The Customer
Princess Cruises (member of the Carnival Corporation)

The Location
Trieste, Italy

The Challenge
To deliver long-lasting anticorrosive protection and fouling release performance

The Solution
SIGMAPRIME® and SIGMAGLIDE systems

The Benefits
Fuel savings and maintenance cost savings

The Result
After 7 years in service, both the fouling release and anticorrosive systems are providing outstanding performance

The Challenge
The M/V Star Princess travels on a wide range of routes, including the Pacific, Cape Horn, Alaska and the Hawaiian Islands, and is subject to various operational conditions and aggressive fouling areas.

The key task was to ensure long-lasting protection against corrosion and fouling for this premier cruise vessel. Accordingly, the decision was made in 2004 to replace the original conventional antifouling system with the innovative SIGMAGLIDE biocide-free fouling release system.

The Customer
Princess Cruises is a member of the Carnival Corporation, the largest cruise vacation group in the world, with a portfolio of cruise brands in North America, Europe and Australia.

The brand is renowned for innovative ships, exceptional customer service and carries more than a million passengers each year with sailings to more destinations than any other major line.
**The Solution**

PPG’s unrivaled knowledge in coating technology provides the ideal basis to increase a vessel’s profitability and productivity: the SIGMAGLIDE biocide-free, silicone fouling release system, specially formulated to provide optimal hull smoothness. A key advantage over other technologies for ships in service is that the silicone fouling release system provides a smooth surface from the outset — so fuel savings are realized immediately.

The project started in April 2004 and, after removal of the conventional antifouling system, the SIGMAGLIDE LSE system (first generation) was applied. This performed so well that in September 2008, during the regular dry-docking in San Francisco, the hull was reported to be in excellent condition. As a result only minor spot repairs with SIGMAGLIDE 890 (second generation) were needed, saving considerable dry-docking costs.

Durability and consistent performance are key qualities of the SIGMAGLIDE system. This was demonstrated in December 2011 during the regular dry docking in Trieste, Italy, when the underwater area of the hull was found to be in excellent condition once again after seven years’ service of the original SIGMAGLIDE LSE system. This time the owner decided to apply a full refresher coat of third-generation pure silicone SIGMAGLIDE 990 coating on the vertical sides to continue to benefit from the SIGMAGLIDE system.

**The Benefits**

Fuel costs are a key concern in the marine industry. With PPG’s extensive experience in coatings technology, we create solutions that help owners and operators to increase their operational efficiency through fuel savings and we also help to improve their environmental footprint by reducing GHG emissions and going biocide free.

On this project, the most advanced silicone SIGMAGLIDE coating was applied, delivering extremely low surface energy and providing a smoother surface profile and fouling resistance, thereby significantly reducing the frictional resistance.

**More Benefits:**

- Reduced fuel consumption
- Reduced maintenance work at next routine dry-docking
- Efficient dry-docking reduced out-of-service time
- Quicker return on investment
- 7 years proven performance on the Star Princess

**The Results**

The owners of the M/V Star Princess clearly benefit from the SIGMAGLIDE 990 coating’s superior fouling release performance with significant fuel savings, reduced maintenance costs and quicker return-to-service times.

To date more than 250 vessels have been coated with sigmaglide systems.

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