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TALLERES INDUSTRIALES, S.A.

24/7 SHIP REPAIRS AND MARINE SOLUTIONS

MAGAZINE



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LIFEBOAT SERVICES



Tisa Lifeboats & LA Services, S.A. is a subsidiary company of Talleres Industriales S.A., dedicated to the inspection of lifeboats & safety devices, and load testing of ship cranes, davits and lifting apparatuses. For 14 years, Tisa Lifeboats have been performing annual and quinquennial inspections / certifications of free-fall Lifeboats, rescue boats, davits and winches, (all tested according to the SOLAS Reg. III/20-11 and IMO Circular MSC.1/Circ.1206 of May 2006).

Most of the inspections are done while at anchorage in Cristobal and Balboa, in between Panama Canal transit, as well as in all ports in the Panama Canal area during cargo operations. Due to our strategic location, our service engineers can travel at short notice to any country in Central America, South America, and the Caribbean. In Colombia, we have a field service station that can provide prompt assistance to any Caribbean or Pacific terminal in a cost-effective manner. Tisa Lifeboats guarantees the highest level of professionalism, ethics, efficiency, and reliability during the visits and services. Feel free to contact us 24/7/365.



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EDITORIAL



LOOKING BACK AT 2020 AND WELCOMING 2021

Two-thousand and twenty was a year like no other in our lifetime. A year in which we were forced to speed up the changes that were already in the pipeline. A year in which we feel very grateful for having good health, while feeling empathy for the many families that lost a loved one due to the pandemic.

Talleres' business model and leadership were put to test in an exponential way. An "emergency room for ships" with all the restrictions imposed by a pandemic, would not work properly without a competent and committed labor force.

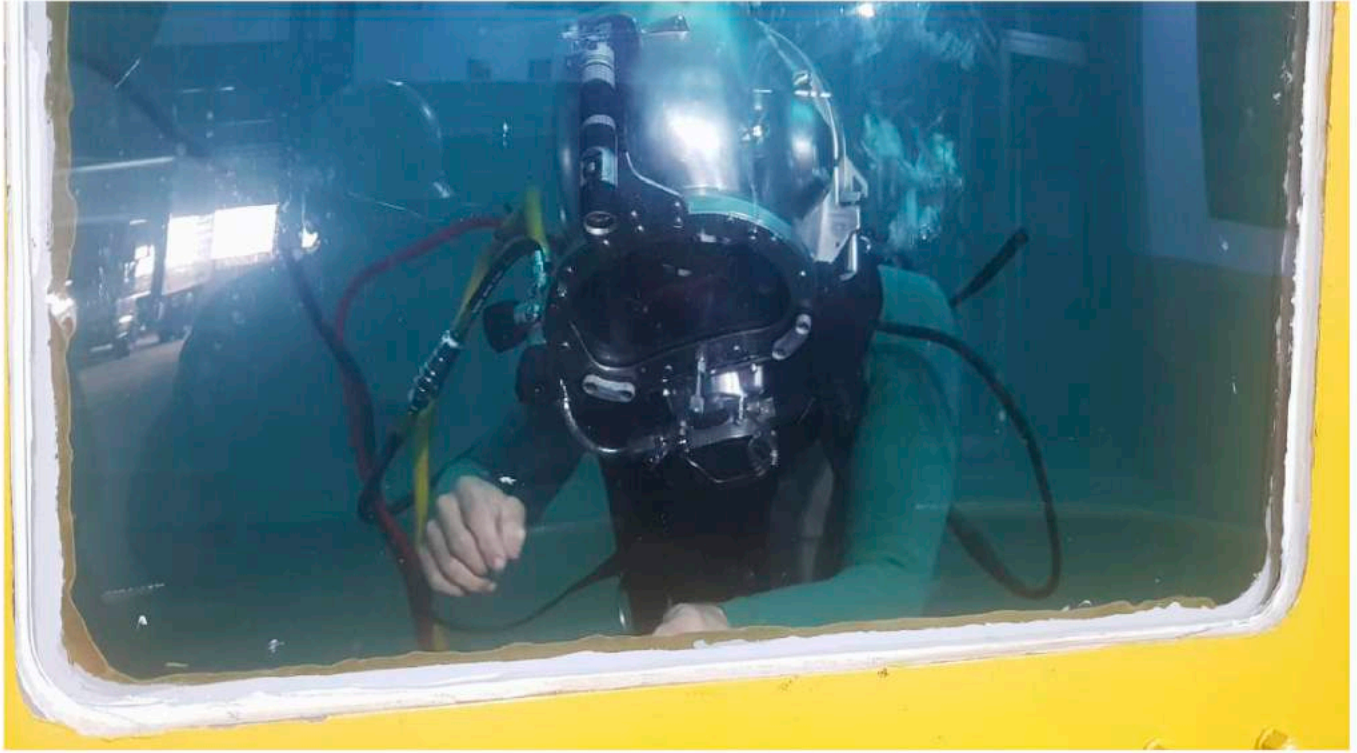
Two-thousand and twenty was a year in which all our management staff shined with solid commitment, sacrifice, and principles, inspiring the rest of the team. Within our company, we have never experienced so much empathy and synergy between all divisions. We completed amazing projects this year, proving to ourselves and the world that in Panama there are no limits to what we can accomplish together.

Two-thousand and twenty-one will be more challenging, as we learn to weather the consequences of the pandemic in our economies. The maritime industry remains up and running, so we have a big responsibility towards our society and country. We will keep investing in new technologies and divisions to keep fueling the economy and shall take care of our most important asset – our people.

Thanks to all Talleres team for their professionalism, effort, and sacrifice during this unprecedented year.

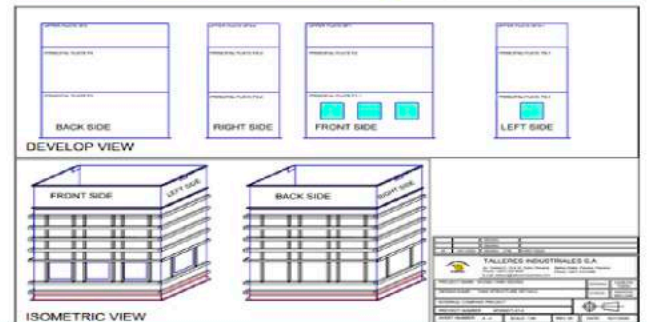
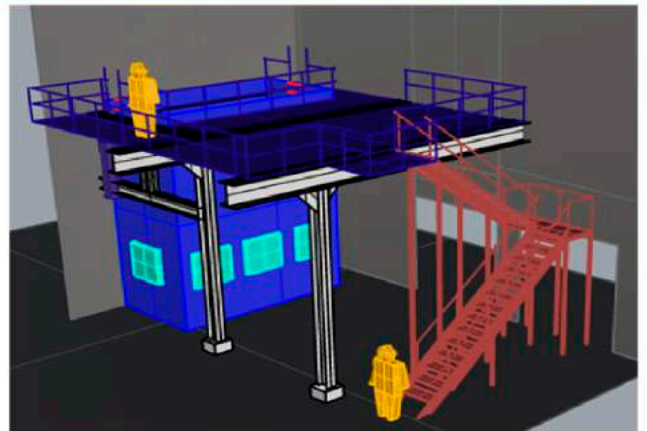
Lino Arosemena.

NEW STATE OF THE ART DIVE TANK



The commercial diving business is constantly improving. Therefore, training and certification are two of the most important requirements to break into a market. Talleres Industriales, S.A. has built a Diving Training Tank in our facilities in Cristobal for training and certification purposes. This tank is the biggest in the area and will allow our team to continue providing the highest standards.

The design of the diving tank was based on a ship's structure. Our naval architects determined that right angles with vertical stiffeners would be the best option, similar to a submarine structure. However,

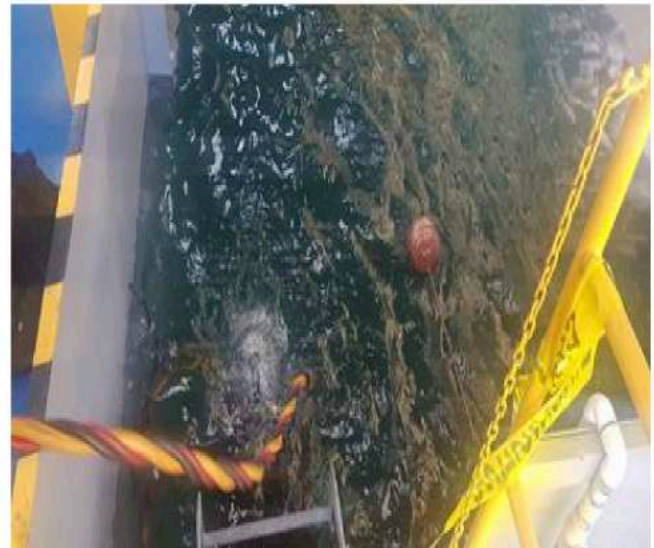




with the force vector coming from the inside, this option was analyzed and optimized several times until a balance between resistance, cost, and weight was achieved.

The windows were the final critical factor in the structural design. The decision was to install four 0.81m² windows: three on the front side and one on the lateral side. This window configuration provides the supervisor and surveyor a full view of the divers.

The construction process followed the blueprint design, and the established stages were completed by Panamanian



Class-approved welders with years of experience in ship repair and ship building.





We work proactively in strengthening our strategic alliances with our international business partners and diving schools. With our new diving tank, our partners will also be able to train their commercial divers following the Wet Welding Standards, as requested by the most important Class Societies.

With the fabrication of this new diving training tank, Talleres Industriales, S.A. demonstrates once more that investing in training for our people is essential to deliver the best quality to our clients.



VISIT OUR NEW WEBSITE
www.talleresindustriales.com

COMING SOON IN 2021

TISA NEW DRONE DIVISION



Talleres has invested in drones to perform regular inspections of structural plates of ships tanks, to detect corrosion and cracks, and to measure plating thickness. Even though this technology is not new, 2021 will be a key year to implement such solutions in an exponential way.

Remote surveys are now becoming more common than ever. Drones offer a safe and more efficient way to carry out inspections onboard ships. Our latest acquisition, the MultigaUGE 6500 Drone with Ultrasonic Thickness Gauge has been designed as a completely safe solution for measuring high level corrosion without scaffolding or rope access.



SINCE

2018 PROUD MEMBER

**SCAFFOLD & ACCESS
INDUSTRY ASSOCIATION**
WWW.SAIAONLINE.ORG

TALLERES INDUSTRIALES S.A.

TALLERES PROUD MEMBER OF THE SCAFFOLD & ACCESS INDUSTRY ASSOCIATION

Talleres' daily routine involves working at height on vessels' internal and external structures. Most projects in ship repair and maintenance involve scaffolding. Crane repairs, stenciling of vessels, cargo and ballast tanks repairs, top side hull shell plating repairs, just to mention a few. Membership in SAIA provides Talleres with an opportunity of networking and training in the scaffolding industry. For Talleres' it is important to guarantee a safe workplace for our employees and customers.

We must comply with our stakeholders' requirements and therefore are constantly working on keeping our crew professionally trained to perform the jobs safely and successfully. We share the mission of the Association which is to ensure those who make, install, depend on, or govern the use of scaffold and access equipment pursue the highest standards of safety, craftsmanship, and ethics.

WHO IS WHO IN OUR TEAM



Amir Avila
 Lifeboat and NDT Division Manager
 Project Manager onboard
 Expertise: lifeboat servicing, crane inspection, load testing, mechanical



Kassem O. Dabaje
 Hullwiper Division Manager
 Project Manager onboard
 Expertise: ROV, electrical, rewinding, mechanical



Rodrigo Lara
 Diving Supervisor
 Class-approved wet welder
 Expertise: underwater inspection, hull cleaning, rudder and propeller repairs, wet welding



Salomón Moreno V.
 Diving Supervisor
 Class-approved wet welder
 Expertise: underwater inspection, hull cleaning, rudder and propeller repairs, wet welding

AMAZING JOBS – TURNKEY SOLUTIONS

ASSEMBLY AND DELIVERY OF THE BIGGEST MINING TRUCKS IN THE WORLD



Cobre Panama is one of the largest new copper mines opened globally in the past decade. Located in the Colon Province, 120km west of Panama City, the production complex includes two open pits, processing plant, two 150 megawatts power stations and a terminal port.

Talleres has been assisting Cobre Panama directly and through their main contractors and OEMs during the last years. For the assembly of the dump truck bodies of the Liebherr T 284 mining trucks, Talleres was contracted by the Colombian branch of Austin Engineering Limited. Austin, whose HQ is in Australia, has more than 50 years of experience in engineering and manufacturing equipment for the mining industry, and trusted Talleres to work together in this project.



The Liebherr T 284 is one of the biggest and strongest mining trucks in the world. It has a maximum operating weight of 600 tons and a payload capacity of 363 tons. The 49 tons truck body came in 3 sections and had to be assembled, fitted, welded and tested by Talleres.



We provided qualified MIG welders, fitters, and riggers, as well as all the necessary equipment to complete the assembly of 26 trucks, on time and with the highest quality standard required for this industry.

Upon completing the assembly, Talleres' subsidiary company, Canal Barges & Cranes, supplied the biggest deck barge available in Panama, the **Rafael E. Arosemena III**, to deliver the trucks from Cristobal to Punta Rincón Terminal.

Talleres Group is always ready to provide turnkey solutions to contractors, OEMs, and final customers.



SEA WARS

COMBATting BIOFOULING AT BALBOA ANCHORAGE



Eco-friendly, safe and efficient hull cleaning services
at the Panama Canal.



TALLERES INDUSTRIALES
24/7 Ship Repairs

PERMANENT REPAIRS ON JIB BOOM CRANES AT CRISTOBAL ANCHORAGE



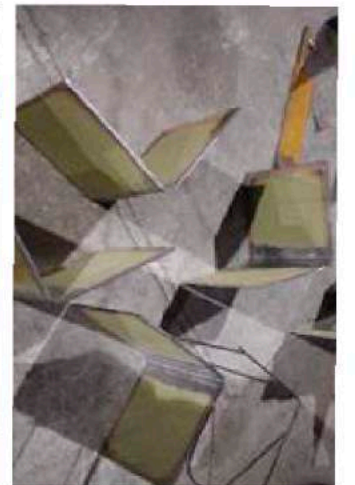
During the country shutdown in August 2020, we were contacted by a bulk carrier ship manager in Hong Kong to perform a load test on four 30.5 tons jib boom cranes at Balboa Anchorage. Additionally, the superintendent requested a certified crane engineer from our company to perform a close-up inspection using a certified man basket to determine possible damages that might have occurred during their previous contract. The job had to be performed at the Cristobal inner anchorage before the ship's next cargo commitment.

Upon performing the jib boom crane close-up inspection, along with an ABS surveyor, we found that Cranes #1, #3 and #4 had small deformations on several locations on the boom. A total of 5 inserts in these three different cranes had to be performed simultaneously and urgently, to avoid the loss of the ship's next cargo contract.





Once the repair plan was approved by Class, the owners instructed our team to mobilize the equipment onboard at anchorage. Repairs had to be done 24/7 in the middle of the pandemic lockdown and under unfavorable weather conditions: rain and swells. Scaffolding was installed by different teams to start setting up the equipment to repair each crane.



The damaged sections were reinforced with external brackets to avoid deformation and misalignment during the cutting. Templates were taken from the plating and internal structures to be renewed. All new plating was fabricated and shaped in our workshop.



The Class surveyor visited our workshop and witnessed the NDT of the new plates after cold bending with satisfactory results. The backing plates were fitted and welded before the installation of the new plate inserts. All edges were beveled, and the welding process was done under close inspection and NDT testing on each pass. After completion, the external reinforcements were removed, and load tests were performed with water bags and a certified dynamometer. The job was done as per Owner and Class satisfaction. Mission accomplished!

24/7
Ship repairs



ON OUR WAY TO ISO 45001 CERTIFICATION



— SAFETY ALWAYS COMES FIRST —



TALLERES INDUSTRIALES S.A.

FOLLOW US!

