# TRUDESIGN"

# **SKIN FITTINGS with TAIL**



Designed and made in New Zealand, TruDesign Skin Fittings (Thru Hulls) with tail are precision moulded from glass-reinforced Nylon composite.

- Certified to ISO 9093-2 by the International Marine Certification Institute, Belgium (not including ½").
- Type Approved by Bureau Veritas to ISO 9093-2. (Not including ½")

TruDesign Skin Fittings (Thru Hulls) with tail eliminate all corrosion and bonding problems associated with electrolysis giving peace of mind with respect to the safety of your vessel.

#### Note: not to be used for below water line applications.

#### Features:

- Manufactured from glass-reinforced Nylon composite, resulting in high strength properties, tough yet light in weight.
- Compatible with all hull types Can be used on aluminium, steel, wood, composite & GRP hulls.
- Immune to corrosion & electrolysis No corrosion breakages, increased safety.
- Chemical resistant Unaffected by diesel, petrol, chemicals, and antifouling paints.
- U.V resistant Will not degrade or discolour from the sun's ultraviolet rays.
- Long Tail allows for two hose clips as per ISO and ABYC Standards
- Large operating range Suitable for all marine conditions from -40°C to +110°C





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## Technical

TruDesign Skin Fittings (Thru Hulls) with tail are suitable for installation in all types of hull construction; steel, aluminium, composite, fibreglass – cored and solid, wood, wooden sandwich and caulked solid wood hulls. Ensure fittings are always installed in the centre of individual planks. Skin Fittings **with Tail are not allowed for below water applications or below the heal line**. For below the water line only use a Skin Fitting with Ball Valve attached (Seacock).

## Dimensions

All dimensions in mm. All dimensions nominal.



32mm

13mm

25mm

38mm

50mm



19mm

28mm

16mm



# Flow diameter and maximum hull thickness

Tail Size	Minimum I.D.	Maximum Hull Thickness
13mm	8mm	30mm
19mm	12mm	30mm
25mm	18mm	30mm
32mm	24mm	30mm
38mm	29mm	30mm
50mm	41mm	45mm
28mm	22mm	30mm
16mm	10mm	30mm

### Models

90426	Skin Fitting Tail 13mm 1/2" BSP White				
90427	Skin Fitting Tail 19mm ¾" BSP White				
90430	Skin Fitting Tail 25mm 1" BSP White	White Unequal Skin Fittings with Tail		Upoqual Skip Eittings with Tail	
90433	Skin Fitting Tail 32mm 11/4" BSP White				
90434	Skin Fitting Tail 38mm 11/2" BSP White		90436	Skin Fitting Tail 28mm 1" BSP White	
30434		Skill Filling Tail Sommi 1/2 BSF White 90525		Skin Fitting Tail 28mm 1" BSP Black	
90435	Skin Fitting Tail 50mm 2" BSP White			Chie Fitting Tail 40mm 1/77 DOD W/hite	
90522	Skin Fitting Tail 13mm ½" BSP Black			Skin Fitting Tail 16mm ½"" BSP White	
90523	Skin Fitting Tail 19mm ¾" BSP Black	90811		Skin Fitting Tail 16mm 1/2"" BSP Black	
90524	Skin Fitting Tail 25mm 1" BSP Black				
90526	Skin Fitting Tail 32mm 1¼" BSP Black		Note: Packaged / Tagged part numbers not shown		
90527	Skin Fitting Tail 38mm 11/2" BSP Black		numbers not snown		
90528	Skin Fitting Tail 50mm 2" BSP Black				

## **Location & Drilling**

- Skin Fittings with Tail are **not allowed for below water applications or below the heal line**. For below the water line only use a Skin Fitting with Ball Valve attached (Seacock).
- Ensure there is enough room on the inside of the boat to allow the fitting of hoses.
- Mark the location and drill from the inside a pilot hole 3mm in diameter. Select a hole-saw 1 mm larger than
  the outside thread diameter of the Skin Fitting (Thru Hull). From the inside, use the pilot hole as a centre and
  drill through the hull with the selected hole-saw.
- It is recommended to locate in protected location to minimize the chance of inadvertent damage.
- Dual hose clamps should be fitted to ensure the hose does not become disengaged from the tail.
- There is no need to tie or bond TruDesign Skin Fittings with Tail electrically together as there are no corrosion or electrolysis problems as can be experienced when using ferrous fittings.



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### Recommended Hull Adhesive Sealants & Glues:

First clean all surfaces to be bonded with a general-purpose cleaner.

- 3M<sup>™</sup> Marine Adhesive Sealant Fast Cure 5200. A one-part polyurethane adhesive/sealant. Starts to cure (tack-free) in approximately 2 hours, after which hoses can be attached. Full cure takes 24 hours refer to manufacturer's product literature.
- SIKAFLEX<sup>®</sup> 291i Marine Sealant. A one-part polyurethane adhesive/sealant. Starts to cure (tack-free) in approx. 2 hours, after which hoses can be attached. Full cure takes 24 hours refer to manufacturer's product literature.
- Bostik<sup>®</sup> 920 Marine Sealant. A one-part urethane adhesive/sealant. Starts to cure (tack-free) in approx. 2 hours, after which hoses can be attached. Full cure takes 1.5 3 days refer to manufacturer's product literature.
- West System<sup>®</sup> (or similar) two-pot epoxy that mixes to a paste. Tip adding filler to the West System<sup>®</sup> will increase the viscosity and help minimise "running" of the epoxy. Visit http://www.westsystem.com/ss/fillerselection-guide/ for more details.

### Fitting & sealing:

- Smear the adhesive or glue on the underside of the Skin Fitting (Thru Hull) flange and a small way up the thread, but no further than the thickness of the hull. It is important not to have any adhesive on the exposed thread area as this could prevent the Nut or Ball Valve from turning.
- If necessary, place two strips of masking tape over the flange and attach to the hull to temporarily hold in place. Go inside the hull to fit the Nut. Note it is good practice to have a backing plate to spread the load especially if there is excessive curvature in the hull or the hull is very thin.
- Hold the thread down near the washer and screw on the Nut. Once the nut is screwed down far enough that you can hold the fitting above the nut do so and continue to screw the nut down onto the washer ensuring it is only finger tight.
- On the outside of the hull clean off any excess adhesive. Tip use an angled tool or putty knife to 'blend' adhesive around the Skin Fitting (Thru Hull) flange and the hull so it is easier to clean when sanding and antifouling in the future.
- After recommended curing times, tighten the nut to no more than 15 ft.lb. <u>There is no need to over-tighten</u> <u>the nut</u>, especially if epoxy has been used, as the Skin Fitting (Thru Hull) is now an integral part of the hull.

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