



Hempel ice coating helps Rosatomflot lower costs, without losing performance

Rosatomflot's fleet of nuclear icebreakers ensures the Northern Sea Route is available to shipping year-round. Operating in some of the harshest Arctic conditions, the vessels need a hull coating that can protect them from heavy impacts and the build-up of frozen ice on the hull.

State company Rosatomflot had been using an industry-leading ice coating for its icebreakers. But the company was looking for an easy-to-apply and less expensive alternative that would deliver the same – or better – performance.

Our solution was Hempadur Multi-Strength GF 35870, a top-of-the-line ice coating that can be applied with standard spray equipment. Rosatomflot applied Hempadur Multi-Strength GF 35870 to one of its icebreakers in 2015, and it showed excellent performance in ice navigation. As a result, Rosatomflot ordered the coating for three vessels in its fleet in 2017.

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Lowering costs for Rosatomflot icebreakers

The challenge

Rosatomflot's fleet of nuclear icebreakers ensures the Northern Sea Route, from the Barents Sea to the Bering Strait, is available to shipping year-round. Operating in some of the harshest Arctic conditions where ice can reach nearly three metres thick and temperatures can drop as low as 50°C, the vessels need a hull coating that can protect them from heavy impacts with ice floes, ice rubble and compact ice fields. In addition, the coatings need to provide exceptionally low ice friction to stop ice freezing to the hull.

Many ice coatings are available for the job. But most require complex and expensive heated dual-feed application. This not only increases application costs, but means the coatings can only be applied in shipyards with specially qualified applicators.

Rosatomflot had been using an industry-leading ice coating for their nuclear icebreakers. But it was looking for a less expensive alternative that could be applied with standard spray equipment, while delivering the same – or better – performance.

Our solution was Hempadur Multi-Strength GF 35870.

The solution

Hempadur Multi-Strength GF 35870 can be applied with standard spray equipment in temperatures as low as 5°C, which significantly reduces Rosatomflot's application and repair expenses. It does this without compromising performance.

A pure epoxy ice coating, Hempadur Multi-Strength GF 35870 delivers up to 60 per cent less ice friction than other leading ice coatings. This ensures less ice forms on the hull, and so reduces vessel fuel consumption. The coating is reinforced with glass-flakes, which ensures it provides exceptional impact and abrasion resistance, and is also flexible enough to bend if the steel dents.

Rosatomflot applied Hempadur Multi-Strength GF 35870 to one of its icebreakers in 2015, and it showed excellence performance in ice navigation. As result, Rosatomflot ordered the coating for three more nuclear icebreakers in its fleet.



At a glance

Owner:	Rosatomflot
Coating:	Hempadur Multi-Strength GF 35870
Location:	Repair Base of Rosatomflot Murmansk, Russia

Vessel	VAYGACH (IMO: 8417493)
Vessel areas:	Underwater part of the hull (5580m ²)
Application date:	June 2017

Vessel	50 YEARS OF VICTORY (IMO: 9152959)
Vessel areas:	Underwater part of the hull (7100m ²)
Application date:	July 2017

Vessel	TAYMYR (IMO: 8417481)
Vessel areas:	Underwater part of the hull (5580m ²)
Application date:	August 2017

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