

Description PropGuard-X High-Performance Prop Protection System

PropGuard-X is a high-performance water-dilutable 2K polymeric coat system, engineered specifically for ship propellers and underwater running gear. It bonds exceptionally well to all common marine metals, delivering long-term durability in high-stress underwater environments.

Unlike traditional antifouling or foul-release coatings, PropGuard-X does not rely on elasticity or silicone-based release mechanisms. Instead, it forms a hard, ultra-smooth protective surface that resists fouling attachment through surface chemistry and extreme smoothness, rather than flexibility. This results in a coating that is inherently more robust and wear-resistant than conventional antifouling and foul-release systems.

Technology & Performance

PropGuard-X creates an ultra-hard, hydrodynamic surface that offers nothing for organisms to attach to or feed on, keeping your running gear cleaner for longer while remaining safe for marine life.

Its high cross-linked polymer matrix delivers superior hardness and maintains surface smoothness and structural stability under:

- ✓ High propeller RPM
- ✓ Elevated shear forces
- ✓ Cavitation and micro-impact loading

This prevents deformation under load, enhances cavitation resistance, and resists micro-fracturing. As a hard-bonded system, PropGuard-X carries zero risk of delamination, unlike antifouling and foul-release coatings.

Applicator-Friendly by Engineering

PropGuard-X combines ease of application with marine-grade performance, making it highly suitable for professional painters, shipyards, and experienced DIY users.

Key application advantages include:

- ✓ Flexible recoat window: approximately 2–16 hours
- ✓ Rapid curing characteristics, reducing scheduling risk
- ✓ Can be applied early or late in a yard stay
- ✓ Launch-ready after 24 hours, or alternatively stored and launched months after application, depending on conditions

In contrast to traditional antifouling and foul-release systems—which typically require very short recoating windows and tightly controlled launch timing, PropGuard-X offers significantly greater application flexibility and operational reliability.

Why PropGuard-X performs better than traditional anti-fouling and foul-release coatings:

- ✓ Its ultralow surface roughness, preventing initial biofilm anchors
- ✓ Its superior hardness, resisting colonization
- ✓ Its stable, inert surface, that organisms cannot penetrate

PropGuard-X maintains its low surface roughness (RA) because the coating surface is harder than the underlying metal, preventing:

- ✓ Micro-scratching
- ✓ Gloss dulling
- ✓ Film disruption

Where anti-fouling and foul release coatings often fail due to wear and tear, PropGuard-X remains intact.

Key Performance Advantages:

- ✓ Best in class adhesion (*ISO 2409 Class 0 adhesion on all marine alloys including bronze, niral, stainless, aluminum and brass*)
- ✓ Superior hydrodynamics and mechanical self-cleaning by rotation
- ✓ Ultra-low surface roughness (*RA 0.15–0.20 μm*), “*smoother and more uniform than a professionally polished bronze prop*”
- ✓ Excellent resistance against marine growth, corrosion, cavitation, impact, chemicals and UV light
- ✓ Cures to an exceptionally smooth finish that is harder than metal “*minimizes cavitation inception points*”
- ✓ Extended diver-cleaning intervals
- ✓ Reduced drag (*Improved fuel economy*)
- ✓ High abrasion resistance (*Taber-wear index 10 – very slow wear*)
- ✓ Good flexibility (*reducing vibrations and noise*)
- ✓ High crosslink density (*enhanced bonding between coating layers*)
- ✓ Zero biocides, zero environmental impact, safe for marine life
- ✓ predictable performance all season

Product Description

PropGuard-X

UNIGRIP
DANTECH ELITE COMPOSITES

Minimum Launch Timing (Full System)

Temp	Launch Time
10–15 °C	60–72 hours
15–20 °C	48 hours
20–25 °C	36–48 hours
25–30 °C	24–36 hours

The coating system will be sufficiently cured for water immersion after approx 24-36 hours (ideal 48 hours). Full mechanical cure continues under water and is typically achieved after 7 days depending on temperature and environmental conditions.

Service Life and Maintenance:

Typical antifouling and foul release coatings offer only 6–12 months of reduced marine growth.

In contrast, the Unigrip Prop Guard system provides **multi-year durability** with minimal required maintenance, while maintaining environmental safety for marine organisms.

Maintenance Requirements - PropGuard-X integrates directly into existing diver-based maintenance routines.

The treated surfaces are hard, smooth and non-porous, making routine cleaning simple.

- Inspect and clean as part of routine vessel maintenance cycles.
- No special or harmful cleaning agents are required.
- Reapplication intervals are significantly longer than traditional coatings and anti-fouling systems.

Approved diver tools:

- ✓ Plastic scrapers
- ✓ Nylon brushes
- ✓ Soft/medium sponge or 3M pads

Note: Metal tools are prohibited due to risk of gouging.

Environmental Compliance:

PropGuard-X does not contain

- Copper
- Tin
- Zinc
- Or Biocides

And complies with among others:

- MARPOL
- EPA Clean Marina
- Mediterranean port constraints

For product safety data sheet and technical data sheets, please visit: <https://dantech-group.com/propguard-x>