



ROSE

A Phoenix Mecano Company



SWB

Enclosures for maritime applications

by Rose Systemtechnik

Seawater-resistant enclosures for maritime applications

For maritime applications in shipbuilding, harbours and offshore installations, protective enclosures must not only be leak-proof but also corrosion-resistant. They must be able to withstand the sometimes aggressive components in the water, such as salt, chemicals and oils, as well as enormous amounts of sunlight. Applications in water sports facilities or sewage treatment plants also place these demands on protective housings. This is why ROSE Systemtechnik makes its enclosures permanently resistant to seawater:

- + UV radiation
- + Ingress of water
- + Salt
- + Acids
- + Chemicals
- + Oils

Stainless steel enclosures, which meet all the criteria due to their material properties alone, or aluminium enclosures, which we make seawater-resistant through passivation and coating, are suitable as seawater-resistant enclosures.

For potentially explosive areas, we also develop and manufacture Ex and Ex d enclosures in a seawater-resistant version from these materials.

Our enclosure solutions comply with protection class IP 66 as standard. In order to achieve higher degrees of protection, we use appropriate seals.

Stainless steel enclosure V4A

The material V4A, i.e. CrNiMo steel, is suitable for seawater-resistant stainless steel enclosures. It is alloyed with 2 % molybdenum (Mo).



V4A is a German standard that stands for "Versuchsstahl 4 Austenit". In the international standard, this is often referred to as "AISI 316" or "UNS S31600".

V4A stainless steel is particularly resistant to corrosion and is often used in environments where high resistance to chemical attack, acids or salt water is required. This means that no additional treatment is required for the robust stainless steel enclosure.

Seawater-resistant aluminium enclosures

To make aluminium enclosures corrosion-resistant, they must be passivated. This means that a specific oxide layer is created by immersion in chromium (III) oxide, which separates the metal from the environment and thus prevents corrosion. They then receive a powder coating or a primer and top coat.

SWB, SGB or SBGL

ROSE Systemtechnik offers seawater-resistant aluminium enclosures in three different versions:

- + SWB
Seawater resistant with a powder coating
- + SGB
Seawater-resistant with a primer
- + SBGL
Seawater-resistant with a primer and top coat



Processing

In order to be able to treat the aluminium enclosures to a high quality, they are first cleaned and degreased. The clean enclosures are then passivated in an automatic throughput system at ROSE Systemtechnik. Subsequent coating with powder, a primer or primer with top coat is necessary in order to permanently maintain the passivation and make the enclosure even more resistant. The colour of the powder coating or wet paint is chosen according to customer requirements. The outer joints are also coated. The threads of screw connections are greased for protection. The form in which an enclosure is finished depends on the desired seawater-resistant version (SWB, SGB or SBGL) or the area of application. Our global development service is available to advise you on this.

Seals and assembly components

- > PU foam seal
- > Neoprene seal
- > Silicone round cord seal
- > Cover screws, flange screws and metal cable glands with greased thread
- > Solutions from standard enclosures and customised enclosure solutions according to your specifications
- > Seawater-resistant treated earthing points
- > Fully coated external joints
- > Non-coated internal joints

What approvals do we have to offer?

- > ATEX according to European 2014 / 34 / EU and EN 60079 standards
- > IEC Ex according to international IEC 60079-EAC/TRCU (Russia, Belarus and Kazakhstan)
- > UL Ex approval for the US market NEC505 (Ex e – increased safety only)
- > INMETRO (Brazil), PESO for India, IA (Exprolabs) South Africa
- > Marine Certifications
- > ISO 9001
- > Quality assured as an Ex production site for all ROSE and Phoenix Mecano companies
- > Welding approval
- > UKCA Ex
- > UL 508 A

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Your contact in the US, Canada, and Mexico:

Phoenix Mecano Inc.

7330 Executive Way
Frederick, MD 21704

✉ PMinfo@pm-usa.com

☎ +1 301-696-9800

🌐 www.phoenix-mecano.com



ROSE Systemtechnik GmbH
Erbeweg 13 – 15
D-32457 Porta Westfalica

✉ enclosuresystems@rose-pw.de
🌐 www.rose-systemtechnik.com
☎ +49 571 5041 0



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