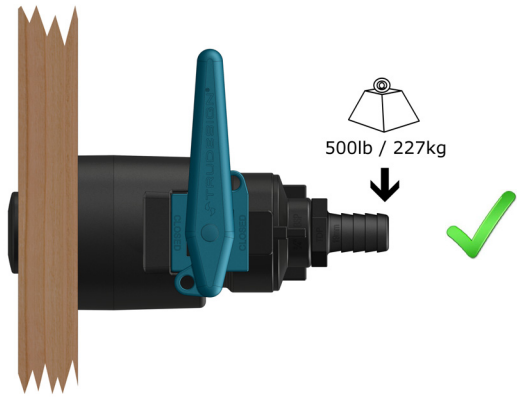
LOAD BEARING COLLARS

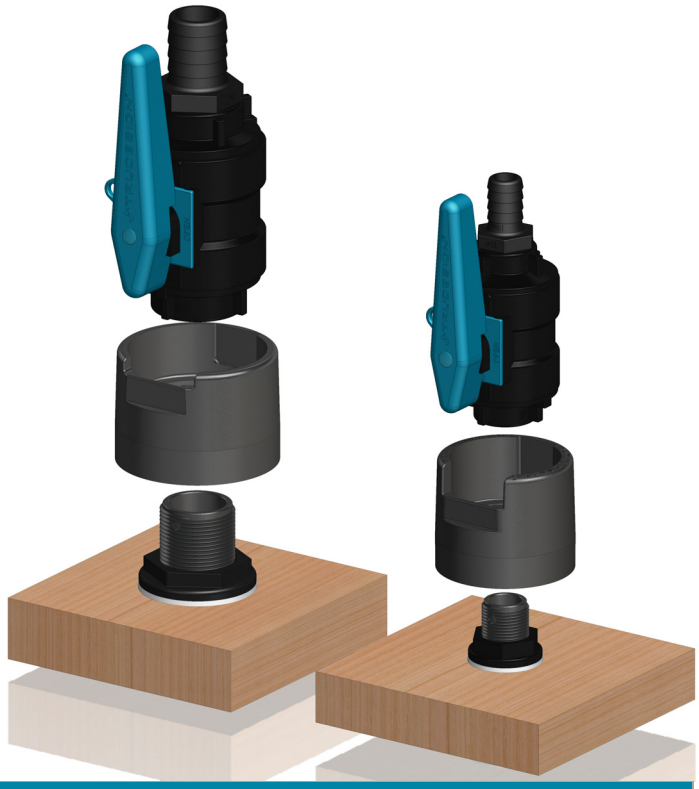
- ABYC H-27 RATED (for ½", ¾", 1", 1¼" & 1½")

Tru-Design Load Bearing Collars are designed for use with Tru-Design Skin Fittings and Ball Valves.

With the Collar in place, the Skin Fitting-Ball Valve-Tail assembly will withstand a 500lb (227kg) static force applied to the Tail end of the assembly, for a minimum of 30 seconds – complying with ABYC H-27 rating.

Available in two sizes (small & medium):





Features & Benefits:

Feature:	Benefit:
ABYC H-27 compliance for ½", ¾", 1", 1¼", and 1½" sized assemblies	Strength and peace-of-mind. Rates assemblies to withstand a static load of 500 lb (227 kg) for a minimum of 30 seconds
Compact footprint	Designed to work within existing space confinements (is no larger in diameter than the ball valve + handle)
No additional bolts or fasteners through or on to the hull	Unlike other flanged ball valves, the Tru-Design Collar works without needing to be secured to the hull
Ability to retrofit to existing assemblies	Can turn any Tru-Design Skin Fitting / Ball Valve assembly into an ABYC H-27 compliant assembly simply by removing the Ball Valve from the Skin Fitting, attaching the Collar to the Ball Valve, trimming the Skin Fitting length (if necessary – see following page), then refitting the Collar & Ball Valve back on to the Skin Fitting
Compatible with all hull types across a wide range of hull thicknesses – see installation notes	Can be used on aluminium, steel, wood, GRP or composite hulls. Skin Fitting may need to be trimmed down in length for optimum strength – see installation notes
Shrouded protection	Protects vulnerable areas, such as the exposed thread of the Skin Fitting, from being inadvertently struck by loose items in the hull
Fool-proof assembly	If not installed correctly (e.g. if the Skin Fitting has not been cut down to the correct length) the Collar will be loose and will be able to slide up and down the Ball Valve. When installed correctly, the Collar will be tight between the Ball Valve and hull and not move
Manufactured from a glass reinforced nylon composite	High strength and light weight
Immune to corrosion and electrolysis	Long life with no concerns over decreased performance due to corrosion

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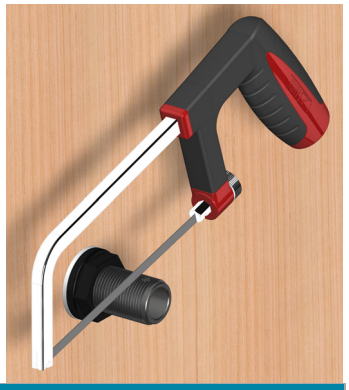
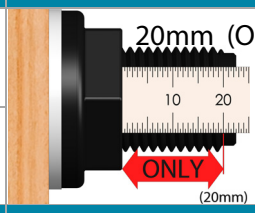
Technical Information:

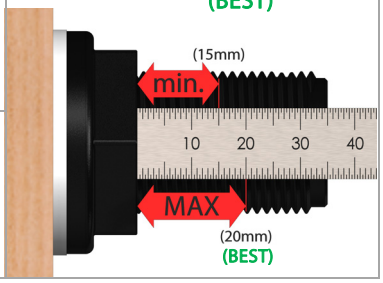
The following tables list the minimum, optimal and maximum hull thicknesses required for the two different size collars in order to meet ABYC H-27 compliance.

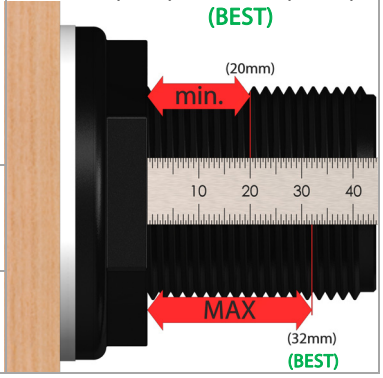
Important Notes:

1.) If hull thickness is less than the 'Minimum' value given below, a packer should be used on the inside of the hull.
2.) The Skin Fitting's thread length may be shortened by cutting with a hacksaw or similar tool. Measure from the back of the Skin Fitting Nut ensuring the thread length after cutting falls between the min. and MAX values given below. After cutting, clean any swarf or ragged internal edges with a small file.
3.) If hull thickness exceeds the 'Maximum' value, there will be insufficient thread engagement with the Ball Valve to achieve ABYC H-27 compliance. If possible, replace with a larger size or consider using a Recessed Skin Fitting.



Load Bearing Collar – Small *Fits following size BSP or NPS parts:*	Minimum Hull Thickness	Maximum Hull Thickness	Remaining thread length required on Skin Fitting (for Ball Valve)
½" Skin Fitting + ½" Ball Valve	30mm ⇦ Trimming Required ⇨	35mm	
½" Recessed Skin Fitting + ½" Ball Valve	30mm ⇦ Trimming Required ⇨	38mm	

Load Bearing Collar – Small *Fits following size BSP or NPS parts:*	Minimum Hull Thickness	Optimal Hull Thickness	Maximum Hull Thickness	Remaining thread length required on Skin Fitting (for Ball Valve)
¾" Skin Fitting + ¾" Ball Valve	20mm	30mm	35mm	15mm (min) - 20mm (MAX) (BEST)
1" Skin Fitting + 1" Ball Valve	⇦ Trimming Required ⇨	⇦ NO Trimming ⇨		
¾" Recessed Skin Fitting + ¾" Ball Valve	20mm	35mm	40mm	
1" Recessed Skin Fitting + 1" Ball Valve	⇦ Trimming Required ⇨	⇦ NO Trimming ⇨		

Load Bearing Collar – Medium *Fits following size BSP or NPS parts:*	Minimum Hull Thickness	Optimal Hull Thickness	Maximum Hull Thickness	Remaining thread length required on Skin Fitting (for Ball Valve)
1¼" Skin Fitting + 1¼" Ball Valve	24mm	36mm	48mm	20mm (min) - 32mm (MAX) (BEST)
1½" Skin Fitting + 1½" Ball Valve	⇦ Trimming Required ⇨	⇦ NO Trimming ⇨		
1¼" Recessed Skin Fitting + 1¼" Ball Valve	24mm	41mm	53mm	
1½" Recessed Skin Fitting + 1½" Ball Valve	⇦ Trimming Required ⇨	⇦ NO Trimming ⇨		
	24mm	42mm	54mm	
	⇦ Trimming Required ⇨	⇦ NO Trimming ⇨		

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Approvals:

- ABYC (American Boat & Yacht Council) H-27 (*SEACOCKS, THRU-HULL FITTINGS, AND DRAIN PLUGS)* compliance when Collar is used with Tru-Design Skin Fittings and Ball Valves.
  Note: Not tested and approved for use with other manufacturer's fittings
- Bureau Veritas & IMCI approval to ISO 9093-2 *(Small craft — Seacocks and through-hull fittings — Part 2: Non-metallic)* on both Tru-Design Skin Fittings and Ball Valves.

New Installation:

1.) Perform a 'dry fit' of parts first to ascertain the final handle position of the Ball Valve, and whether or not the Skin Fitting length needs to be trimmed i.e. measure the hull thickness and ensure the remaining thread length on the Skin Fitting (after Washer and Nut are installed) meets the thread length requirements in the tables on Page 2. It may be easier to trim the Skin Fitting before installation, if the installed position is awkward to get to.
2.) Clean off the inside and outside of the hull where the old Skin Fitting has been removed. In the case of composite and wooden hulls Tru-Design suggest using Epoxy-West system or similar two pot epoxy that mixes to a paste and not a liquid type resin as this will run and will create an undesirable finish.
Sikaflex 291i or 3M 5200 Fast Cure can also be used.
3.) Smear the epoxy paste or sealant on the underside of the Skin Fitting flange and a small way up the threaded diameter but no further than the thickness of the hull. It is important not to have any epoxy or sealant on the thread area.
4.) Insert the Skin Fitting through the hull from the outside. The easiest way of holding the Skin Fitting is to insert one or two fingers inside the fitting then offer it up to the hole. The paste should be thick enough to hold the fitting in place and not drip or run down the hull. Go inside the hull to fit the washer and lock nut.
5.) If there is a large gap between the hole in the hull and the Skin Fitting, carefully fill this gap with more epoxy paste again ensuring there is no epoxy on the exposed part of the thread. Drop the washer over the top of the thread and push to the hull. (Note: For excessive curvature in the hull a suitable curved packer should be fitted between the hull and the washer.) Now hold the thread down near the washer and screw on the lock nut.
6.) Once the nut is screwed down far enough so you can hold the fitting above it 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 epoxy. Tip: Use an angled tool or putty knife to fill the small recess around the outside of the Skin Fitting head and the hull so it is easier to clean when sanding and antifouling in the future.
7.) After recommended curing time tighten the nut to about 15ftlb. There is no need to over tighten the locking nut as the epoxy has now made the Skin Fitting an integral part of the hull and will last the life of the vessel.
8.) Measure the exposed length of thread on the Skin Fitting (measured from the top of the nut) and ensure it meets the length requirements listed in the tables on Page 2, otherwise cut it down to the correct length using a hacksaw. Clean any swarf or ragged internal edges with a small file.
9.) Apply PTFE thread sealing tape or suitable thread sealant such as 3M 5200 Fast Cure or Sikaflex 291i to the Skin Fitting thread.
10.) Slide the ABYC Rated Collar onto the Ball Valve.
11.) Add a small bead of sealant to the underside of the ABYC Collar (to prevent noise through vibrations).
12.) Offer the Ball Valve with ABYC Collar up to the Skin Fitting and turn both together, tightening all the way until the Collar is sandwiched in place between the hull and Ball Valve and not loose.
13.) Keep tightening, or loosen off very slightly until the handle of the Ball Valve is in desired final position.
Your assembly is now compliant to ABYC H-27 requirements.

Retrofit Installation (Tru-Design parts only):

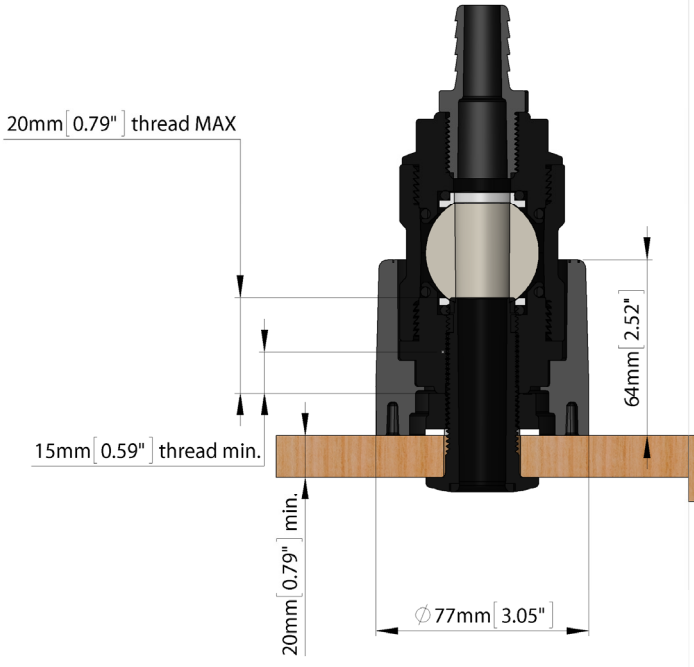
1.) Remove any pipework from the Ball Valve's Tail fitting.
2.) Using a Tru-Design Ball Valve spanner unscrew the Ball Valve from the Skin Fitting. Tip: If a Tru-Design Ball Valve spanner is not available, wrap a cloth or rag around the Ball Valve for protection, then carefully grip and unwind the Ball Valve using multi-grip pliers.
3.) Measure the exposed length of thread on the Skin Fitting (measured from the top of the nut) and ensure it meets the length requirements listed in the tables on Page 2, otherwise cut it down to the correct length using a hacksaw. Clean any swarf or ragged internal edges with a small file.
4.) Reapply PTFE thread sealing tape or suitable thread sealant such as 3M 5200 Fast Cure or Sikaflex 291i to the Skin Fitting thread.
5.) Slide the ABYC Collar onto the Ball Valve.
6.) Add a small bead of sealant to the underside of the ABYC Collar (to prevent noise through vibrations).
7.) Offer the Ball Valve with ABYC Collar up to the Skin Fitting and turn both together, tightening all the way until the collar is sandwiched in place between the hull and Ball Valve and not loose.
8.) Keep tightening, or loosen off very slightly until the handle of the Ball Valve is in desired final position. Your assembly is now compliant to ABYC H-27 requirements.

Part Numbers:

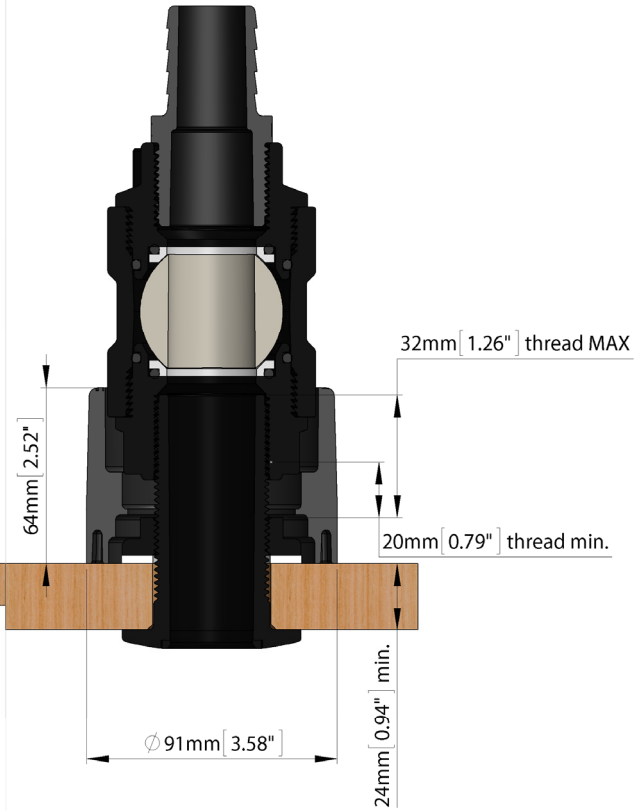
Model / Size	Weight	Part Number
Load Bearing Collar ABYC Rated - Small (to suit ½", ¾" & 1" sizes)	150 grams / 5.29 oz	**90856**
Load Bearing Collar ABYC Rated - Medium (to suit 1¼" & 1½" sizes)	165 grams / 5.82 oz	**90857**

Dimensions:

Load Bearing Collar ABYC Rated - Small
(for ½", ¾" & 1" size assemblies)



Load Bearing Collar ABYC Rated - Medium
(for 1¼" & 1½" size assemblies)



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