



**SPEARS® MANUFACTURING COMPANY**

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May 28, 2025

Mr. Steve D'Antonio  
Steve D'Antonio Marine Consulting, Inc.  
PO Box 936  
Ashland, VA 23005

**RE:** Use of a Spears® #1436-010 in a below waterline application

Dear Mr. D'Antonio,

Thank you for your recent inquiry regarding use of our 1436 series fitting in a pump application placed below the vessel waterline.

The 1436 series fitting is manufactured in accordance with ASTM D2609: The Standard Specification for Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe. These insert fittings were specifically designed for use with the following Polyethylene pipe standards only for applications such as irrigation, agricultural, etc.

**Polyethylene Pipe Standards**

**ASTM D2239:** Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter

**ASTM D2401:** Standard Specification for Polyethylene (PE) Plastic Pipe, Schedule 40

While PVC is a very versatile material, it is not ideal for the application you indicate in **Photo 1** for the following reasons:

- 1) The #1436 barb dimension does not properly match the pipe dimension in **Photo 1**. Therefore, excessive hose clamping torque may have to be exerted to compensate for the mismatched pipe and fitting dimensions to obtain a leak-free seal.
- 2) The 1436 male threaded fitting side appears to be overtightened into the pump. Spears® PVC plastic threaded insert fittings are designed with tapered (NPT) threads in accordance with ANSI B1.20.1. A thread taper is necessary to create a leak free seal, however, can be detrimental if overtightened. That is why Spears® recommends tightening the thread "fingertight" plus one to two turns of engagement – no more, using a compatible thread paste or tape. In the photo the PVC thread appears almost completely bottomed into the pump. This suggests that the threads may have been overtightened, increasing the possibility for failure.

Based on my review of the circumstances, Spears® Manufacturing Company does not recommend use of the 1436 series fitting in any vessel applications below the waterline including the subject application or any through-hull applications. Please do not hesitate to contact me with any questions.

Sincerely,

A handwritten signature in blue ink that reads "John Immel".

John Immel  
Product Manager  
jimmel@spearsmfg.net  
cc: Corbin Boughner



**Photo 1**