueous concentrate of specific organic corrosion and cavitation inhibitors		<ul style="list-style-type: none"> <li>• DEUTZ Power System</li> <li>• Wärtsilä</li> </ul>

\* Dilute the concentrate in 20 °f water (french hardness unit) before use.

# 4 good reasons for choosing TOTAL

## A major player

Total Lubrificants is a subsidiary of the Total group. The Group is the world's fourth largest integrated oil and gas company\* and employs around 96,000 people in the five continents. Total Lubrificants produces and markets under the TOTAL brand in more than 160 countries.

## Innovation

Major investments in R&D and close collaboration with equipment manufacturers have led Total Lubrificants to develop high added value products, and foresee your future needs.

## Quality and environment

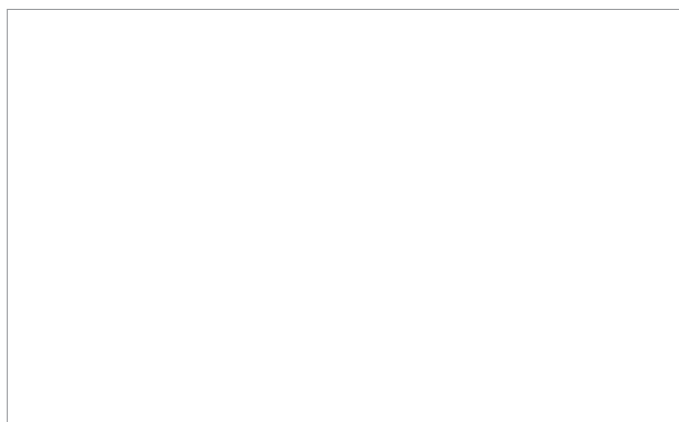
Total Lubrificants' ISO 9001 certification is the guarantee of a long-term commitment for quality. Our R&D teams integrate from the initial design stage of new products parameters conducive to the reduction of toxicity risks, the recycling or elimination of the products.

## Partnership

We are at your side bringing our expertise to optimize the productivity of your machinery and reduce your maintenance costs. The large variety of our product ranges allows you to cover all your needs for coolants, maintenance and specialty lubricants.

*\* Based on market capitalization in dollars at June 30, 2008.*

Material Safety Data Sheets available at [www.quickfds.com](http://www.quickfds.com)



[www.lubricants.total.com](http://www.lubricants.total.com)



The right choice in lubricants

**TOTAL**