

Stena Ice Tankers

Safe carriage of oil in extreme environments

Stena Aframax. 117,100 DWT. Swedish-Finnish Ice Class 1A Super

Stena Panamax. 74,999 DWT. Swedish-Finnish Ice Class 1A

Stena P-MAX. 49,900 DWT. Swedish-Finnish Ice Class 1B



Superior ice-classed tankers manned by skilled crews, well experienced in winter navigation

The Stena ice-classed fleet offers the latest technical designs for safe performance in icy waters. For optimal safety – these superior vessels are manned by highly skilled crews with long experience on board under extreme conditions.

Experience can only be gained in real life. Our training programme, involving every hand on board, includes theory as well as direct confrontation with frozen waters, minus 35°C (minus 31°F), chilling winds and decks covered with ice. Experienced and new crews are routinely doubled, allowing skill and knowledge to be shared.



Stena Ice-Aframax Swedish-Finnish Ice Class 1A Super

Designed for extreme challenges

The Stena Ice-Aframax is a crude oil tanker designed to navigate in extreme ice conditions with 1.0 metre thick ice. She is longer and wider than a conventional Aframax. She has more built-in steel in her sturdy ice belt, extra-strengthened frames, and an ice-propeller that is more robust than normal. In a harsh and frozen environment, her main engine provides her with 50% more power. The bridge has a 360 degree view for greater safety in narrow waters.

The 117,100 DWT Super Ice-classed Stena Ice-Aframax is optimally designed for safe carriage of oil in the Baltic Sea all year round.



	STENA SUPER ICE-AFRAMAX DWT: 117,100 MT Length, overall: 249.79 m	Beam: 44 m Draft: 15.4 Cargo tanks: 5 x 2
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Stena Ice-Panamax Swedish-Finnish Ice Class 1A

Carries oil products in severe conditions

Her size, originally designed for passage through the Panama Canal, allows the ice-classed 1A Stena Ice-Panamax safe passage through narrow waters from the Baltic Sea to both the US East and West coasts.

The Stena Ice-Panamax is uniquely flexible when it comes to cargo grades. Switching from dirty to clean products is much faster than on any standard vessel, thus minimizing the risk of contamination. The tanks can actually be prepared en route to the next load area with minimum or no loss of time. The tank structure is placed on deck and the epoxy-coated cargo tanks are smooth and completely free of blind spots or pockets trapping cargo residues.

The Stena Ice-Panamax, designed to operate in severe ice conditions with up to 0.8 metre thick ice. In normal waters, the Stena Ice-Panamax sails at 16.5 knots in ballast and 16 knots when loaded. Speed saves time and money.





STENA P-MAX
 DWT: 49,900 MT
 Length, overall: 182.9 m

Beam: 40 m
 Draft: 11.3 m
 Cargo tanks: 5 x 2

Stena P-MAX Swedish-Finnish Ice Class 1B

Redundant safety in narrow frozen waters

Full double hull, two engine rooms with full fire and water integrity, double separate systems for propulsion and manoeuvring – engines, shafts, generators, steering gear, rudders, propellers and control systems – are vital factors in pro-active safety. The twin-skeg configuration offers superior manoeuvrability at low speed, a precious safety quality in icy waters.

Carrying clean as well as dirty products on a shallow draft, the Stena P-MAX exhibits outstanding trading flexibility. The effective ETC-certified cleaning system and smooth cargo tanks minimize the risk of contamination and enables switching from clean to

dirty products to be achieved in the minimum of time.

The Stena P-MAX is designed for medium ice conditions with 0.6 metre thick ice. In normal operation, the Stena P-MAX, with its 17.2 knots in ballast and 16.5 knots when loaded, is considerably faster than most coastal tankers now trading. The slow-speed engine satisfies the new IMO requirements for NOx emissions.



STENA ICE-PANAMAX
 DWT: 74,999 MT
 Length, overall: 228.5 m

Beam: 32.24 m
 Draft: 12.2
 Cargo tanks 6 x 2



Cold waters are familiar waters

Stena Bulk is a member of the family-owned Stena group in Gothenburg, Sweden. Living in the North, we are familiar with the harsh marine environment. Through the years, we have learnt a lot about how to make ice navigation safe. But the more we learn, the more there is to learn.

We invest in research and advanced technology to achieve maximum safety. As we do not want any loose ends, we design our ice-tankers ourselves. Stena Teknik has listened to the lessons the frozen waters have taught us, and scientifically verified them in collaboration with renowned research laboratories.

But advanced technology can never be a substitute for human skill and experience. The masters of our ice-classed tonnage, must know the language of ice and chilling winds, understand the limitations of the vessel and perceive the hints interpret any indication of unforeseen risks. In such conditions, regular normal seamanship is not enough, and the environment is the ultimate teacher and provider of invaluable experience.

Through continuous research, we are constantly upgrading our knowledge of best practice in sensitive areas, such as the Baltic Sea. It is important to bear in mind that conditions differ geographically depending on factors such as salinity and the behaviour of currents. What is optimal practice in one area may not necessarily be so in another area, and the vice versa. Close cooperation between our design department and, for example, the HSVA Marine Research Institute in Hamburg, MARC in Helsinki and Central Marine Research & Design Institute (CNIIMF) in St. Petersburg, has substantially increased our understanding of economical and safe navigation in narrow Arctic seaways.

Research also helps us to calculate how the overall costs can be minimized by combining safety and efficiency with optimum fuel economy and cargo capacity.

Oil should always travel first class!



The first *Stena Arctica* was chosen to carry the Swedish scientific expedition to the South Pole

In December 1988, 50 scientists crossed the gangway of *Stena Arctica* – the largest group of Swedish scientists ever to visit the Arctic region. Their mission was to expand our knowledge in the fields of glaciology, geology, oceanography and marine biology in the Antarctic. During her voyage, the vessel crossed the equator line twice.

The *Stena Arctica*, a sturdy 31,900 DWT Super Ice Class bulk carrier fitted with an ice-breaking bow, was chosen to carry the scientists safely to their destination. The vessel was carefully adapted down to the smallest detail to provide maximum safety and comfort even during severe Arctic conditions. Originally, the *Stena Arctica* was designed to transport lead and zinc ore from the mine on Little Cornwallis Island in the Canadian arctic region close to Magnetic North Pole.

But safety is not only a matter of ship design. A major reason for choosing the *Stena Arctica* was that the skilled Swedish crew had long experience of ice navigation in the Baltic Sea. Superior ships run by superior crews are the key to maximum safety.



South 78 degrees 22.1'. West 37 degrees 10.0. No other merchant vessel has ever reached such a southerly position. A world record!

After having reached the destination close to the Magnetic South Pole, the *Stena Arctica* was allowed to be ice-bound while the expedition was doing its work.

From the *Stena Arctica*, the equipment was hauled to the camp by caterpillar tractors adapted to the arctic conditions.

Every day, penguins paid visits to the camp.



For a free copy of the film "A journey to the Antarctic" please contact Stena Bulk.



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