

## FENDER SYSTEMS – A HOLISTIC APPROACH.

ShibataFenderTeam's enhanced focus on in-house design and manufacturing provides customized fender solutions to protect people, ships, and port infrastructure. With more than 50 years' experience in the fender industry, the SFT Group has gained the reputation as one of the most dependable partners in the international port, harbor and waterways market and the corresponding engineering community.

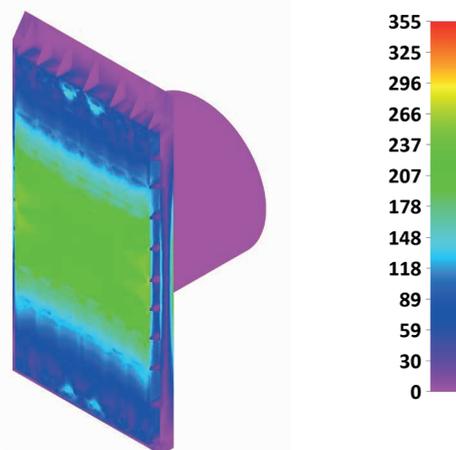
A customized design of the complete fender system is crucial for its successful operation. Therefore, a detailed and extensive design input by the fender manufacturer should be implemented at an early project stage. This is one of the main strengths of ShibataFenderTeam: In addition to the focus on customized system designs, SFT supports engineering companies, operators, and other stakeholders early on in the project. Clients can already rely on professional expertise and advice in the planning phase of a project. The 5 SFT offices, local agents, and partners that provide consulting are closely connected with their partners and internal resources – enabling them to support projects globally while ensuring that local standards and regulations are followed and usually exceeded.

### CUSTOMIZED FENDER DESIGN.

The engineering of a fender system is a complex process and maintaining a close cooperation between designer and engineer is crucial.

Since the rubber units are mostly standardized in the industry, the real engineering and design challenge lies in the steel panels, chains and the corresponding anchorage. The rubber unit is a central component of the system but its performance and reliability decisively depends on the overall design of the system. Over time, SFT has inspected numerous systems and found signs of premature failures due to incorrect designs even in systems of reputable fender manufacturers. Simple issues like incorrect chain angles or the location of the rubber unit on the steel panel and substructure could lead to excessive tension in the rubber unit, resulting in drooping and premature failure of the fender system as a whole.

Inexperienced clients and fender suppliers often point fingers at the rubber unit. In a lot of cases however, it is not the rubber unit that causes the problem but rather the system design that led to failure of the rubber unit. When fenders fail or not working properly due to inferior quality or incorrect designs, the operator incurs costs in the form of repairs, downtime, or even accidents which should not be underestimated.



Each fender type has specific characteristics, and it depends on the project and the conditions on site which fender type is used for a particular project. Each project has diverse requirements that are all equally important when designing a new fender system. The interaction of the most diverse conditions, ranging from ship size, type of substructure, berthing process, to weather conditions at the port, need to be taken into account to design a customized fender system. SFT's engineers have a long-proven track record in the marine construction industry. All SFT products are designed, manufactured, and tested in accordance with PIANC 2002, BS 6349, EAU 2012, AISC, EC 3, DIN 18800, BS 5950, and other national standards and code.

## **IN-HOUSE PRODUCTION.**

Providing safety critical equipment, SFT has a strong focus on producing all major components in-house, ensuring highest quality and reliability at their own production facilities in Europe and Asia.

The SFT Group operates rubber fender manufacturing and mixing facilities in Malaysia and Japan, which have an extensive proven track record of producing high quality rubber fendering products for decades. Both facilities have state-of-the-art test equipment including a full-size combined shear and compression test press. In addition to the performance verification testing, their certified laboratories check constantly rubber batches used for the production of their high-quality fenders in order to verify compliance with material requirements for each single order.

In 2018, the SFT Group put an advanced new rubber compound mixing and fender production facility in Malaysia into operation. With the latest-generation compound mixers and associated technology, the new factory ensures even more quality and control over the entire production process. One of the first orders for our new factory in Malaysia has already been the most comprehensive one for the company to date: 199 CSS 1700 Cell Fenders with 6100 mm x 3370 mm steel panels for the new Tuas mega port in the West Region of Singapore, scheduled for delivery and installation in 2021.

SFT has a key advantage over other fender manufacturers. They own steel, composite and foam fender production facilities in Germany, which allows them to offer excellent high quality products, produced with German precision and perfection – Fender Systems “Made in Germany”. Since the early nineties, their steel fabrication shop has gained expertise in steel fabrication, corrosion protection, and HD-PE Sliding Fender Extrusion.



## PROVEN IN PRACTISE.

SFT's broad experience and company set up provides the flexibility and financial strength to implement any large-scale projects as well as small projects with demanding specifications.



In 2016, SFT was awarded with the supply of fender systems for the entire new port of Turkmenistan's Turkmenbashi International Seaport, on the East Coast of the Caspian Sea. Turkmenbashi International Seaport is now the largest Seaport in Turkmenistan. Among the new ports features are a shipyard as well as ferry, container, and dry bulk terminal. Besides other fenders and bollards, more than 300 Cone Fenders were delivered for the container terminal, ship yard, the ferry terminal and general cargo terminal. [More information.](#)

In 2018, SFT delivered fender systems for the specialized car terminal in Lazaro Cardenas, Michoacan, the first of its kind in Mexico. The project included the installation of 18 sets of SPC Cone Fenders specifically designed for the berthing of car carriers. [More information.](#)

All these large-scale orders were delivered in time and with full 3rd party verified and tested components. Besides these examples of large-scale orders, SFT has established major expertise in the engineering, manufacturing, testing, and delivery of any type of customized projects.



Since 2011, SFT has been continuously supplying specialized fender systems for various berths at the Port of Dover, UK, for the ongoing rehabilitation and upgrading program of Dover Harbor Board. As part of this long-term program, SFT supplied the first custom-built fender systems for berth 7 in September 2015. The stern fender system consists of four large Parallel Motion Fenders, working together and absorbing the berthing energy during the berthing process and provide guidance for the ferry on the linkspan. In addition to the stern fenders, SFT also supplied the side fenders for this and other berths at the Port of Dover, UK. The close and direct cooperation with the client from the pre-tender phase all the way to the installation and first trial berthing's is of outmost importance for such highly customized fender systems. [More information.](#)



## SERVICES.

SFT's support does not end with the successful delivery of the fenders. They are committed to provide support and assistance also throughout the service life of the fender system, backed up by their unparalleled product liability insurance, covering all delivered fender systems. With their own installation and maintenance team based in Germany, they can offer global assistance during the installation and/or maintenance works, even virtual if in person meetings are impractical. A site assessment including a customized maintenance plan to assess the condition of the marine furniture is one of the many services offered to their customers.

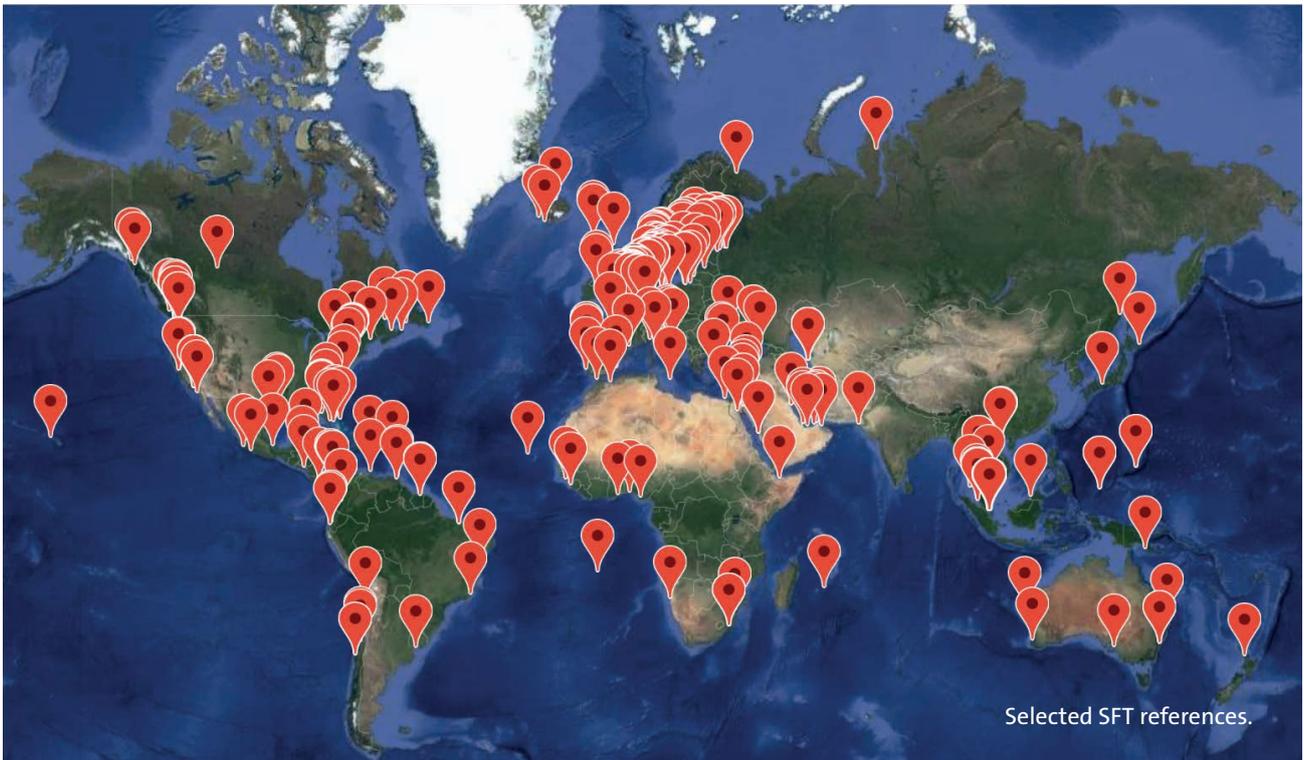
## READY FOR THE NEXT DECADE.

Overall, the SFT Group with its unmatched long-term track record is the most experienced fender manufacturer in the market with more than 50 years of experience in the manufacturing and supply of rubber fenders and decades of combined experience in fender system design within their sales and engineering group. The opening of their fifth branch office based in the Netherlands further strengthened their global presence and local approach. ShibataFenderTeam looks forward to the next exciting decade of fender challenges around the globe.

# SHIBATA**FENDER**TEAM

▶ on the safe side

**WORLDWIDE.**



For more information, visit our website at  
[www.shibata-fender.team](http://www.shibata-fender.team)

or our LinkedIn profile at  
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