



# WSA

## E.P. MARINE GREASE

NATO: GAI G 460

### DESCRIPTION

**WSA** is a premium extreme pressure adhesive grease, formulated to serve the most severe demanding requirement in marine, offshore and hydraulic environments.

**WSA** lubricates and protects all metal surfaces from humid and corrosive atmospheres (salt spray, chemical pollution) and will not emulsifies in fresh, cold, hot or salt water.

### APPLICATIONS

#### Marine, Offshore and Hydraulics Applications

Submerged bearing operating under high load, gear shift mechanisms, cables, bare gearings, cables, chains, shafts, articulated joints, valves, slides steering parts, hinges, latches, cams, pistons, tracks, fishing reels, throttle linkage, winch gears, finger gears, windows, bearings and trailer balls in marine environments.

#### Sewage and Water Treatment Plants

Greases and protects all fittings, water meters, threads, valve and pump parts, steering linkage, cables and gears, bearings.

#### Automotive, Buses, Trucks and Heavy Equipments

Door locks, hinges, linkage and springs, window slides, door handles and tracks, rubber bushings and absorber pads, cables and gears, railways exposed to high humidity and corrosion.

#### Paper Mills, Food Processing and Dairy Plants

Roller bearings, pumps and valves, conveyor chains, slides, and bearings subjected to daily wash.

### PRODUCT BENEFITS

- Excellent resistance to Rust and Corrosion, provides long term protection against salt spray, corrosive fumes, water and all weather conditions
- Unique anti-wear and extreme-pressure properties; will withstand high pressure loads up to 315 kg/cm<sup>2</sup>
- Completely insoluble in cold, hot and sea water
- Perfect adhesion to metals surfaces with its special fortified synthetic polymers
- Very good resistance to UV and stressful environment
- Extends life of installations exposed to submerged conditions for prolonged periods.
- Easy to Use; rapidly forms into a pure green grease allowing for easy operator's visual inspection.
- Significantly reduces noises and squeaks
- Reduces maintenance spare parts cost
- Reduces labour cost and downtime

#### Orapi Applied (S) Pte Ltd

No 26 Tuas Avenue 13 Singapore 638992

Tel: +65 6265 2888

Fax: +65 6268 6474

Inquiries: [sin.sales@orapi.com.sg](mailto:sin.sales@orapi.com.sg)

Web Site: [www.orapiasia.com](http://www.orapiasia.com)



TDS 605 / 003 – 28/03/2019

1/1

*The ORAPI Group designs, manufactures and markets "Highly Technical Solutions" for Maintenance Repair and overhaul of machines and equipments. The Group is present in over 100 countries with 32 subsidiaries and an international network of import-distributors. The Group operates 7 manufacturing plants and 4 laboratories of R&D. ORAPI is certified ISO 9001 and ISO 14001.*

## APPROVALS

---

- Aeronautic / Aircraft Industries: MAN 2232/79
- STM 7420B, NATO G 460 – GAI (lubrication of articulated joints and submerged mechanisms).
- Germany : TL 9150.0066
- UK : D STAN 91.34
- Renault VI: MABEC T845200191

## PHYSICAL PROPERTIES

---

Colour: .....	Green
Appearance.....	tacky, adhesive
Density .....	0.910
Thickener .....	Calcium
Base Oil viscosity @ 40° C .....	870 cSt
Oil separation 7 days @ 40° C.....	1.4%
NLGI grade.....	2
Drop point (ISO 2176) .....	> 160° C
Penetration after 60 strokes @ 25° C (NFT 60-132) .....	265 / 300
Loss after 10.000 strokes @ 25° C (NFT 60-132).....	5
Loss after 100.000 strokes @ 25° C (NFT 60-132).....	25-30
4 balls weld test (ASTM D 2596).....	315 kg
Dye penetration / bleeding test 7 days at 40° C .....	1.4 %
Anti-corrosion (EMCOR) (NF 60-135) .....	0 score
Copper strip 24 hours @ 100° C (ASTM D4048) .....	1b score
Operating temperature range .....	- 30° C to + 130° C

## DIRECTIONS FOR USE

---

**WSA** is not compatible with the following greases: Calcium complex, Aluminium complex, clay, silica, sodium. Complete purging or cleaning is required before application.

Bulk: Apply grease evenly in thin layers to surfaces.

Aerosol: Shake well before use. Spray 20cm from surfaces to be lubricated.

## STORAGE & SAFETY

---

Five years, stored in closed original packaging at ambient temperature.

Bulk: Under normal condition of use, no specific hazard.

Aerosol: Flammable product. Do not expose to temperature exceeding 50°C. Do not use on incandescent, warm body or near a source of heat.

Always use in well ventilated areas. Wear gloves and glasses.

*For further information, please consult the Safety Data Sheet.*

## PACKAGING

---

Cartridge 400g x 12 (ref: O-0605-C4)  
Aerosol 340g x 12 (ref: O-0605-A3)

## WARRANTY

---

*The information contained herein is presented without guarantee or warranty and the Seller disclaims any liability incurred from the use thereof. Nothing contained herein is to be construed as a recommendation for any use in a commercial process not controlled by the Seller, nor for a use which is in violation of any existing patent, foreign or domestic, or of applicable laws and regulations. THE SELLER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, EXCEPT AS EXPRESSLY STATED IN SELLER'S SALES CONTRACT OR SALES ACKNOWLEDGEMENT FORM.*

### Orapi Applied (S) Pte Ltd

No 26 Tuas Avenue 13 Singapore 638992

Tel: +65 6265 2888

Fax: +65 6268 6474

Inquiries: sin.sales@orapi.com.sg

Web Site: [www.orapiasia.com](http://www.orapiasia.com)



TDS 605 / 003 – 28/03/2019

2/2

*The ORAPI Group designs, manufactures and markets "Highly Technical Solutions" for Maintenance Repair and overhaul of machines and equipments. The Group is present in over 100 countries with 32 subsidiaries and an international network of import-distributors. The Group operates 7 manufacturing plants and 4 laboratories of R&D. ORAPI is certified ISO 9001 and ISO 14001.*