

Industry: Marine

End User: General Maritime Directorate of Colombia (DIMAR), Vessel *ARC Providencia*

Application: Watertight Doors & Hatches

Thordon Grade: ThorPlas-Blue

Date of Original Installation: September 2017

About:

General Maritime Directorate of Colombia (DIMAR) operates as the Colombian maritime authority. It provides maritime security, protection of human life in the sea, promotion of maritime activities, and scientific and technological development of the nation. It was founded in 1971 and is based in Bogota, Colombia.

Challenge:

DIMAR was experiencing bearing seizures in the watertight doors, hatches, windows, and portholes on the 1981-built Research Survey Vessel, *ARC Providencia*. These watertight accessories are traditionally fitted with greased bronze bearings and unfortunately, on this vessel, they were not operating smoothly due to bearing seizures in the sliding parts. There are 11 watertight doors, 10 watertight hatches and 88 portholes and windows on the *ARC Providencia*.

...Solution on page 2



Watertight testing.



Research Survey Vessel, *ARC Providencia*

Solution:

DIMAR contacted Thordon's authorized distributor in Colombia, Delta Marine and River Services (DMARs) for a solution. DMARs knew that Thordon's ThorPlas-Blue bearings would be the ideal replacement for greased bronze as it operates completely grease-free. Maintenance time would greatly decrease as the crew would no longer need to grease all the bearings and the watertight accessories would operate with greater reliability.

DMARs has had commercial relations with Yinzheng Xinyang Shipbuilding Co., a door and hatch manufacturer since 2014, because of another project involving watertight doors. Instead of retrofitting ThorPlas-Blue into the existing watertight accessories, DMARs worked directly with the manufacturer to get Thordon's material installed in the new watertight accessories being completed for the ARC *Providencia*. Yinzheng's factory is located in China, so DMARs collaborated with Thordon's local distributor, CY Engineering, to get Thordon specified and to calculate the dimensions for the new ThorPlas-Blue bearings.

Result:

In September 2017, representatives from DMARs arrived at the manufacturing facility in China to oversee the installation of ThorPlas-Blue into the new watertight accessories for the ARC *Providencia*. The manufacturer was not only happy to eliminate the process of greasing the bearings on their watertight accessories, but was quite impressed with the ease of machining and how clean ThorPlas-Blue was. Yinzheng Xinyang Shipbuilding Co. has suggested ThorPlas-Blue to their other customers who require watertight accessories since it has produced a better final product as well as improved their manufacturing experience.

To date, DIMAR has expressed complete satisfaction with the watertight accessories installed on board the ARC *Providencia*. All the watertight accessories remain fully operational with no issues.



Closing device with ThorPlas-Blue bearing installed