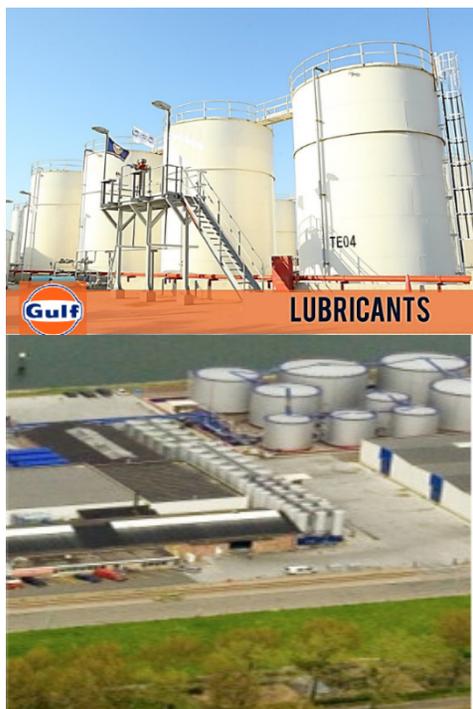




Gulf Products Overview

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LUBRICANTS

Global Operations – several manufacturing hubs

- | | |
|--------------|-----------|
| China | Argentina |
| India | Columbia |
| Philippines | Ecuador |
| UAE | Mexico |
| Saudi Arabia | Peru |
| Netherlands | Venezuela |
| Italy | |



United Kingdom



Netherlands



Belgium



Sweden

Global Operations – Fuel Retailing in 12 countries

Product Approvals by leading Global OEMs



Gulf Product Range



Industrial Lubricant



Heavy Equipment Lubricant



Metal Working Fluid



Grease





Gulf Industrial Lubricant



Gulf Hydraulic Oil



Product	Type	Application	ISO VG
Gulf Harmony	R & O	Hydraulic system requiring R & O oil	220, 320
Gulf Harmony AW Plus	Anti wear	Hydraulic system subjected to high pressure & load (< 70 °C)	32, 46, 68, 100
Gulf Harmony HVI	High viscosity index	Hydraulic system subjected to high temperature operation (< 90 °C)	32, 46, 68, 100
Gulf Hamony ZF	Zinc free	Hydraulic system containing silver or silver plated part	32, 46, 68

Providing:

- Longer Service Life
- Prevents cavitation & enhance lubrication
- Longer Pump life



VICKERS

Rexroth
Bosch Group

DENISON Hydraulics



Gulf Turbine Oil



Gulf Crest

- Steam Turbines
- Water turbines and non-geared gas turbines
- Turbo compressor

Specifications:

ISO VG 32,46, 68

Approvals:

Siemens TLV 901304, 901305, non-geared



Gulf Crest EP

- Gas Turbines
- Combined cycle gas Turbines
- Turbines with heavily loaded gears
- Large Heavy duty steam turbines
- Turbo compressor

Specifications:

ISO VG 32,46, 68

Approvals:

Siemens TLV 901304, 901305

Alstom HTGD



ALSTOM

SIEMENS

Solar Turbines
A Caterpillar Company





Gulf Circulating Oil

Gulf Security

- Inherent resistance to oxidation
- Superior foam control
- Excellent filterability & water separation

Application

- Circulatory system
- Plain and rolling element bearing
- Moderately loaded enclosed gears not requiring EP

ISO VG

32,46,68,100,150,220,320

Gulf Security PMA

- Ashless oil
- Thermal & chemical stability (oxidation)
- Anti wear properties
- Excellent filterability & water separation

Application

- Dry & wet Section of Paper Machines
- Warm humid environment
- Reduction gears & gear head motors

ISO VG 150,220,320

FAG

SKF

VOITH

metso

Gulf Security NT

- Superior anti wear
- Special rust protection under wet condition
- Excellent filterability & water separation

Application

- Specific requirement of Morgan construction
- No Twist Rod Mills

ISO VG 100

Gulf Heat Transfer Oil



Product	Type	Application	Specific Advantage
Gulf Therm	Mineral	Closed circuits without air contact.	Process temperature < 300° C
Gulf Therm Synthetic	Synthetic	Closed circuits without air contact	Process temperatures < 320 ° C
Gulf Therm Supreme	Synthetic	Closed circuits without air contact	Process temperature < 345 ° C
Gulf Clean		Heat Transfer Fluid Cleaner	Add 5% min for 24 to 48 hours circulating

Benefits

- Excellent thermal and oxidation
- High specific heat and thermal conductivity
- Superior low temperature fluidity



Gulf Industrial Gear Oil



Product	Type	Application	ISO VG
Gulf EP Lubricant HD	Mineral	Heavy duty industrial gear operating under heavy & shock loading	150, 220, 320, 460, 680, 1000
Gulf EP Lubricant SY	Synthetic PAO	Heavy duty industrial gear under severe conditions – high load, high temperature	150, 220, 320, 460

Benefits

- Excellent load carrying capacity
- High thermos oxidation stability – engine cleanliness
- Excellent demulsibility – free water contamination



Gulf Compressor & Refrigeration Oil



Product	Type	Application	ISO VG
Gulf Fidelity	Mineral	Reciprocating air compressor, rotary screw & vane compressor, axial & centrifugal compressor	32, 46, 68, 100,150
Gulf Fidelity PA	Synthetic PAO	Rotary screw & vane compressor, centrifugal & reciprocating compressor	32, 46, 68
Gulf Eskimo	Naphthenic	Reciprocating & rotary refrigeration compressor	32, 46, 68

Providing:

- *Clean – low carbon operation*
- *good protection*
- *longer equipment life*



Gulf Gas Engine Oil



Product	Type	Application	SAE
Gulf Gulco LA Supreme	Low ash	Gas engine operating on pipeline quality gas	SAE 40
Gulf Gulco MA	Medium ash	Gas engine operating on fuel containing moderate H ₂ S, landfill or biomass gases	SAE 40
Gulf Gulco ZA	ashless	Gas engine operating on lean burnt gas	SAE 40

Providing:

- *Excellent engine cleanliness*
- *Protect against valve seat recession*
- *Longer equipment life*



Gulf Medium Speed Diesel Engine Oil



Product	Application	SAE, TBN
Gulfsen Supreme 430	Engine operating on residual fuels having Sulphur content 2.5 – 3.5%	SAE 40, TBN 30
Gulfsen Supreme 440	Engine operating on residual fuels having Sulphur content > 3.5%	SAE 40, TBN 40
Gulfmar DPO 415	Engine operating on distillate fuel having Sulphur content 1%	SAE 40, TBN 15

Providing:

- *Superior engine cleanliness*
- *Protect against corrosion*
- *Longer equipment life*



Gulf Transformer Oil



Transformer Oil A

Applications:

- Refined Parafinic base oil
- Non inhibited insulating oil
- for transformer, switch gear
- Meets the IEC 60296 ed 4:2012

Transformer Oil N

Applications:

- Hydroprocessed Naphthenic base oil
- Non inhibited insulating oil
- for transformer and switch gear
- Meets the IEC 60296 ed 4:2012



Other Products



Product	Application	Specification
Gulf Way	Slideway lubricants Slides & ways of lathes, shapers, grinders and milling machines	ISO VG 68, 220
Gulf Merit	Pneumatic rock drill, jack hammer	ISO VG 100
Gulf Spin	Textile machine spindle	ISO VG 10
Gulf Lubecote	Bitumen oil, open gear	Viscosity @100°C =4000 cSt





Gulf Mining & Heavy Duty Equipment Lubrication



Diesel Engine Oil



Providing:

- excellent engine cleanliness
- good engine protection
- economic fuel consumption

Monograde:

Gulf Super Duty CF 10W
Gulf Super Duty CF 30
Gulf Super Duty CF 40
Gulf Super Duty CF 50

Multigrade:

Gulf Super Duty VLE 15W40, CI-4
Gulf Super Duty VLE 20W50, CI-4
Gulf Super Diesel Plus 15W40, CF-4
Gulf Superfleet Special 15W-40, CH-4

VOLVO



Mercedes-Benz



RENAULT



Global DHD-1

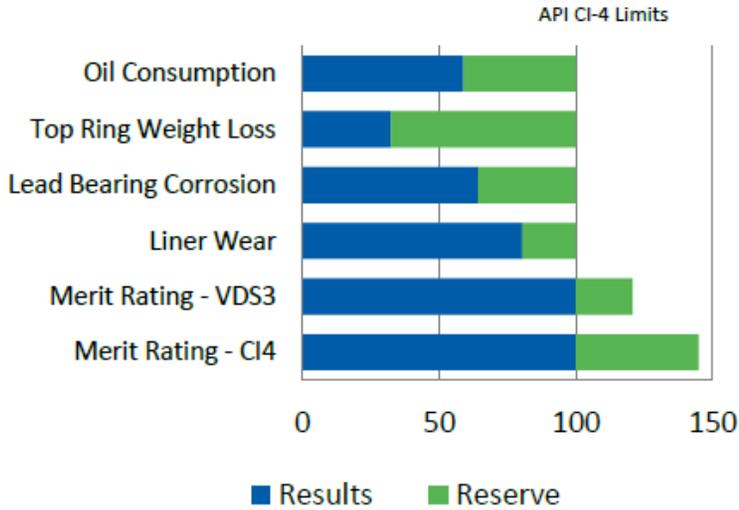
Caterpillar ECF-1a



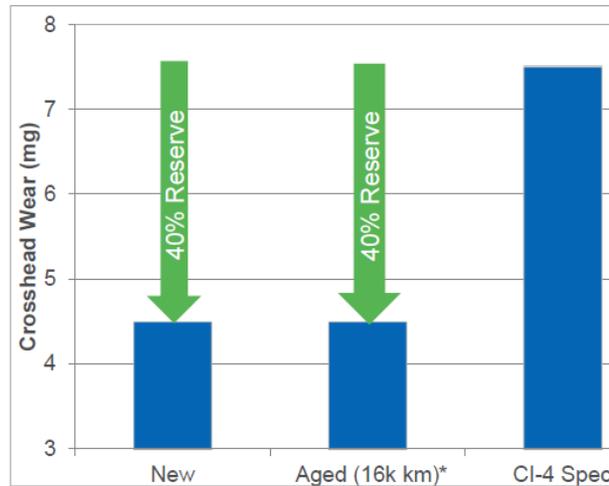
Gulf Super Duty VLE, CI-4



Mack T-12: high T oxidation & wear control test



Excellent wear control



Meet Specification

- API CI-4
- ACEA E7-12
- MB 228.3
- MAN 3275
- Volvo VDS-3
- Deutz III
- MTU 2
- Mack EO-M+, EO-N
- CES 20077/20078
- Cat ECF-2 (Grp II)
- Renault RLD-2
- Jaso DH-1
- Global DHD-1
- DDC 93K215
- Allison C-4



Manual Transmission Fluid



Providing:

- excellent EP - lower maintenance cost
- Longer equipment life
- Minimise leakages and contamination



Gulf Gear MP

API GL-5, US MIL-L-2105D

SAE 90

SAE 140

SAE 80W-90

SAE 85W-140

Gulf Gear EP

API GL-4, US MIL-L-2105

SAE 90



Power Transmission Fluid



Providing:

- Smoother operation of transmission and brake
- Keeps metal part clean
- Good compatibility with all seal



Gulf HT Fluid TO-4
SAE 10 W
SAE 30
SAE 50

Gulf Super Duty SAE 30 (Caterpillar TO-2)

Caterpillar TO-4

Komatsu

Allison
C4

API CF, CF-2





Automatic Transmission Fluid

Providing:

- Smoother shift performance & efficient transmission power
- Reduces possibility of leakage
- Longer component life



Gulf ATF DX III H

Dextron DX III H
Mercon

Volvo Transmission Oil

MAN

ZF- TE- ML



Radiator Coolant



Providing:

- Protects all metals in cooling system
- Improve heat transfer in cooling system
- Prolong equipment life



Gulf Anti freeze

Mono ethylene Glycol premix with
50% water
No dilution is recommended
Free amine, nitrite and phosphate



Hydraulic Oil



Gulf Harmony AW Plus
ISO VG 32, 46, 68



Gulf Super Duty CF 10W
Komatsu – small engine



Greases



Applications

- Ball and roller bearings
- Plain bushing and shaft
- Open gears
- Reduces gearboxes
- Centralized lubrication systems
- High temp application
- Some specialized application



Grease Characteristic



Properties	Aluminum complex	calcium	Lithium	Li Complex	Ca sulfonate
Thickener content	6.5 - 9.5%	12-20%	7-12%	10 - 15%	10 - 20%
texture	smooth & buttery	smooth & buttery	smooth, slightly fibrous	smooth & buttery	smooth & buttery
dropping point	204 -260 C	96 - 105 C	177 - 204C	260 C	300 C
operating T	177 - 204 C	90C	110 - 135 C	149 - 177C	176 C
water resistance	excelent	fair	emulsify w/ small water	good	excelent
against rust	excelent	fair	fair	good	superior
work stability	excelent	fair	good	good	excellent
oxidation stability	excelent	poor to good	good	good	excelent



Greases



Gulf Crown EP

Multi purpose Extreme Pressure Lithium Grease

Operating range up to 120 C

Wheel bearing, chassis, axles, ball joints, universal joints, power take offs, king pins, bushing and disc brakes.

Heavy duty plain and rolling bearing under severe conditions

NLGI 0,1, 2 , 3



Greases



Gulf Crown EP

Multi purpose Extreme Pressure Lithium Grease

Operating range up to 120 C

Wheel bearing, chassis, axles, ball joints, universal joints, power take offs, king pins, bushing and disc brakes.

Heavy duty plain and rolling bearing under severe conditions

NLGI 0,1, 2 , 3





Greases

Gulf Crown LC

Multi purpose Lithium Complex Grease

Operating range up to 180 C

Heavy duty in automotive, marine, off-shore, cement, mining, quarrying, agriculture & forestry

Lubrication of machinery, antifriction bearings, sleeve & guide bearing, oscillating bearings

NLGI 2 , 3





Greases

Gulf Crown CS 2

Calcium Sulfonate EP grease

Operating range up to 180 C

Excellent water resistance

Heavy duty in automotive, marine, off-shore, construction, mining, quarrying, agriculture & forestry

Axles, ball joints, universal joints, power take offs, king pins, bushing and disc brakes

NLGI 2



Greases



Gulflex LCX 2

Lithium Complex Ep grease with MoS₂

Operating range up to 180 °C

Application in heavy load, shock loading, slow & oscillating/reciprocating type operation

Heavy duty in cement, mining, quarrying, agriculture & forestry

NLGI 2



Greases



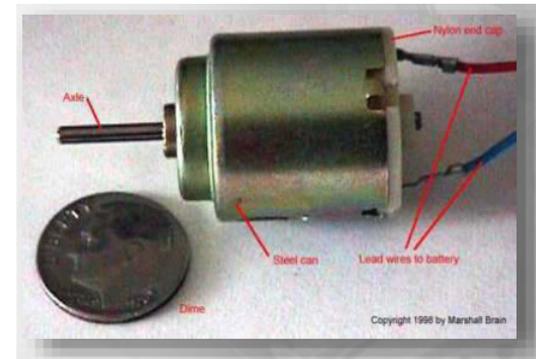
Gulf Crown LC- EM 2

Lithium Complex grease for electrical motor bearing

Operating range up to 175 °C

Application in electrical motor bearing and for bearing requiring sealed for life protection.

NLGI 2, ISO VG 100



Greases



Gulf Crown WRP 0

Lithium EP grease + graphite

Wire rope & chain conveyor grease

Easy to apply by using brush, wire applicator box or grease line through a centralized grease system

NLGI 0

Excellent water resistance
Strong adhesion
Outstanding EP under load carrying condition





Greases

Gulf Crown HT

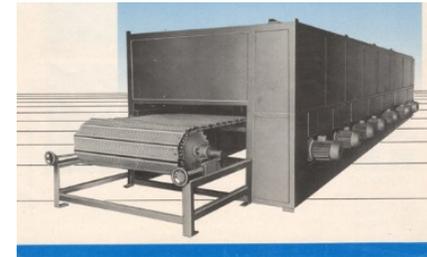
Clay based High temp grease

Operating range up to 200 C

Application in kiln car wheel bearing, dryer conveyor chain, bearing, rolling mills, oven bearings

Heavy duty in automotive, marine, off-shore, cement, mining, quarrying, agriculture & forestry

NLGI 2



Grease Compatibility Chart



Legend:	Aluminum Complex	Barium	Calcium	Calcium 12-Hydroxy	Calcium Complex	Clay	Lithium	Lithium 12-Hydroxy	Lithium Complex	Polyurea*	Sodium	Calcium Sulphonate	Silica
● Compatible													
▲ Borderline Compatible													
■ Incompatible													
Aluminum Complex	—	■	■	●	■	■	■	■	●	■	■	■	●
Barium	■	—	■	●	■	■	■	■	■	■	■	▲	●
Calcium	■	■	—	●	■	●	●	▲	●	■	■	N/A	N/A
Calcium 12-Hydroxy	●	●	●	—	▲	●	●	●	●	■	■	N/A	N/A
Calcium Complex	■	■	■	▲	—	■	■	■	●	●	■	●	■
Clay (Bentone)	■	■	●	●	■	—	■	■	■	■	■	■	●
Lithium	■	■	●	●	■	■	—	●	●	■	■	●	●
Lithium 12-Hydroxy	■	■	▲	●	■	■	●	—	●	■	■	●	N/A
Lithium Complex	●	■	●	●	●	■	●	●	—	■	■	●	●
Polyurea*	■	■	■	■	●	■	■	■	■	*	■	■	■
Sodium	■	■	■	■	■	■	■	■	■	■	—	■	■
Calcium Sulphonate	■	▲	N/A	N/A	●	■	●	●	●	■	■	—	N/A
Silica	●	●	N/A	N/A	■	●	●	N/A	●	■	■	N/A	—

* Not all polyurea greases are mutually compatible

Source: machinery lubrication





Metal Working Fluid



MWF – Water Soluble



Product	Type	grinding	Turning drilling milling	Tapping Threading cutting	Materials	
Gulf Emulsil NA Spec	mineral	√	√	√	Ferrous, yellow metal, nickel	Wide range of operations
Gulf Emulsil NA Spec Plus	mineral	√	√	√	Ferrous, yellow metal, nickel	Heavy duty application
Gulf Emulsil NT	semi synthetic	√	√	√	Ferrous, yellow metal, nickel	Wide range of operations
Gulf Emulsil NT Plus	Semi synthetic	√	√	√	Ferrous, yellow metal, nickel	Heavy duty application
Gulf Metsynth	synthetic	√			Ferrous, yellow metal, nickel	Wide range of operations
Gulf Metsynth EF	synthetic	√			Ferrous, yellow metal, nickel	Heavy duty application



MWF



Product	Type	broaching	Turning drilling milling	Tapping Threading cutting	Materials	Application
Gulf Cut 36 D	Neat cutting oil		√		Ferrous, yellow metal, Al alloy	Wide range of operations
Gulf Form oil D	Forming oil	√	√	√	Ferrous, non-ferrous	Deep drawing
Gulf Form Paste	Forming oil	√	√	√	Ferrous, non-ferrous	Wide range of operations
Gulf No Rust	Solvent base					Rust preventive oil, 3 mo outdoor



Value Added Services



Technical Support for business development

- Joint visit – lube survey

Oil Condition Monitoring

- Right lubricants for right application – Oil drain interval extension – reduce in downtime & maintenance cost

Trainings/ Seminars/Workshops

Best Practices in Lubricant & Storage Handling

Marketing Supports and Promotional Activities





WHY GULF ?

- Experience & knowledge since 1901
- Comprehensive products range
- World-class quality
- OEM trust
- Customer care & service
- On-site training

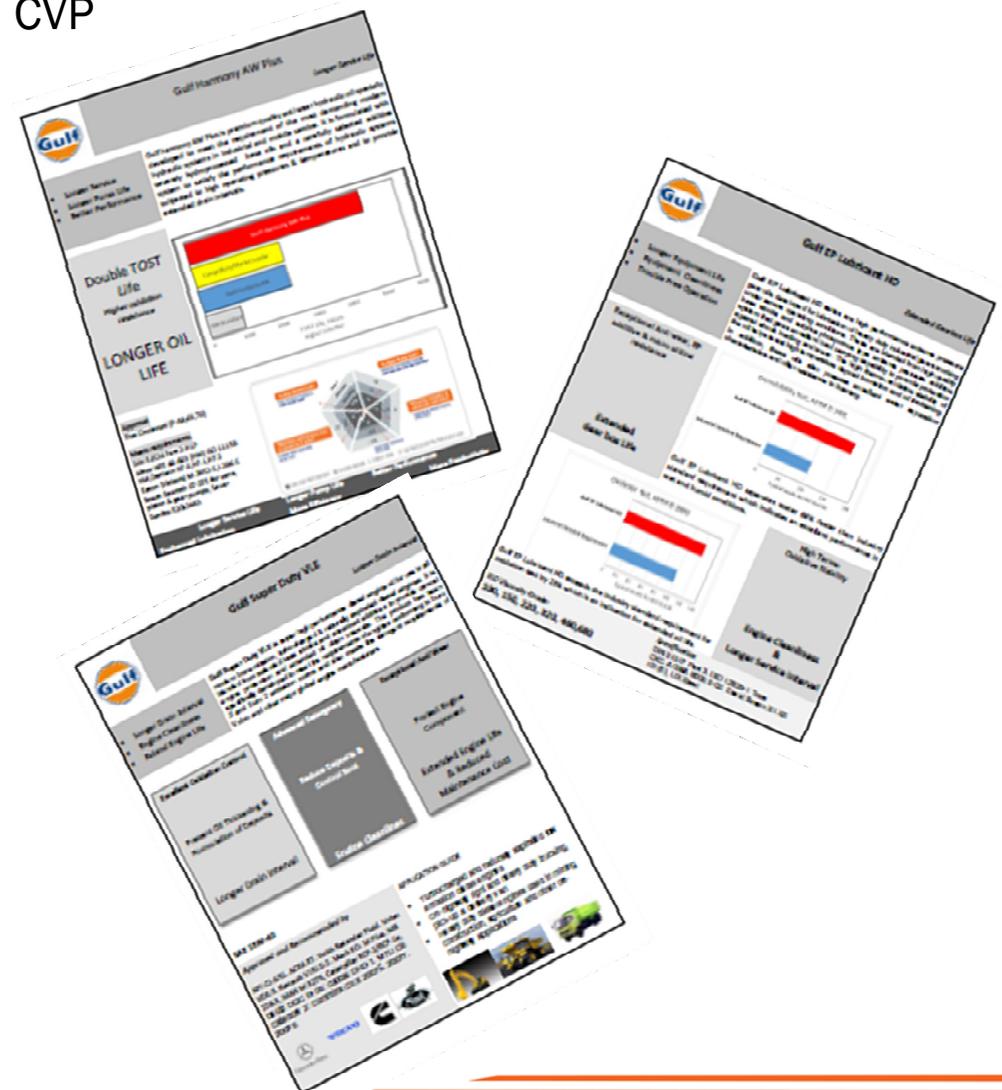


Support Materials



Product Catalogues

CVP



Support Materials – UNDER CONSTRUCTION



Gulf
Gulf Harmony AW Plus
Hydraulic oil

- Increase oil life
- Longer Component Life
- Lower Leakage & Expenses

360° technology protects your hydraulic system

Gulf
Gulf Super Duty VLE
Diesel Engine Oil

- Longer Drain Interval
- Best in Class Wear Protection
- Maintain Engine Power

The Best wear protection in your Diesel Engine

Gulf
Gulf Therm
Heat Transfer Oil

- Excellent thermal and oxidation
- High specific heat and thermal conductivity
- Superior low temperature fluidity

Premium Quality Heat Transfer Oil





Thank you !

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