



**ABCON**<sup>®</sup>  
MARINE PRODUCTS



# Catalogue

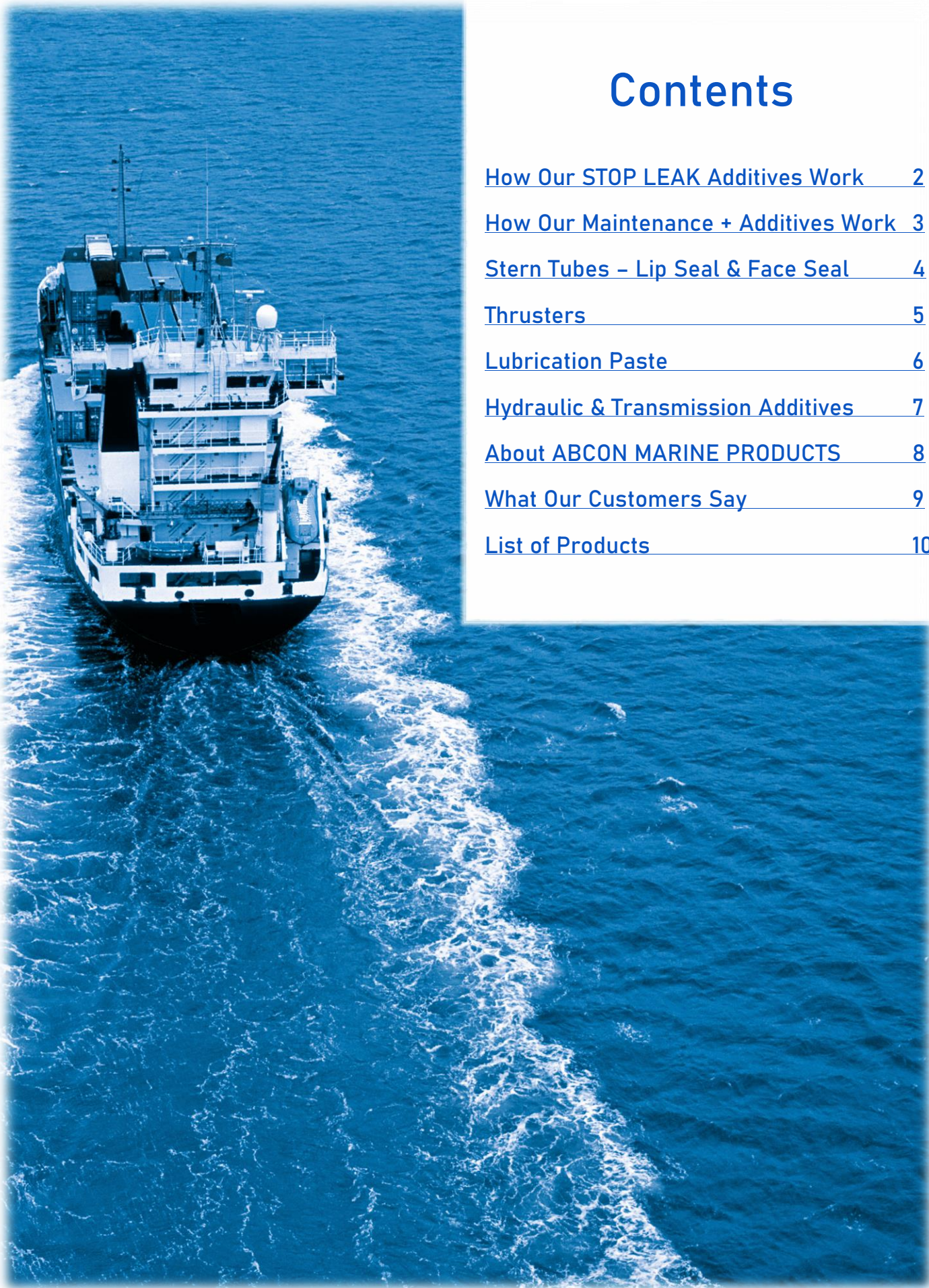
Stop Leak and wear reducing additives

For systems with mineral or bio-based lube oil

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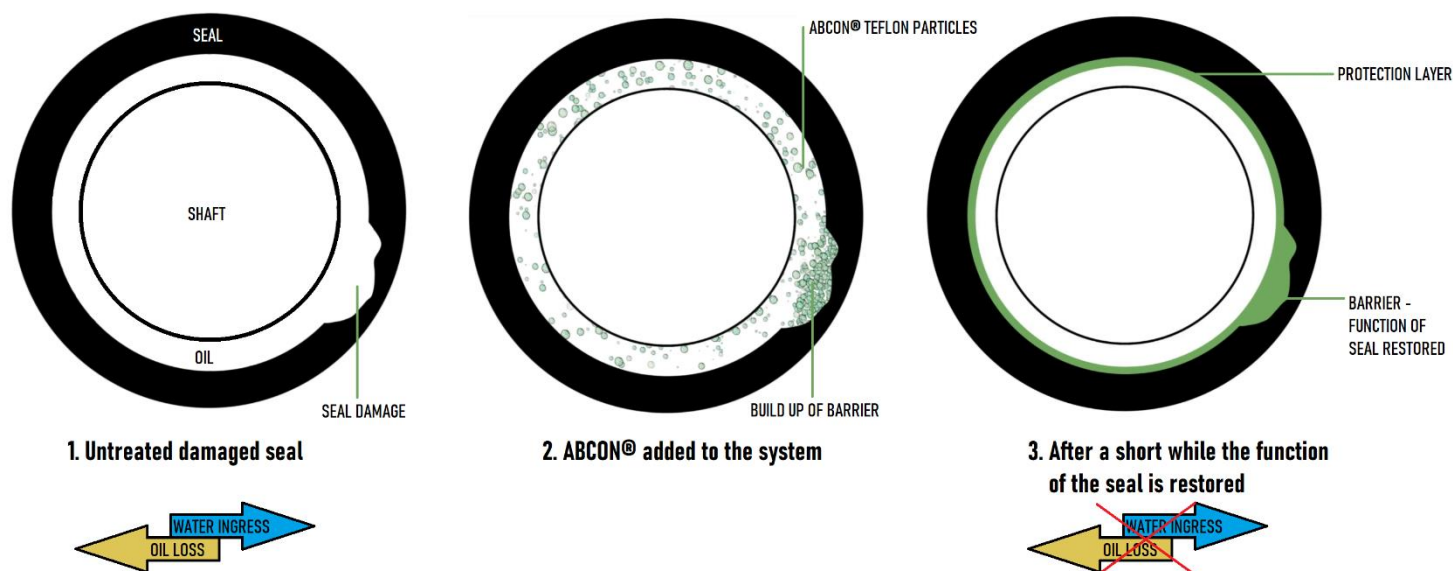




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## How Our STOP LEAK Additives Work

A leak starts small and insignificant but will eventually become a major issue. Imagine a simple additive that will prevent the leak from becoming a reality and keep your vessels sailing until next planned dry docking.

Often, leaks can occur in stern tubes, tunnel thrusters and CPP's. The usual way of dealing with a leak is expensive and time-consuming compared to using ABCON® MARINE SL (Stop Leak additives).

### Causes of Leaks

There are several causes of leak such as insufficient lubrication of seals during dry docking, air locks in thruster systems and CPP's after assembling, oil film pressed out during stand still, fishing lines pulled into seals, sand and other impurities damaging seals when passing through shallow waters (e.g. harbors and rivers).

### The ABCON® Way – SL (Stop Leak) Additives

Our teflon particles are specifically designed to create a barrier in the gap between the rubber seal and the shaft surface. This will efficiently decrease the leak or stop it all together, thereby, avoiding untimely dry-docking or other expensive repairs. Thus, our product enables your vessel to continue sailing until planned dry-dock where the problem can be fixed. Small leaks should be dealt with promptly after discovery. Not only is a leak illegal many places, but a small one is also cheaper as less of our product is needed.

Our SL products are available in mineral oil and bio degradable base oil – both saturated and unsaturated. All oil companies refer to approvals, which their individual oil products meet. The guarantee lasts for as long as the oil in the system meets the standards. In other words, all ABCON additives are within the abovementioned specs and the approvals are not compromised. Therefore, all ABCON additives are based on the same base oils as the equivalent system oils.

### Examples – SL Additives

- Lip seal (Simplex type) systems: SL for ordinary leakages.
- Lip seal (Simplex type) systems: SLLL for very large leakages.
- Face seal (Cedervall type): CSL for small and large leakages.

All our products are delivered as a concentrated paste which results in a lower product price, lower transportation costs and makes it easy to apply. By using ABCON Stop Leak, the vessel does not lose time on its schedule.

**A Real Example.** 99000 DWT Crude Oil Tanker, with a leaking port provision crane. Status from customer after adding ABCON MARINE HYDRAULICS SL: Vessel applied Abcon additive in port provision crane. Crane operated once and so far, not sighted any leakage. Thank you.



## How Our Maintenance + Additives Work

Our ABCON+ additives are teflon based maintenance additives. As conventional lube oil products have limits, we have designed an additive that improves the capability of lube oil under all operating conditions.

Teflon is known as the material to provide the least amount of friction. It is also an extremely durable material which is why we, in ABCON, specialise in teflon based marine products.

### Reynolds Law Applies

ABCON AS manufactures teflon based lube oil additives for the maritime industry. ABCON MARINE+ products, as they are called, are designed to reduce operating expenses of equipment by decreased wear and tear and reduced friction. *Ref. Pounder's Marine Diesel Engines and Gas page 122: A typical surface finish for the cylinder liner of a modern engine in service is around  $0.5 \mu$ , while the oil film thickness of three times this value ( $1.5 \mu$ ) - required to prevent asperity contact - may not be established until some distance down the stroke from top dead center. The conditions for adhesive wear are therefore present at around top dead center. The conditions for adhesive wear are therefore present at around top dead center.*

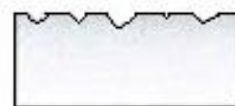
### What Does ABCON Teflon Particles Do?

To the right we have a micro surface picture illustrating how Teflon particles work. Experiments have proven that using ABCON MARINE + results in less metal contact even at lower velocity. Wear metals found in used oil show the degree of non-performance. An Oil analysis has shown that ABCON additives have been proven to reduce the wear metals by 50% or more.

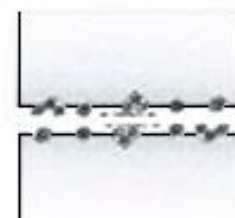
### Cylinders

In the ideal world, lube oil keeps two mechanical parts from contact. However, that is not the case if the velocity is low enough as illustrated in the image below to the right. In this example, it takes 1-2 rotations to establish full oil pressure to keep the surfaces apart.

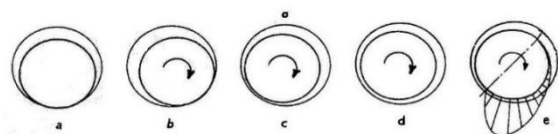
**A Real Example.** 6,000 DWT. ferry in dry dock: Thruster motor shaft bevel was worn, hardened gear tooth surface was compromised and iron content in lube oil was exceeding limits. Supplier could not supply replacement shaft immediately so therefore ABCON-THRUSTER+ was added (40 L total volume). The teflon particles permanently adhered to surface of gear teeth, provided lubrication which reduced gear friction and iron levels in lube oil to allowable limits. No replacement part ordered until 2011 as the ferry Superintendent reports: Shaft continues to function well and since iron level is still acceptable, class approved for continued operation.



Before: Roughness depth  $0,5\mu$



After: ABCON teflon particles fill the grooves  
 → less metal contact







## Stern Tubes – Lip Seal & Face Seal

ABCON MARINE STERN-TUBE SL is a Stop Leak and water ingress paste, specifically designed for stern tubes. We have a broad assortment of additives that work with all types of stern tubes. They stop leaks and water ingress on stern tube seals and other similar systems where mineral oil-based engine oil is used.

### Lip Seals

In the case of a smaller leak (below 15 liters per 24 hours), our STERN TUBE SL is the best product to use.

### Larger Leaks

If you have a larger leak than 15 liters, our STERN TUBE SLL or SLLL is an option. They have the same properties as STERN TUBE SL, but with the addition of larger teflon particles, they have an increased effect against larger leaks.

### Properties of STERN TUBE SL

The unique properties of our stop leak products are their abilities to generate a teflon barrier as well as to reduce wear and tear on the equipment. They also protect against corrosion and are environmentally friendly as they reduce or stop leakages.

### Face Seals

For face seals, we have our ABCON MARINE-STERN TUBE CSL which is designed to stop leaks in Cedervall type seals.

### Function

The high content of teflon particles produce a kind of teflon seal. Consequently, the leakage is significantly reduced or stopped all together. If there happen to be water in the lube oil, the stern tube paste will provide a substantial safety margin, as teflon maintains its lubrication properties even in water.

STERN TUBE Stop Leak can be blended with all types of mineral lubrication oils. They can be used with all types of stern tube seal materials as well.

The Above-mentioned products are also available in biodegradable oil-based version – both saturated and unsaturated. They all comply with the 2013 EPA VGP requirements and start with a B (STERN TUBE BUSL Bio Unsaturated Stop Leak or BSSL Bio Saturated Stop Leak)

### Preventive Care: ABCON MARINE STERN-TUBE+

To reduce the risk of leaks, STERN TUBE+ is recommended. It is a teflon based paste which produces a teflon surface layer at the seals, thus, reducing risk of leakages. It is exceptionally protecting against wears on the bearing and the seals, and it protects against corrosion as well. STERN TUBE+ can be used as a start-up lubrication for all types of stern tube bearings and seals.

**A Real Example.** 7.100 DWT Drill Ship, leaking 40 L per 24 hours, status after adding ABCON MARINE STERN TUBE SL: Your product solved our problem perfectly. Within minutes our seals stopped leaking. We are now in scheduled dry-dock, and everything has been repaired. Thank you very much for all your help and information. If we have any problems in the future, we will think about your company.



## Thrusters

ABCON has Stop Leak additives specifically designed for thrusters as well. These are compatible with all kinds of thrusters with either mineral oil or bio degradable oil.

If you have a problem with a leak below 0,5 liters per hour of operation, then THRUSTER SL is your choice. It can stop leakages from rotating and tunnel thruster units and leakages from controllable pitch propeller systems.

### Larger leaks

If you have a larger leak than 0,5 liters per hour of operation, then our THRUSTER SLL or SLLL is the relevant choice. They have the same properties as THRUSTER SL but has larger teflon particles increasing the effect against larger leaks. These products are all based on hydraulic oil.

### Properties of THRUSTER Stop Leak

All our THRUSTER Stop Leak products have a hydraulic oil as a base oil. Consequently, it is compatible with gear oil and hydraulic oil and can, therefore, be used on fixed propellers and CPP propeller systems. It creates a teflon barrier at the leaking seal. In addition, it protects the bearings and seals against wear and tear.

We also deliver to rotating thrusters, both Azimuth and Azipot. Furthermore, we have THRUSTER GSL for gears in thrusters. These products contain different teflon particles suitable for gears and are based on gear oil.

### Function

The high content of teflon produces a kind of a sealing layer on top of the seal. As a result, the leakage is significantly reduced or stopped.

When SL or SLL is blended with the existing oil of the system, the blend produces an excellent lubrication, which due to the teflon content, maintains the lubricating effect even if there is saltwater in the oil.

Above mentioned products are available in biodegradable base oil- both saturated and unsaturated. These are called THRUSTER BUSL or THRUSTER BSSL. All ABCON Bio based products comply with the 2013 EPA VGP requirements as environmentally acceptable.

### Preventive Care: ABCON MARINE-THRUSTER+

To reduce the risk of leak, THRUSTER+ is recommended. THRUSTER+ is a hydraulic oil and teflon based paste, which produces a teflon layer on all surfaces, thereby, reduces the risk of leakages. It is extremely protecting against wears on the bearings and the seals. It is used as an additive in existing hydraulic oils.

A Real Example from Scandlines. MV Prins Richard: ABCON was used on all the thrusters. After adding ABCON MARINE-THRUSTER+ they could wait 4 years before changing the lip seals.





## Lubrication Paste

ABCON lubrication products are designed to improve the specific wear resistance of the ship.

### ABCON MARINE-SEAL PROTECT+

When assembling systems with rubber seals, such as hydraulic cylinders, heat production in the small area between the rubber and the metal is always a risk. This is damaging to the rubber surface, hence, lead to later leakage. Proper protection can be established by using ABCON MARINE-SEAL PROTECT+. It is applied in a thin layer on the rubber surface. Even during stand still, it maintains its full lubricity capability, therefore, reduces the risk of damaging the seals. ABCON MARINE-SEAL PROTECT+ is a complex teflon based lubrication paste, which protects against start up rotations in the machinery or linear movements in cylinders.

### ABCON MARINE-MLP

The ABCON MARINE MLP is a Multi-Lubrication Paste for all places, where you need significant film strength, adhesion and protection. MLP does not harden with age and protects exposed components against rust and other corrosion; even aluminum in contact with stainless steel will be protected. MLP protects well against seawater as well and will function in up to 250 degrees Celsius. In addition, it makes it easier to disassembly the machinery even after long time and offers a high degree of residual lubrication.

It seals ring surfaces without adhering. It minimizes initial start-up damage, it reduces risk of seizing and it reduces wear and tear. It also protects against corrosion.

### ABCON MARINE-MLP – Numerous Applications

ABCON MARINE MLP can for instance be applied to:

- Camshafts and rollers
- All bearings and surfaces
- Oil seal and gaskets
- Hinge pins
- Exhaust system and hot bolts
- Engine assembly
- Threads (particularly those to be torqued)
- Pump assembly
- Winches and open gears
- Hatch bolts
- Treads, bolts etc. which are exposed to seawater



## Hydraulic & Transmission Additives

We have several different additives for specific uses. Both stop leak and maintenance additives for hydraulic systems and transmission systems.

### ABCON MARINE HYDRAULICS SL

Leaking hydraulic systems can easily be treated by adding a small quantity of HYDRAULICS SL to the system.

The high content of teflon particles create a barrier when they pass the leaking seal area such as the moving cylinders. As a result, the leakage is dramatically reduced or even stopped. Teflon also has the ability to create a cushion effect on mating surfaces in e.g. pumps. It not only reduces the wear but also reduces the “period noise” often experienced in hydraulic systems. We also have Hydraulics SLL for more severe leaks.

### ABCON MARINE HYDRAULICS+

HYDRAULICS+ is a teflon based wear reducing additive. When added to the existing lube oil it reduces the friction between mating surfaces especially where there is metal to metal contact e.g. pumps.

The smaller teflon particles saturate the metal surfaces which leads to reduced friction, hence, reduces wear.

The larger particles, which circulate with the hydraulic oil, create a cushion effect. This in turn will reduce the “period noise” caused by minor irregularities from mating surfaces such as gear teeth surfaces.

### ABCON MARINE GEAR+

The GEAR+ product is a gear oil additive for treatment of gearboxes and transmission systems. GEAR+ with teflon offers maximum lubrication and anti-wear protection to the gear and bearing surfaces of all gear types (helical, spur and worm drive).

The smaller teflon particles in GEAR+ range from 0,4 to 40 microns.

The smaller teflon particles in GEAR+, when subjected to pressure and temperature, saturate the friction surfaces, thus, reduce friction and offer corrosion resistance even during lay-up periods and residual lubrication at start up. The larger teflon particles, which circulate with the gear lubricant will create a cushion between gear surfaces, thereby, reducing gear pitting. This cushion effect is also important because it reduces noise caused by minor irregularities of mating surfaces, which are responsible for the very common “period noise”.

GEAR+ has the benefits of reducing friction, thereby, reducing operation temperature, improves extreme pressure protection. It reduces friction, hereby, extending components life and decreasing the risk of oil leaks resulting in a quitter operation.

### ABCON MARINE GEAR SL

Oil spill from gear boxes can be reduced or eliminated by adding a small quantity of GEAR SL to the existing lube oil. Lube oil often leaks from small openings in the gear box such as where the shafts exit or along the lines where the box is assembled. Due to the content of special shaped teflon particles in the GEAR SL, the gap will soon be filled and a teflon barrier established. In addition, the capabilities of GEAR+ are applicable to adding GEAR SL

We also have GEAR SLL for more severe leaks.



# About ABCON MARINE PRODUCTS

ABCON MARINE PRODUCTS has a long history and profound knowledge when it comes to stopping leaks and reducing wear and tear on vessels.

ABCON AS was founded on the basis of teflon knowledge. We have for years been specialised in producing and selling special additives specifically developed for the maritime market. The products have been developed in close corporation with Danish shipping lines, and the products have been tested on board their ships before they were introduced to the market.

## Global Company

ABCON AS has become a global company which every year is selling ABCON MARINE additives to more than 100 vessels around the world. This is a proof of the effectiveness and quality of the products. Furthermore, we have sales representatives covering more than a dozen regions. The ABCON MARINE products are produced in own facilities near Copenhagen, Denmark, and is distributed directly to the customers all over the world within few days.

## Professional Service

Stopping a leak is more than just ordering the right product. We ensure that our customers receive the right product in the right quantity in accordance with the specific problem. We arrange transportation and make certain our product will arrive before the agreed upon date. Finally, we follow up to ensure that our customers are satisfied with the result.

## ABCON's products - Easy to Use

Our products are easy to apply and can be done by the ship's own crew. This means that no special repair crew is needed.

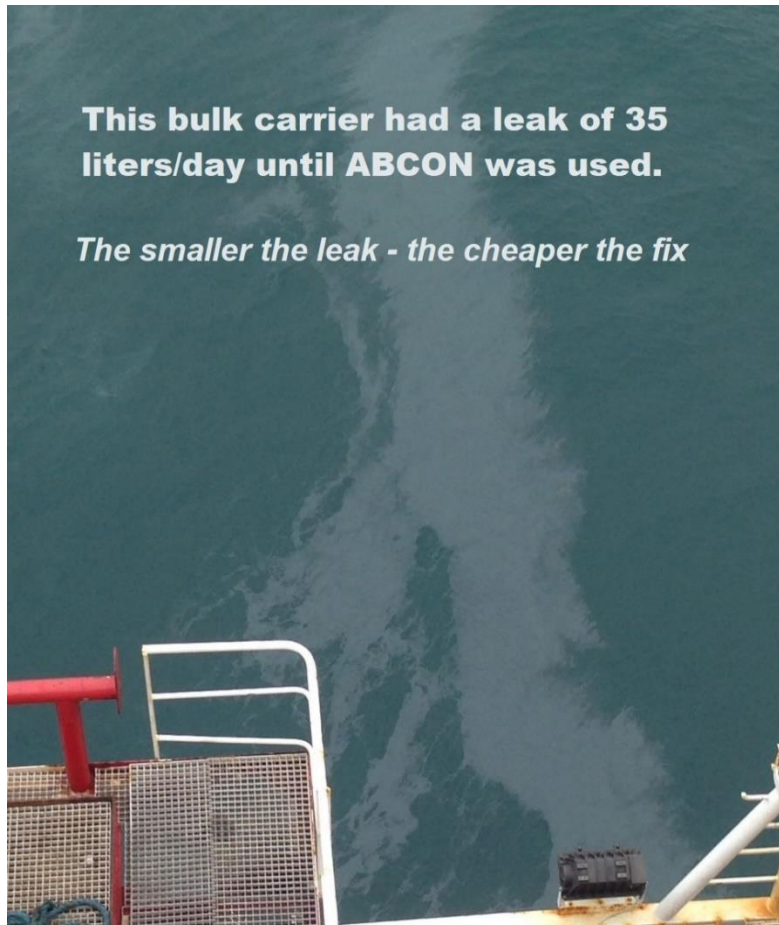
If you have a problem with a leakage or want to know more about the areas, which can be successfully treated, please contact our experienced staff who can draw upon knowledge from our extensive database which holds information from all deliveries. We have successfully helped anything from tugboats to VLCC's.

## Experienced Personnel

Our technical advisers have combined, more than half a century of experience in the oil industry. This

**This bulk carrier had a leak of 35 liters/day until ABCON was used.**

*The smaller the leak - the cheaper the fix*



ensures a very comprehensive knowledge of the many different types of vessels and their systems.

## ABCON® Guarantee

Our objective is to:

- Provide the best guidance for our individual customers by working closely together with them to obtain maximum benefit from the products.
- Deliver the best and most innovative solutions for our individual customers.

## Mission

Our mission is to reduce the operation cost of our customers' vessels by avoiding unplanned dry dock, reducing pollution in our oceans by providing unique, simple, and user-friendly products.

## Increasing Focus on Leaks

With today's increasing focus on leaks, ABCON offers simple and fast solutions that do not even cost a day in the schedule of the vessels.



## What Our Customers Say

### January 2022

After adding ABCON MARINE-STERN TUBE+ oil temperature come down 10 degrees. Hope it is good solution till next DD / May -June 2022.

German Technical Superintendent

### October 2018

Thanks very much for shipping out to us product so fast. We used SLL premixed 2 liters to 4 liters of oil and pour it in the shaft seal gravity tank. Since this gravity system use only one line for fill and vent, we drain expansion tank and line going to tunnel thruster few feet above the thruster and then we pour the product.

So far, it's being few days and level in the gravity tank is holding.

Thanks very much.  
Best Regards Port Engineer

### November 2016

Regarding your product Abcon Marine Thruster-SL which was used to minimize or eliminate oil leakage from bow thruster 1 year before vessel's dry-dock, kindly note that leakage was reduced from 20-30 liters per month to 2-3 liters per month which was more than ok until vessel was dry-docked, and oil seal was changed.

Thank you and best regards  
Mr. Lazaridis, Technical Department

### September 2014

#### DECK CRANE GEARBOX LEAK

We faced a problem with a small leak from a cargo crane gearbox. The gearbox is un-pressurized, and the leak was a minor "drip" from an O ring seal, however, during annual inspect we were given a class condition. We were informed that to dismantle the gearbox and replace the O ring would take two makers' technicians four days. ABCON was used and the leak stopped, to the satisfaction of the classification society, and the relief of the owners - price EUR 900

German ship-owner

### August 2012

Yesterday we received your product. I must confess I am on the verge of being religious. For more than 16 years I have worked in various ships, fishing and offshore, but never have I seen anything more effective. After 3-4 hours the leakage had so to say gone. Alternatively, we would have had to go to dry dock plus 6 weeks waiting time for a new stern tube seal.

Med vennlig hilsen / Best regards  
Sigmund Roksvåg  
Chief Engineer  
MV Eidsvaag Vega





## List of Products

| Application:               |                           | ABCON Product                                  | Min Oil | Bio UNSAT | Bio SAT  | leak liters /day | leak liters / hour | Prod no. | Prod. no. | Prod. no. |
|----------------------------|---------------------------|--|---------|-----------|----------|------------------|--------------------|----------|-----------|-----------|
| <b>Gear</b>                | reduce wear               | GEAR   | +       | BU+       | BS+      |                  |                    | 7000     | 8000      | 9000      |
|                            | Stop Leak                 | GEAR   | SL      | BUSL      | BSSL     | 1-20             |                    | 7050     | 8050      | 9050      |
|                            | Stop Leak                 | GEAR   | SLL     | BUSLL     | BSSL     | 20-100           |                    | 7080     | 8080      | 9080      |
| <b>Stern tube</b>          | reduce wear               | STERN TUBE                                     | +       | BU+       | BS+      |                  |                    | 7100     | 8100      | 9100      |
|                            | <i>Lip seal</i> Stop Leak | STERN TUBE                                     | SL      | BUSL      | BSSL     | 1-15             |                    | 7200     | 8200      | 9200      |
|                            | Stop Leak                 | STERN TUBE                                     | SLL     | BUSLL     | BSSL     | 15-50            |                    | 7300     | 8300      | 9300      |
|                            | Stop Leak                 | STERN TUBE                                     | SLLL    | BUSLLL    | BSSL     | 50-100           |                    | 7390     | 8390      | 9390      |
| <i>Face seal</i> Stop Leak | STERN TUBE                | CSL  | BUCSL   | BSCSL     | below 50 |                  | 7400               | 8400     | 9400      |           |
| <b>Hydraulic systems</b>   | reduce wear               | HYDRAULICS                                     | +       | BU+       | BS+      |                  |                    | 7500     | 8500      | 9500      |
|                            | Stop Leak                 | HYDRAULICS                                     | SL      | BUSL      | BSSL     |                  | <0,5               | 7550     | 8550      | 9550      |
|                            | Stop Leak                 | HYDRAULICS                                     | SLL     | BUSLL     | BSSL     |                  | 0,5-2,0            | 7580     | 8580      | 9580      |
| <b>Thruster</b>            | reduce wear               | THRUSTER                                       | +       | BU+       | BS+      |                  |                    | 7600     | 8600      | 9600      |
|                            | Stop Leak                 | THRUSTER                                       | SL      | BUSL      | BSSL     |                  | <0,5               | 7700     | 8700      | 9700      |
|                            | Stop Leak                 | THRUSTER                                       | SLL     | BUSLL     | BSSL     |                  | 0,5-2,0            | 7800     | 8800      | 9880      |
|                            | Stop Leak                 | THRUSTER                                       | SLLL    | BUSLLL    | BSSL     |                  | 2,0-4,0            | 7890     | 8890      | 9890      |
| <b>Thruster gear</b>       | reduce wear               | THRUSTER                                       | G+      | BUG+      | BSG+     |                  |                    | 7900     | 8900      | 9900      |
|                            | Stop Leak                 | THRUSTER                                       | GSL     | BUGSL     | BSGSL    |                  | <0,5               | 7950     | 8950      | 9950      |
|                            | Stop Leak                 | THRUSTER                                       | GSL     | BUGSLL    | BSGSLL   |                  | 0,5-2,0            | 7980     | 8980      | 9980      |
|                            | Stop Leak                 | THRUSTER                                       | GSL     | BUGSLLL   | BSGSLLL  |                  | 2,0-4,0            | 7990     | 8990      | 9990      |
| <b>Other products</b>      |                           |  |         |           |          |                  |                    |          |           |           |
| ABCON MARINE-MLP           |                           | anti-seize lubrication paste                   |         |           |          |                  |                    | 6100     |           |           |
| ABCON MARINE-SEAL PROTECT+ |                           | reduce the risk of damage to seals at start up |         |           |          |                  |                    | 6200     |           |           |

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