

**FULL REPORT**

**2024 TECHNOLOGY  
REPORT FOR  
MARINE SAFETY  
TEXTILES**



# Table of Contents

**Introduction // 2**

**Part 1: International Safety Certifications // 3-4**

**Part 2: Responsible Technologies // 5-6**

**Part 3: Advanced Welding Capabilities // 7-8**

**Part 4: Increased Fabric Resistance Capabilities // 9-10**

**Conclusion // 11**

**About Erez // 12**

# Introduction

**Marine safety is a unique industry.** Marine safety products face numerous standards and requirements ranging from color specifications to international safety certifications. Yet the end-user applications are as diverse as the types of seafarers in the ocean - from military to commercial marine to civilian leisure boats are required to possess marine safety devices before embarking on open waters. Because of this, the marine safety industry faces very diverse business challenges that must be resolved in accordance with very specific regulatory challenges. And of course, in the end, when a safety device is needed, it has to work exactly as anticipated to save lives, no matter what the end user context.

As a manufacturer of marine safety products, staying on top of the latest developments in coated textiles ensures you're in the best position to succeed in this unique environment by putting out the highest quality product possible. Advances in polymer blending and material coating allow for stronger fabrics better able to meet extreme maritime conditions. These end customer advantages are combined with new technology that allows for recycling scrap and improved ability to weld materials together, improving both the sustainability and the accuracy of the manufacturing process.

Among the important technologies and advancements in the coated technical textile industry that affect you and your customers, these five stand out for improving end products and overall manufacturing processes.

[REQUEST AN EXPERT TEXTILE REVIEW >>](#)

# 01

# International Safety Certifications



The world is increasing global, particularly when it comes to B2B trade. Marine safety products are no exception. Manufacturers must be able to sell their textile products in multiple countries to be profitable, not have to create a different product for each different market. Having a single set of international safety certifications makes this possible.

In addition to allowing larger manufactures economies of scale, having international standards gives smaller manufacturers looking to make innovative products the ability to thrive and instantly reach multiple markets. If they start out with the right textile suppliers that provide products meeting the necessary certifications, they'll be able to export their products to customers around the world.



## PFDs - ISO 12402

International Organization of Standardization (ISO) standards are international standards prepared by a worldwide federation of national standards bodies and then adopted by the ISO. The specifications for PFDs were prepared by the European Committee of Standardization's Technical Committee. These standards are recognized by most countries and products meeting the standards will be legal to use.

Standards for PFDs specifically cover the safety requirements on issues of buoyancy, performance, materials, and accessories. They also provide test methods that must be employed to ensure products meet these requirements.



## PFDs – LSA SOLAS

The International Convention for the Safety of Life at Sea (SOLAS) is an agreement between 162 nations that represent 99 percent of commercial marine vessels setting minimum safety standards for construction, equipment, and operation. These standards provide guidance on the minimum safety requirements of a number of different marine safety devices including PFDs.

Survival suits protect the wearer from hypothermia that have many of similar characteristics to lifejackets in providing buoyancy and the ability to be spotted easily. The standards further require that the suits are tested periodically to ensure they maintain their safety features and that crew can easily access and wear the suits.



## PFDs - UL 1191

UL is a private company that works with manufacturers to help them demonstrate the safety and quality of their products as well as measure sustainability, transparency, and performance. They set standards for PFDs that are based off the U.S. Coast Guard regulations and cover the construction, performance, and marking of fabric used in PFDs.



## Life Rafts - MSC 70/23

The International Maritime Organization is a UN specialized agency responsible for the safety and security of international maritime shipping. Their Marine Safety Commission (MSC) issues resolutions aimed to provide up to date regulations for the safety of all international maritime vessels.

# 02

## Responsible Technologies



For life raft manufacturing, the coated textile choices have traditionally been limited to TPU or rubber based coatings for manufacturers looking to produce a quality product. However, new ER (PVC alloy) coatings are raising the bar to compete with the highest quality, TPU coated textiles for life rafts. In addition to producing a high quality product, ER coatings offer the additional advantage of the uniquely strong PVC alloy, which extends the lifespan of the finished product.

PVC and PVC alloy coated fabrics may have gotten a bad name in the past when it comes to their environmental impact. However, new technology is quickly progressing that allows us to create more responsible, longer lasting PVC and PVC alloy coated fabrics. Breakthrough technology for polymer plasticizers used in PVC alloy coatings are able to withstand extreme external and chemical conditions and lengthen the life of the coated textile beyond the capabilities of monomer plasticizers. This potential for longer textile use reduces the need for excess textile creation and also leads to satisfied end consumers who feel they received a high quality marine safety product.

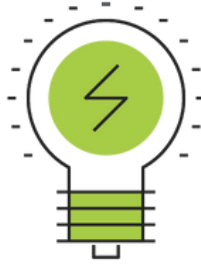
When the life of the textile is eventually over, new technology allows many types of PVC and TPU coated textiles to be recycled. Millions of meters/yards of technical fabric are produced each year for a number of industries. The potential to send the scrap from the industrial process to an external processor to be repurposed leads to a significant environmental and business advantage. The coated textile scraps can be subjected to physical and chemical reconditioning processes allowing technical fabrics to be recycled for future use in different products.

With recycling processes in place for scrap material, businesses can either sell the scrap and recover some of the cost. Further, being able to cut down on consumption of materials allows businesses to improve their sustainability and cut down the long term impacts of their processes.



# 03

## Advanced Welding Capabilities



Today, manufacturers don't want their design capabilities limited by the type of fabric or the type of coating. The choice of coating has the potential to either expand or limit product design, lifespan, and recycling capabilities. For example, rubber-coated textiles can only be bonded with glue. Modern PVC- and TPU-coated textiles give manufacturers the option to use glue if needed, as well as welding methods such as hot air, high frequency, or ultrasonic. The welding process is faster than glueing and can be performed with machines, cutting down on requirements for manual labor.

Another common concern related to textile bonding is the health impact of the glue used in the glueing process. Not only is welding performed by machine, keeping the human operator away from potential problems, it does not require the use of a chemical solvent that leads to an unknown health risk.



For the most part, the strength of the connection that can be obtained between two or more pieces of coated fabric using a welding process is higher than the strength of the connection using an adhesive. When seams start to wear, problems generally occur on areas that were connected using an adhesive before those that were connected with advanced welding methods.

When creating specifications for the coated textile for a particular product, one important determination is how the fabric will be connected and how to maximize both the strength of the connection and the ease of that step in the assembly line. With the many advantages that different kinds of welding bring to the manufacturing process, it makes sense to utilize textiles that allow for this type of connection.



# 04

## Increased Fabric Resistance Capabilities



Manufacturers of marine safety products are always looking for the highest quality when buying coated textiles for marine applications because the marine environment is often subjected to extreme weather and chemical conditions that can cause rapid deterioration. Erez works to innovate and create new technologies that combine various polymer blends and materials, from Aromatic and Aliphatic TPU to PVC/Alloy, to allow us to create products that meet customer needs.

Customers often come to us with specific requirements on their product. These are either set by national or international regulations or are the requirements necessary for top functionality of the given product application. In marine safety, manufacturers are thinking both short and long term. In the short term, for example, products must have a specific color, hold a certain shape, or reflect or absorb light in a certain way. In the long term, products must be able to withstand constant exposure to the elements and particularly UV exposure and be able to perform their function even after ten years of sitting on a deck.

Our process gives us the flexibility to create a coated fabric that is the perfect match to each customer's requirements. Aliphatic TPU, for example, provides excellent UV resistance in a fabric that maintains its color. For marine safety devices that are sitting on the deck of a vessel in the sun, these are valuable characteristics.

Further, coated fabrics can take into consideration the weather conditions they are likely to encounter. Vessels sailing towards the north or south poles, even if just to Canada or Chile, are likely subjected to extremes of cold that can make certain types of materials brittle. In these conditions, the type of input fabric which undergoes the coating process must be reviewed and tested to ensure that it maintains flexibility in extreme conditions.

Finally, marine safety applications often sit in bodies of abrasive salt water for extended period of time, which can affect the efficiency or longevity of marine safety devices.

New coated technical textiles increase the ability of material to resist different conditions commonly found on marine vessels, so purchasing high-quality fabric means producing a high-quality end product. Whether the end products in question cater to military, commercial marine, or civilian leisure craft, when someone needs a safety device, new technologies ensure that it will work exactly as designed under a wide range of conditions and for an extended period of time.



# Conclusion

Manufacturers looking to produce a new marine safety product, or to upgrade their product to a new generation can now expect to find a coated fabric that meets all requirements for color, pliability, tensile strength, UV resistance, and international regulations for their product. It is vital that manufacturers are able to find textiles that do not require them to compromise, as end customers are more educated than ever before, and expect a marine product that lasts a long time, withstands a harsh set of environmental conditions, and performs as expected each time it is deployed.

New improvements also benefit manufacturers, especially as PVC-coated textiles allow welding connections instead of the adhesive connections used on rubber-coated fabrics. Since these processes can be performed by a machine, welding not only improves the strength of the connection and the end product, but the smoothness of the manufacturing process and the safety of employees.

Consider whether any of this technology can improve your merchandise when designing and creating the specifications, then reach out to the technical team at Erez to learn about which next generation coated textile is perfect for your product.

[REQUEST AN EXPERT TEXTILE REVIEW >>](#)



## TECHNICAL TEXTILES FOR THE MODERN WORLD

---

Erez is your partner in coated technical fabric solutions for industries across the globe. At Erez, our key values are innovation, proven performance, guidance, and social responsibility. Erez coated textiles undergo rigorous testing and meet standards set by major certification bodies internationally. We believe in providing expert guidance to our customers in all industries, and to work together with them to build the best products. We make sure our fabrics perform so that you can create products that help make the world a safer and better place.

**Our singular mission is to help you manufacture the top products in your industry.  
Consider Erez your coated technical textile expert.**

**For More Information:**

[www.erez-therm.com](http://www.erez-therm.com)  
[sales\\_etp@erez-therm.com](mailto:sales_etp@erez-therm.com)

Erez representatives are available 24/7, from local offices in 6 countries, and with easily accessible stock in warehouses on 4 continents. Wherever you are, Erez is ready to serve you.

### FREE CONSULTATION

How do you ensure the best technical textile for your product?

## REQUEST AN EXPERT REVIEW FOR YOUR PRODUCT SPECIFICATIONS

**REQUEST AN EXPERT TEXTILE REVIEW →**