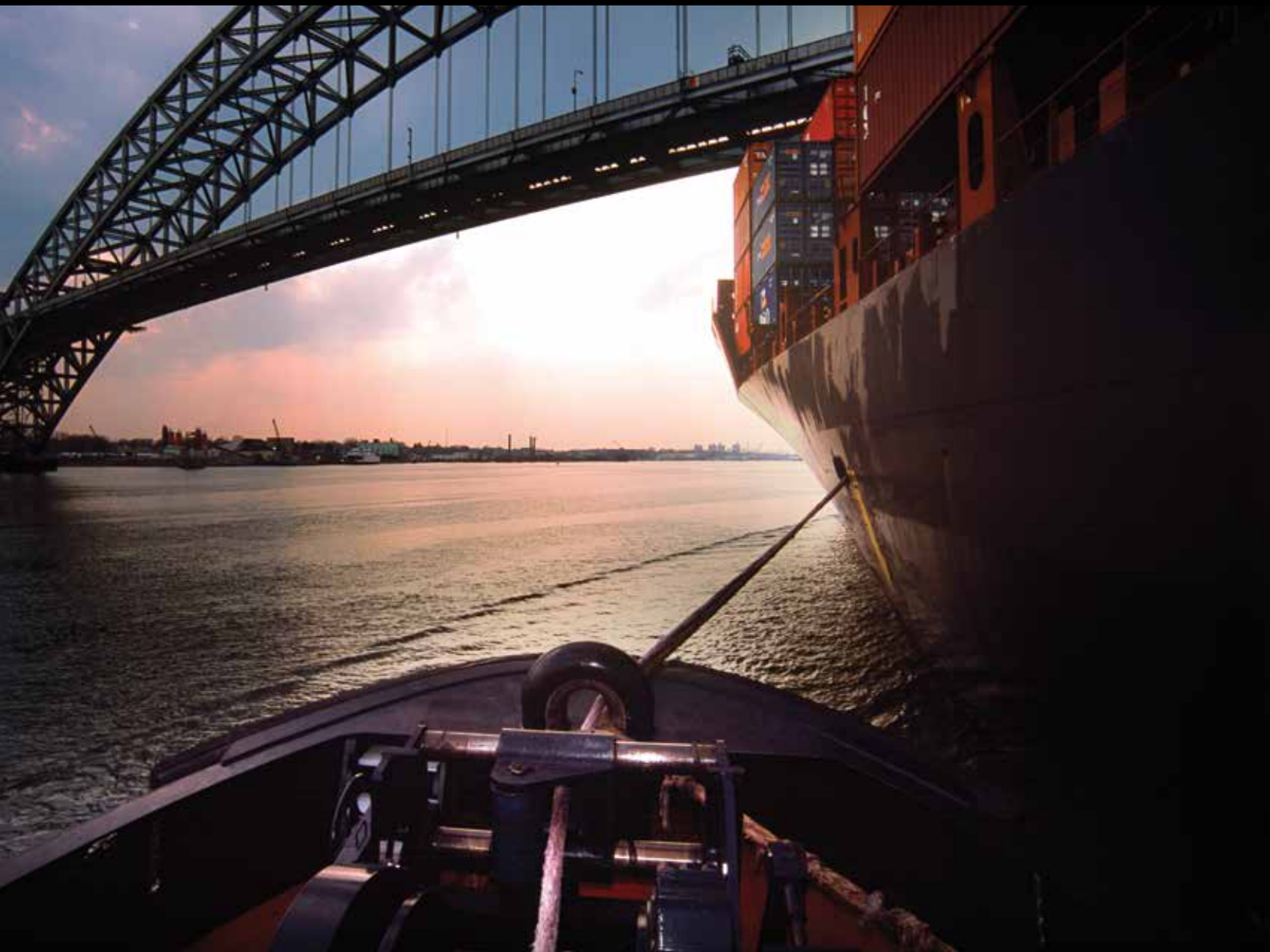
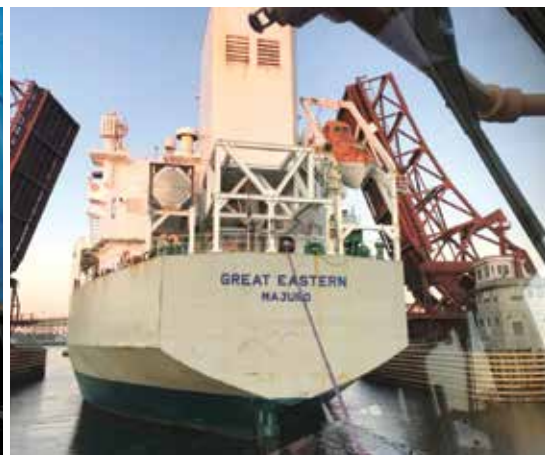


Tug & Salvage

Synthetic Line & Pendant Solutions



# When a Towline is Your Lifeline



## In towing and salvage, the entire operation relies on the strength and dependability of your towline

No matter if you specialize in offshore, harbor or river operations, the connection between ship and tug – the towline – is of primary importance. In recent years, the industry has seen an expanded global acceptance of high performance synthetic tow lines, offering greater safety, reliability and performance for tug and salvage operators. Cortland has delivered synthetic lines made from high modulus polyethylene (HMPE) for more than 25 years, specializing in our 12x12 braiding technique and Plasma<sup>®</sup> fiber.

As an originator of fiber braiding technology, Cortland offers a full range of high-performance synthetic line and pendant combinations. Our specialized fiber process and construction is size-for-size equal or greater in strength and 86% lighter than steel wire rope. Fiber towlines will not rust or fish-hook and offer superior flexibility in salt or fresh water.

Lighter lines are easier to handle than steel, which translates to fewer stress-related injuries, lower recoil risk and quicker 'made' times on each operation.

Our success is based on close interaction with tug operators. Years of global tug, berthing, lifting and mooring experience means you can trust Cortland for the complete engineering package, analysis and design of trusted synthetic fiber lines.



## Unmatched Strength

The world's strongest lines for its weight, Cortland's Plasma® 12x12 construction technique creates a neutrally buoyant tug and salvage line that is stronger than steel yet durable enough for repeated use.

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## Advanced Technology

Our exclusive Plasma technology process uses synthetic HMPE fibers to maximize strength efficiency. These fibers are then braided into a torque-free line with low elongation properties perfect for high-load tug and salvage use.

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## Unbeatable Materials

Our unique combination of 12x12 line construction and Plasma fibers create a truly unique line. Utilizing the world's largest 12-strand braider, Cortland can produce extremely large diameters and lengths to fit your specific needs.

# Popular in the tug industry Cortland's Plasma® 12x12 line has no equal

Plasma® 12x12 lines have no equal. Each is constructed of a 12-strand braided line in which each of the 12 strands is, in turn, a 12-strand line, or braided primary strand. In terms of a strength and size, this construction technique and advanced Plasma® HMPE fibers produce a finished braid which is firm and flexible, yet highly durable. With the addition of a line pendant at critical wear points, Cortland tow lines will easily endure long-term use in the harsh marine environment.

Plasma line is manufactured from HMPE fiber that has been enhanced by Cortland's recrystallization process. This process is especially effective in medium to large diameter lines because it creates strengths equal to steel, with low creep. This design allows for long lay lengths, creating a line that is more flexible and easier to handle.

Unlike heavy wire ropes, Plasma 12x12 lines are extremely easy to inspect for external or internal wear. If repair is needed, the 12x12 construction also offers the ability to replace worn strands to help protect your original investment. Cortland's large 12-strand braider offers the ability to create extremely long lengths produced to your exact specifications.

Unlike steel wire rope, Plasma® 12x12 lines are also neutrally buoyant in water and do not absorb water. This means your lines will remain lightweight and easy to handle no matter what the conditions or how many times it is used in tug and salvage operations.

Cortland offers Plasma fiber in a 12 Strand, or a 12x12 strand option. Available standard, or with a low coefficient of friction coating or a high coefficient of friction coating; or in a reduced recoil braid option.



Firmer, rounder profile than conventional 12-strand line

Better internal-abrasion-resistance

Easy to inspect, repair and splice

High strength, low stretch, low creep, lightweight, torque-free

## Tug & Salvage Products

A full-range of lines for tug and salvage operations



**Polyester 12 Strand** has the lowest stretch and highest strength of all polyester constructions.



**Nylon Double Braid** is the preferred choice for applications requiring high strength with excellent shock absorbing properties; common for anchor or mooring lines.



**GTM Composite Double Braid** ropes have very high strength, are firm with a round profile, and have extremely low stretch; perfect for ATB mooring lines.



**Co-polymer olefin 12 plait** provides high strength, light weight and excellent abrasion resistance in a single braid construction.

Cortland offers a complete line of additional top quality, high-performance line solutions and has supplied lines to tugs all over the world for ship assist, towing, and escort jobs for decades. Our lightweight, technologically advanced line solutions are all extremely flexible making them easier and safer for crew use.

## Chafe Protection

# Chafe protection solutions to maximize the service life of tug and salvage lines



SX Chafe Guard



Cortland Cage



Asguard



DXC Chafe



XT Chafe



PNW available in tubular form, or hook-and-clasp

Durability is also an important factor of overall line cost. With the addition of anti-chafe gear such as pendant and anti-chafe covers, the useful life of lines can be significantly increased, creating maximum cost efficiency with minimal maintenance. For further details on our Chafe solutions, refer to our Chafe Protection brochure.

**SX Chafe Guard** a braided tubular structure offering 100% protection to the rope.

**Cortland Cage** combines the lightweight, abrasion resistant, and non-water-absorbing properties of HMPE fiber in a braided cover sleeve.

**Asgard Chafe Protection** is made from HMPE and PNW fibers in a woven, laminated and PU-coated construction and built in a layered design. Typically used for protection of mooring lines.

**DXC Chafe** is a tightly braided tubular polyester chafe sleeve with proprietary marine polyurethane coating for use in extreme applications.

**XT Chafe** is a tightly braided tubular polyester chafe sleeve with proprietary heavy marine polyurethane coating for use in extreme chafe applications. Less flexible than other chafe options.

**PNW** is a woven fiber material and the most commonly used protection for abrasion; available in both tubular, and hook-and-clasp options.

Cortland continues to use advances in technology to provide innovative solutions to the tug and salvage industry. Please email [cortland@cortlandcompany.com](mailto:cortland@cortlandcompany.com) for an initial discussion, or visit us at [cortlandcompany.com](http://cortlandcompany.com).

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Cortland is a global designer, manufacturer, and supplier of technologically advanced ropes, slings, and strength members. Collaborating with customers, our team uses its experience in high performance materials and market knowledge to transform ideas into proven products.

For more than 35 years, our custom-built solutions have been developed for work in the toughest environments and to overcome some of the world's greatest challenges. They consistently enable our customers to meet the demands of the aerospace, defense, medical, research, subsea, marine, and energy industries.

Cortland is a part of the Enerpac Tool Group (NYSE: EPAC), a diversified industrial company with operations in more than 30 countries. [cortlandcompany.com](http://cortlandcompany.com)