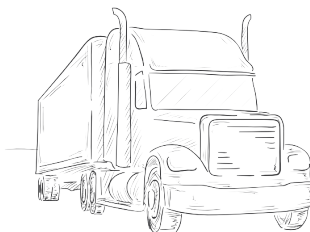
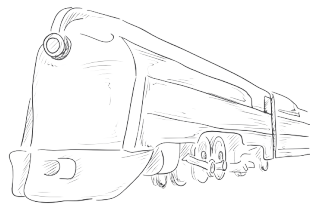
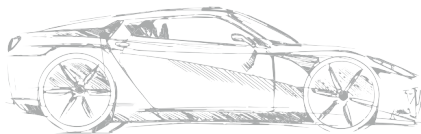


S75

PRO SERIES · TPU PAINT PROTECTION FILM
MARINE EDITION

Self-healing thermoplastic polyurethane film for the protection of hulls, topsides, superstructures and brightwork of marine vessels



The **Pro Shield Films S75** embodies the highest performance tier in the Pro Shield range for application to marine vessels. The S75 is a 7.5-mil (190-µm), optically clear, aliphatic thermoplastic polyurethane (TPU) film with a self-healing top coat and a pressure-sensitive acrylic adhesive. Its elasticity, hydrolytic stability and UV resistance are engineered for the compound curves, gelcoat surfaces and salt-laden environment typical of yachts, tenders, powerboats and personal watercraft.

- Aliphatic TPU construction — non-yellowing, resistant to hydrolysis and salt spray.
- Self-healing top coat — light scratches and swirl marks disappear with sun or warm-water rinse.
- Hydrophobic surface repels water, salt deposits and marine grime.
- High elongation for wrapping compound hull curves, flares and radiused edges.
- Clear, permanent, pressure-sensitive acrylic adhesive; no plasticiser migration onto gelcoat.
- Application possible at ambient temperatures from +15 °C (+59 °F).
- Removable with heat without damage to sound gelcoat or marine paint.
- Compatible with computer-aided plotter cutting and pre-cut kits.

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1. PRODUCT FEATURES

Film	Aliphatic thermoplastic polyurethane (TPU), gloss finish. Total thickness 7.5 mils (190 µm) including self-healing top coat. Optically clear, non-yellowing. Elongation at break ≥ 350 %. Temperature resistance from -40 °C to +90 °C (-40 °F to +194 °F).
Top coat	Elastomeric self-healing clear coat. Light scratches recover with heat (sunlight, warm-water rinse or heat gun ≤ 60 °C / 140 °F). Hydrophobic, stain-resistant, high gloss retention.
Adhesive	Pressure-sensitive, clear acrylic adhesive. Peel strength approx. 1.2 kg / 25 mm strip after 24 h (dry application to glass). Optimal adhesion is reached 24–48 hours after application.
Liner	Silicone-coated PET release liner, dimensionally stable under hygrometric variation. Suitable for plotter cutting of pre-cut kits.
Formats	Rolls of 1.52 m x 15 m (60 in. x 49 ft). Custom slit widths available on request.

For information about the standard test methods used, please contact Pro Shield Films Product Support: sales@proshieldfilms.com.

2. FEATURES FOR MARINE APPLICATION

Excerpts from S75 film tests relevant to marine service conditions (topsides and superstructure, above-waterline use).

Property	Test condition	Result	Observ.
Salt-spray resistance	500 h neutral salt spray, 5 % NaCl at 35 °C (95 °F)	No blistering, no edge lifting, no colour change	Conform
UV / gloss retention	2 000 h accelerated Xenon weathering	Gloss retention ≥ 90 %, ΔE ≤ 1.0	Conform
Hot adherence (peel)	22 h at 23 °C then 1 h at 85 °C (185 °F)	On 25 mm wide, to glass: 2.4 kg	Conform
Cold adherence (peel)	22 h at 23 °C then 5 h at -30 °C (-22 °F)	On 25 mm wide, to glass: 1.0 kg	Conform
Impact / stone-chip	Gravelometer, SAE J400 equivalent	No perforation, no substrate exposure	Conform
Fuel splash	Petrol / diesel wipe, 1 min contact then rinse	No visual alteration of the film	Conform
Adhesive behaviour on gelcoat	Application to cured gelcoat, 70 h at 85 °C (185 °F)	No migration or staining at film/gelcoat junction	Conform

3. RESISTANCE TO CLEANING AGENTS

Agent	Test condition	Peel strength on glass	Result
Marine wash-down soap (neutral pH)	Immersion 1 min after 22 h cure, dried 30 min, then peeled	1.3 kg	Conform
Salt water rinse	Repeated rinse cycles, 30 days	No change	Conform
Hydrocarbons (petrol/diesel splash)	Immersion 1 min, dried 30 min at 23 °C (73 °F)	1.0 kg	Conform
Isopropyl alcohol 70 %	Surface wipe, 10 cycles	No change	Conform
Mild hull cleaner (non-acidic)	Surface application 5 min, rinsed	No change	Conform

Caution: Acid-based hull cleaners (oxalic, hydrochloric), abrasive rubbing compounds, solvents and corrosive detergents are forbidden on the film surface. Pressure washing must be carried out at a minimum distance of 50 cm (20 in.), below 35 °C (95 °F) water temperature, and never directed at film edges.

4. SUBSTRATE COMPATIBILITY

Substrate	Adhesive strength	Substrate preparation	Prior cleaning	Wet appl.
Gelcoat (GRP / fibreglass)	Very good	Fully cured and polished; degassing and tape tear-off test	Neutral soap + IPA wipe	No
2-pack polyurethane marine paint (e.g. topcoat systems)	Very good	Min. 30 days cure; tape tear-off test	Neutral soap + IPA wipe	No
Stainless steel (rails, fittings)	Very good	Degrease	Strong degrease	No
Aluminium (painted / anodised)	Very good	Degrease; tear-off test on painted	Medium	No
Acrylic / polycarbonate glazing	Good	Compatibility test on hidden area	Gentle	No
Antifoul / underwater coatings	Not suitable	—	—	—
Fresh or uncured gelcoat / paint	Not suitable	Allow full cure first	—	—

Any old, powdery, chalky or flaking gelcoat must be compounded and polished before application and must undergo a tape tear-off test. The installer and the customer are responsible for the suitability assessment of the target surface.

5. RESISTANCE TO TOTAL IMMERSION

Adhesive-coated film applied to a 25 mm x 200 mm glass plate for 22 hours at 23 °C (73 °F), then immersed. After immersion the samples are dried.

Medium	Immersion time	Elongation at break	Adhesion after drying
Fresh water	> 1 000 hours	Normal	100 % after 24-h drying
Salt water (5 % NaCl)	> 1 000 hours	Normal	100 % after 24-h drying
Diesel	24 hours	Normal	70 % after 30-min drying
Petrol	24 hours	Normal + 8 %	15 % after 30-min drying
Engine oil	24 hours	Normal + 5 %	80 % after 30-min drying

Important — waterline limitation: The S75 Marine Edition is designed for above-waterline application (topsides, hull flare, transom, superstructure, brightwork). Permanent application below the static waterline is not covered by the Pro Shield warranty. For trailered boats and personal watercraft with intermittent immersion, ensure edges are firmly squeegeed and post-heated; edge sealing is recommended in the splash zone.

6. STORAGE BEFORE USE

- Store between +15 °C and +25 °C (+59 °F to +77 °F), relative humidity 30–70 %, away from direct sunlight.
- Store boxes vertically or suspend rolls to avoid pressure marks on the carrying zone.
- Shelf life: 2 years in unopened original packaging under the above conditions. Adhesive performance gradually decreases with storage; renew stock regularly.
- Any warranty claim questioning the adhesive must be accompanied by the roll batch number.

7. APPLYING THE S75 FILM

7.1 Required equipment

Liquids	Tools	Accessories
• Slip solution: distilled water + 0.5 % baby shampoo (no-tears formula) • Tack solution: distilled water + 25 % isopropyl alcohol • IPA 70 % for final surface prep • Neutral-pH boat soap	• Soft PPF squeegee with suede sleeve • Heat gun and infrared thermometer • Sprayers (x2, labelled) • Cutter with fresh 30° blades • Microfibre cloths (lint-free)	• Nitrile gloves • Masking tape • Magnets / clamps for positioning

7.2 Recommendations

- Work under cover, out of direct sun and wind; dust and airborne salt are the main causes of inclusions.
- Ambient and substrate temperature between 15 °C and 25 °C (59–77 °F); preferably 20–25 °C.
- Use a single batch number per project to guarantee optical consistency across panels.
- Do not apply over silicone sealants, fresh caulking, teak, canvas or flexible rubber trims.

7.3 Surface preparation and cleaning

It should always be assumed the surface is contaminated — salt crystals, wax, polish residues and mould-release agents are common on marine surfaces and will compromise adhesion even when invisible.

- Wash the whole area with neutral-pH boat soap and rinse with fresh water.
- Remove all wax, sealants and polish residues with a dedicated wax remover / degreaser.
- De-salt: wipe with plenty of fresh water; dried salt crystals under the film cause blooming and lifting.
- Final wipe with IPA 70 % on a lint-free microfibre; change cloth faces frequently.
- Tape tear-off test (gelcoat and painted areas): apply a strip of high-tack tape, tear off perpendicular to the surface with one quick pull. Coating must resist removal. Repeat in several places.

7.4 Wet application method

Unlike calendered vinyl, the S75 TPU film is applied using the wet method:

- Spray the prepared surface and the adhesive side generously with slip solution.
- Position the film; the slip solution allows repositioning and alignment.
- Spray tack solution at the anchor zone, then squeegee from the centre towards the edges in overlapping strokes at 45°, expelling all solution and air.
- On compound hull curves, warm the film to 40–50 °C (104–122 °F) and stretch evenly; avoid over-stretching beyond 20 % on any single zone.
- After application on a severe deformation, post-heat the zone to 80–90 °C (176–194 °F) to relax the shape memory of the film and lock long-term adhesion.

Caution: Check temperature with an infrared thermometer on the film surface immediately after removing the heat flow. Never hold the heat gun on a fixed point — keep it moving at all times.

7.5 Overlaps and seams

- Where a seam is necessary between two widths, overlap the film by 1 cm (0.4 in.).
- On mobile surfaces, apply working from stern to bow so overlaps face aft — airflow and spray then pass over the seam, not into it (tiling principle).
- Clean the lower film with IPA before overlapping; press the overlap firmly while warming to approx. 50 °C (122 °F).

8. CUTS, EDGES AND FINISHING

- Leave a margin of at least 5 cm on any panel to be trimmed in place; never let the blade contact the gelcoat perpendicularly.
- Wrap edges wherever possible; on marine applications, exposed edges are the primary point of attack for water and salt.
- Keep film at least 5 mm away from deck hardware bedding, sealant joints and window gaskets.
- After trimming, re-squeegee all cut lines and edges firmly; post-heat edges to 80–90 °C (176–194 °F).
- Leave the vessel under cover at 15–25 °C for at least 12 hours; do not launch or expose to spray for 48 hours after installation.

9. CLEANING AND MAINTENANCE

- Rinse with fresh water after every outing in salt water; do not let salt deposits bake onto the film.
- Wash with neutral-pH boat soap and a soft mitt or microfibre; the film can be pressure-washed at medium pressure, minimum distance 50 cm (20 in.), water temperature $\leq 35^{\circ}\text{C}$ (95°F).
- Do not clean within the first 48 hours following application.
- Light scratches and swirl marks in the top coat self-heal with sunlight or a warm-water rinse; stubborn marks can be relaxed with a heat gun $\leq 60^{\circ}\text{C}$ (140°F), kept moving.
- PPF-safe sealants may be used for extra hydrophobics. Waxes containing dyes, abrasive polishes, rubbing compounds and machine buffing are forbidden.
- Always test any new product on a small area before treating the entire covered surface.

10. REMOVAL PROCEDURE

- Using a heat gun, start from a corner and warm the film to around 60°C (140°F).
- Lift the corner gently and remove the film at an angle of $70\text{--}80^{\circ}$ to the surface, at slow, constant speed, heating small areas progressively.
- If any adhesive remains, remove it with a citrus-based adhesive remover or IPA; run a compatibility test on a hidden area first.
- Gelcoat protected by the film may appear glossier than surrounding weathered surfaces — this is normal and reflects the protection provided.

Caution: Do not use metal scrapers. Pro Shield Films are not liable for damage to unsound, previously repaired or poorly adhered gelcoat and coatings during removal.

11. RESISTANCE TO WEATHERING

Durability figures below are confirmed by accelerated Xenon-lamp ageing tests according to automotive industry protocol ('FLORIDA' test) and reflect the period during which the film keeps a correct appearance under normal use at customary observation distance.

Application	Withstand during accelerated test	Vertical exposure	Non-horizontal exposure	Horizontal exposure
Terrestrial vehicles (Zone 1)	6 400 h	10 years	7 years	5 years
Marine vessels — topsides / superstructure (Zone 1)	4 800 h	5 years	4 years	3 years

These data are valid for geographical zone 1 (temperate). Multiply durations by 0.65 for zone 2 (sub-tropical) and 0.35 for zone 3 (desert, tropical marine, incl. the Arabian Gulf, and altitudes above 1 000 m). Frequent exposure to high pollution levels (airborne particles, solvents, hydrocarbons) may impair the lifespan of the film. Horizontal surfaces (foredecks, hatch tops, coamings) receive maximum UV and are subject to the reduced horizontal-exposure figures.

12. PRO SHIELD WARRANTIES

- All Pro Shield products are subject to the general terms of sale. Pro Shield warrant their films for 1 (one) year during storage from the product receiving time, against manufacturing, material and packaging defects.
- After application, Pro Shield warrant the S75 film against yellowing, cracking, blistering and delamination as follows:

Application	Vertical exposure	Horizontal exposure
Terrestrial means of transport	5 (five) years	3 (three) years
Marine vessels — above waterline	3 (three) years	2 (two) years

The application warranty takes effect from the date of installation, subject to installation by a trained installer following this technical data sheet, and excludes: application below the static waterline; damage from acid cleaners, abrasives, solvents or unspecified cleaning-station additives; mechanical damage, grounding, fender chafe and impact; and failure of the underlying gelcoat or coating. Warranty claims require the roll batch number and proof of installation date.

All published information is based on measurements regularly performed in the laboratory and does not constitute a binding guarantee. Due to the great variety of substrates, the installer must check the suitability of the media for each application. Specifications are subject to change without prior notice; the latest revision is available at www.proshieldfilms.com.