

When reliability  
allows no compromise



mounting, aligning, chocking and  
propulsion machinery maintenance

**marine**

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Sintemar  
technical team



# Global and reliable service

# engineering

SINTEMAR's technical team provides reliable and durable solutions for the **installation and chocking of propulsion and auxiliary equipment.**

Based on the experience gained since 1961 and with the latest CAD design technology, SINTEMAR engineers **design technically advanced and taylor made anchoring** and fixing systems for their clients.

## services

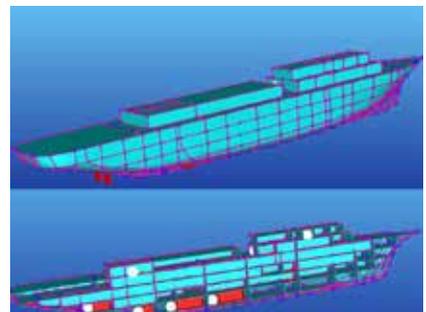
- Calculations and designs for anchoring and chocking systems
- Studies and designs for equipment replacement
- Documentation completion for Classification Societies approvals

## mechanical reliability testing

In collaboration with **TSI** (Técnicas y Servicios de Ingeniería):

- Finite items testing
- Vibration measurement and analysis
- Monitoring systems
- Performance optimitation
- Troubleshooting

**Stern tube bearing installation and fixing design.**



**Vibration and noise testing.**



**More than  
55 years  
experience  
in the marine  
sector**

Pouring Chockfast orange resin to anchor a main engine.

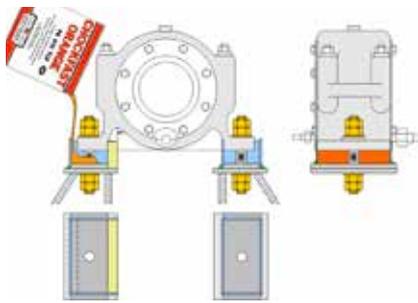


Chockfast orange resin chocks during the setting phase.

# services for fixing equipment

SINTEMAR's technical teams have been involved in **more than 30,000 projects** aboard ships and off-shore platforms.

As a pioneering company in the mounting and chocking of equipment, SINTEMAR is the official supplier of **Chockfast** epoxy resins manufactured by ITW Performance Polymers and of **MecLev** mechanical chocks.



**Bearing support fixing with Chockfast orange.**



**Mounting with mechanical chocks.**

## we are specialists in

- Machinery fixing on-board ships and on off-shore platforms
- Installation of propulsion shafts and steering systems
- Chocking of engines and gearboxes with resin
- Chocking of bearings, auxiliary equipment, structures on platforms ...

## advantages

### Epoxy resins and grouts:

- Vibration behaviour is better than with steel
- Maintains critical alignment
- Reduces installation time
- Resistant to wear and corrosion
- Reduces maintenance and increases reliability



**Chockfast orange resin chocks under main engine.**

# alignment and machinery installation

SINTEMAR is well known as a provider for **alignment services of propulsion shafts and steering systems.**

With teams combining **skills and experience**, SINTEMAR carries out and fully coordinates complicated technical projects in both national and international shipyards.

Our Technical Teams sent on-board have a **multidiscipline skills** with all necessary accuracy tools, allowing them to provide the required level of quality in-situ.

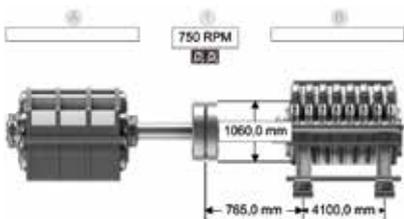
## taylor made services

- ✦ Mounting and alignment of propulsion plants
- ✦ Alignment of cardan shafts
- ✦ Alignment of train of machines
- ✦ Hydraulic tightening of bolts
- ✦ Milling and drilling
- ✦ Thermal expansion analysis (cold – hot)

## advantages of a good alignment:

- ✦ Longer service life of the machinery
- ✦ Lower energy consumption
- ✦ Fewer maintenance requirements
- ✦ Reduces vibrations
- ✦ Less wear on the parts
- ✦ Less downtime
- ✦ Reduces maintenance costs

Sketch showing alignment.



Mounting of propulsion shaft.



Dial gauges.



**Mounting of a retractable propeller in a well.**



**Laser alignment of sterntube bearings.**

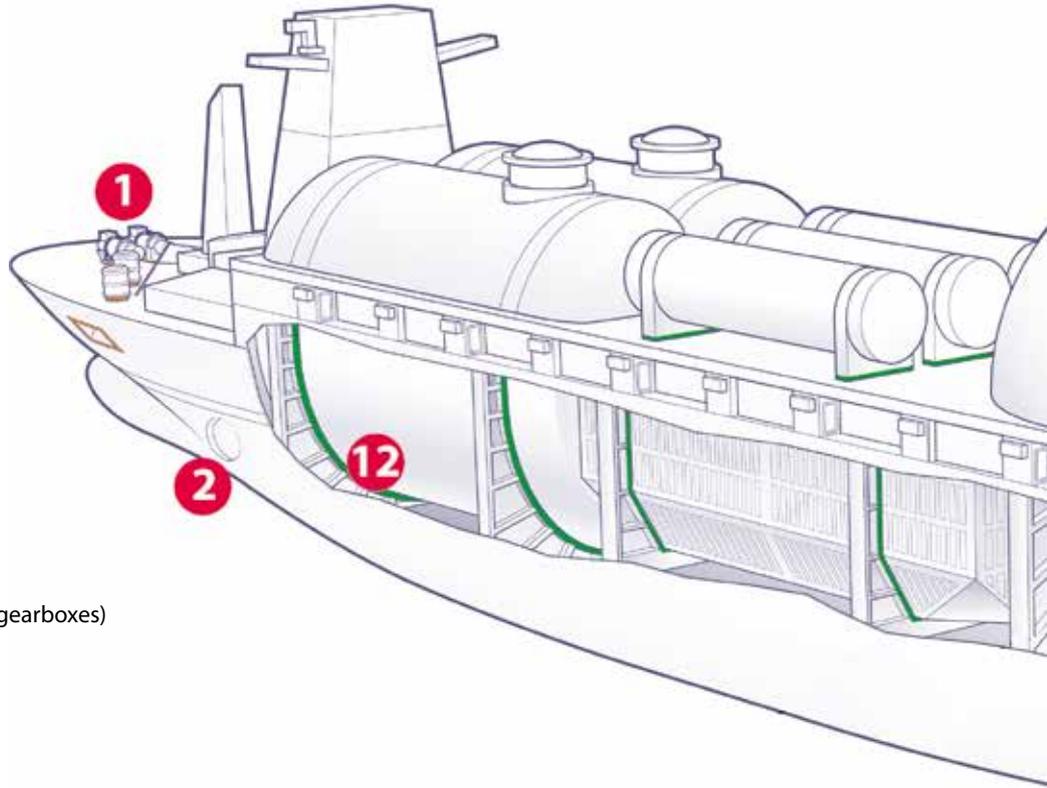
# ship's equipment which we work upon

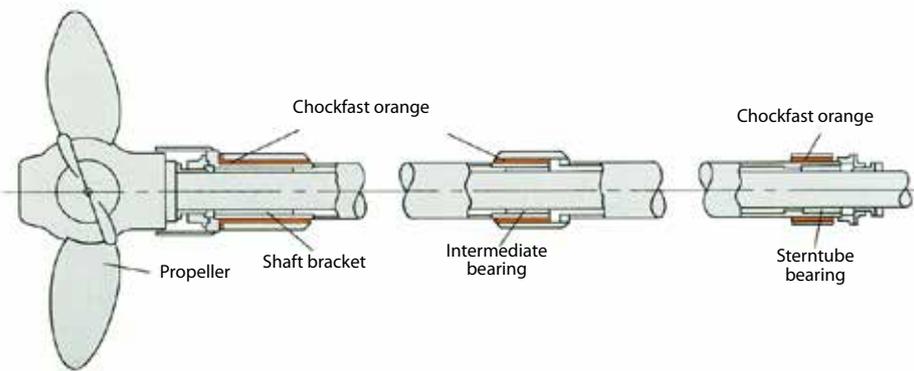
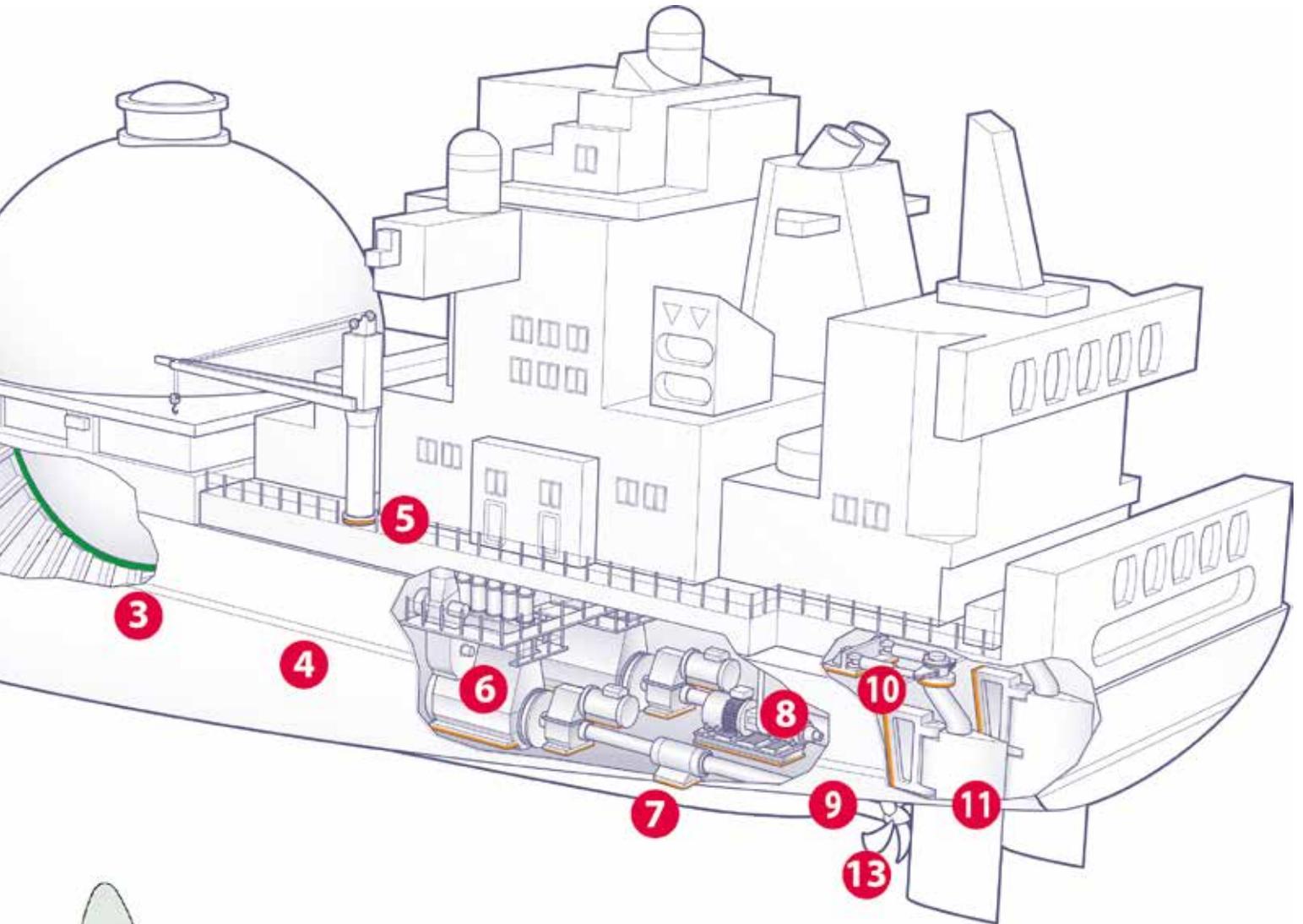
## Applications for resins used for equipment chocking:

1. Winches and capstans
2. Transverse thrusters
3. Load pumps
4. Auxiliary engines and alternators
5. Large bearings
6. Propulsion systems (MM.EE. and gearboxes)
7. Support bearings
8. Engine room pumps
9. Sterntubes and shaft brackets
10. Steering gear systems
11. Rudder assemblies
12. Securing of LPG and LNG tanks.  
(Phillymastic TG-78)

## Application of coatings and cold welding:

4. Auxiliary engines and alternators
6. Main engines and gearboxes
13. Repairing of propeller blades and  
protecting of shaft lines against corrosion  
(Phillyclad 1775/620TS)





# cold welding

The SINTEMAR technical teams are able to assess and advise on many solutions for **maintenance, protection and repairing** by means of **state-of-the-art polymers filled with various metals, ceramics and urethanes**.

The high grade specification and resistance of these resins ensures that an efficient solution is provided against **corrosion, fatigue, breakage and degradation of metallic equipment**.

SINTEMAR is able to offer the widest possible range on the market as they have official representation for DEVCON products from ITW, an internationally known quality brand. Please ask for the **Guide to DEVCON Products**, which includes the full range of products.



## popular applications

- Cylinder heads and crankcases
- Heat exchangers
- Impellers
- Propeller blades
- Engine blocks
- Pump housings

## resins filled with metals

- Steel Putty A/SF
- Aluminium Putty F
- Titanium Putty HP
- Stainless Steel Putty ST
- Bronze Putty BR
- Ceramic Putty WR-2

**Damage area inside fuel tank.  
(Before)**



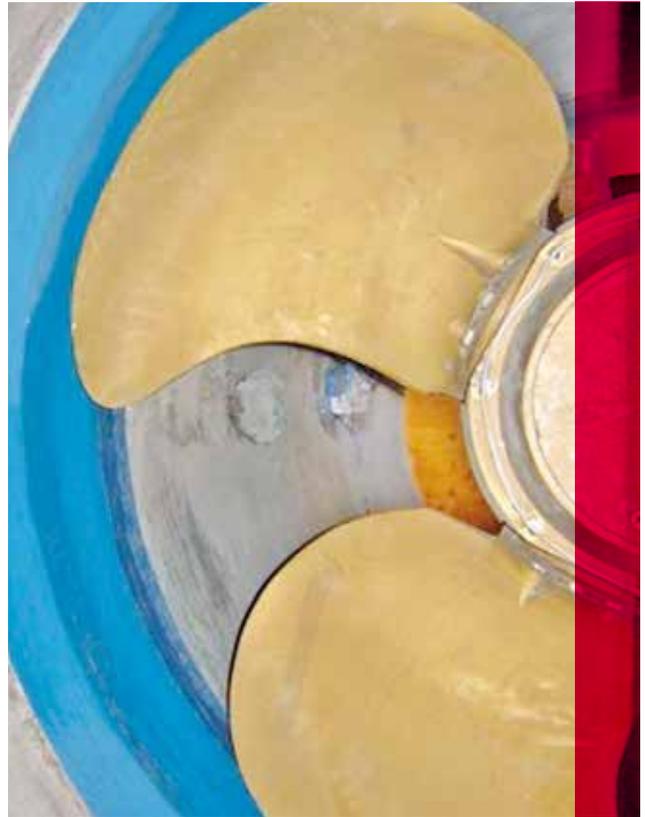
**Devcon Steel Putty A resin and hardener mixing.**



**Finished repair inside the fuel tank.  
(After)**



**Reconstruction and protection within the tunnel for a side-thruster.**



**Repair to the cover of a heat exchanger with Devcon Titanium.**

# coatings and tapes

The range of Coatings and Tapes offered by SINTEMAR include epoxy polymers filled with ceramics and urethanes and a wide range of tapes designed to provide solutions for the usual problems aboard ships and on off-shore platforms such as **corrosion, leaks and damage through impact.**

The SINTEMAR team will carry out a complete assessment, choosing the most appropriate products to ensure a long service life for the equipment.

## efficient solutions for

- ✦ Repairs to steel structures
- ✦ Insulation of high temperatures surfaces
- ✦ Pipe leaks
- ✦ Underwater repairs to metal
- ✦ Protection for submerged pillars

## products

- ✦ Anti-corrosion Petrolatum
- ✦ No-splash tapes
- ✦ Insulation solution for pipes
- ✦ Kit to repair leaking pipes
- ✦ Anti-corrosion coating for high temperatures
- ✦ Hatch cover sealing tapes
- ✦ Ceramic coatings

**Emergency Kit to repair leaking pipes.**



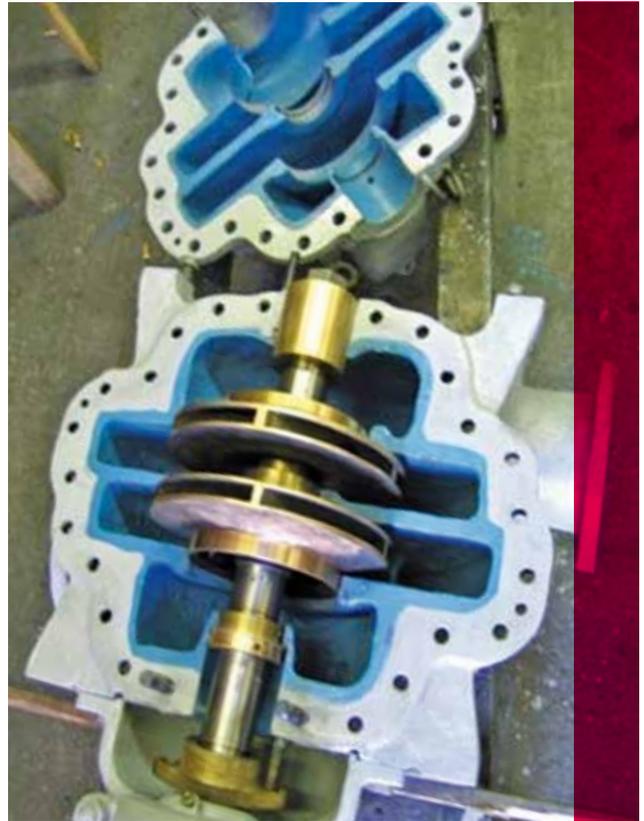
**Petrolated tapes for corrosion protection.**



**TidalWrap anti-corrosion tape for pillars.**



Repair and protection for a pump housing with epoxy filled with ceramics.



No-splash tapes used where there is a risk of fire.

# products and equipment

SINTEMAR represent companies that are world leaders in the field of **specialised solutions for the marine sector** when **installing, protecting, repairing and maintaining** ship board equipment and off-shore installations.

We also offer **water lubricated bearings** from well known brands such as Feroform and Countrose together with an extensive range of **spares for hatchcovers** such as guide acting cleats, rubber packings and other fittings through our sister company ASCARGO ([www.ascargo.com](http://www.ascargo.com)).

## chockfast and meclev

### Resins and chocks for the installation of:

- Propulsion plants
- Main engines and gearboxes
- eMotors and alternators
- Pumps
- Sterntube bearings and auxiliary equipment
- Structures on platforms

**Chockfast orange two component resins shown in 6.8 kg. and 3.4 kg. units.**



**MecLev mechanical levelling chocks 10 sizes from 55 to 240 mm. diameter.**



**Chockfast MecLev®**

## devcon, innovative manufacturing and dewal

### Resins, coatings and tapes for:

- Repairs for metal and rubber materials
- Protection against chemical attack
- Protection from corrosion
- Protection from wear
- Prevention of cracks
- Prevention of leaks
- Sealing

### NoSpray tape from Innovative Manufacturing.



### Heat resistant ExoWrap tape for insulating high temperature pipes.



## feroform, countrose and ascargo

### Bearings and spares for hatchcovers:

- Bearings for propulsion shafts
- Weatherdeck equipment available in a wide range of materials
- Spares for hatchcovers of all makes
- Rubber seals, cleats and others mechanical fittings...

### Rubber lined Countrose bearings with excellent wear resistance.



### Feroform composite materials for shaft lines and steering systems.



# Sintemar technical team

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SINTEMAR has **more than 55 years** experience in the field of representing manufacturers of technical products within the marine field.

They have qualified teams of engineers specialised in this field. With the objective of providing value to their clients, SINTEMAR wish to join with them in their **international expansion** and offer **a local service at a global level through their network of offices in Spain, Mexico, Colombia, Bolivia and Venezuela.**

As an example of their global coverage SINTEMAR has recently been involved in projects in the USA, Australia, Argentina, Costa Rica, Guatemala, South Africa, Angola, Morocco and Algeria among others.

SINTEMAR bring solutions adapted to the needs of their clients with highly qualified teams of engineers and internationally recognised products due to their **quality and reliability.**

experience  
reliability and  
global services

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