

## TURNCOUPLE IMPACT TEST PICTURES

The Picture 1 shows my pendulum impact device. The cast iron threaded flange was mounted with 4 carriage bolts and attached to a 2x6 pressure treated board. The 8 lb hammer had a 33" handle and was raised to a horizontal position and released. The hammer was raised 90 degrees and let go.

Schedule 80 PVC lasted 1 hit. The Marelon fittings lasted two hits. Picture 1 is a Marelon fitting; notice how cleanly it sheared. As a comparison, bronze is good for 6-8 hits.

The nipple fitting in Picture 2 is a Turncouple part (with black added when molded), the female barbed fitting was a Marelon part that went 2 hits also. The Turncouple nipple survived at least 100 hits while testing other female fittings and Turncouples. It showed no cracking or thread distortion.

Picture 1



Picture 2



Picture 3 shows a Turncouple barbed fitting after 18 hits. The Turncouple is molded using a 20% long glass filled Thermopolyurethane (TPU). This Turncouple was molded with 20% long glass fiber and exceeded the H-27 Tensile Strength and Flexural Modulus requirements. Several non-glass loaded Turncouple tailpieces were tested sustaining 13 hits before cracking. This material does not meet the ABYC material standard, but had over six times the impact strength as Marelon.

The Picture 4 shows a full Turncouple assembly after 50 hits. It has no cracks, especially where the nipple threads screwed into the cast iron flange. It was still functional. The highest impact value I was able to get testing any other material was 3 hits using a 33% glass loaded Dupont nylon of our own manufacture.

Picture 3



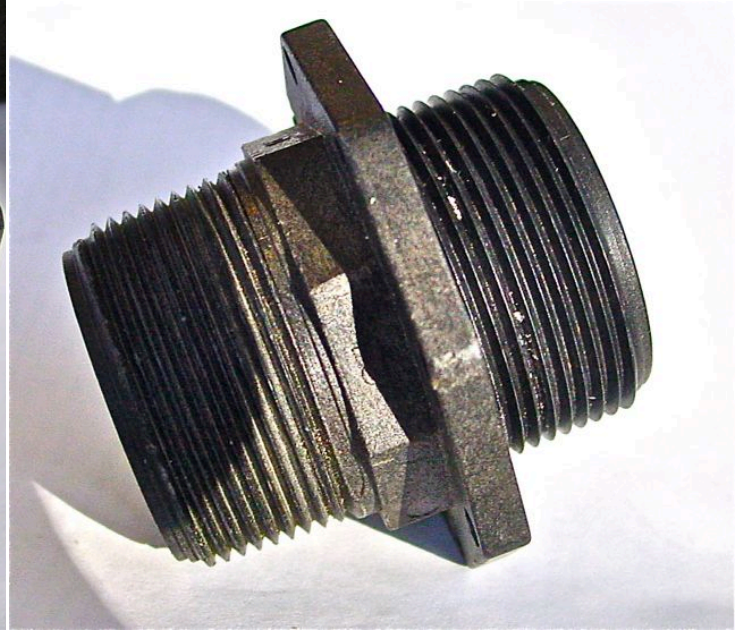
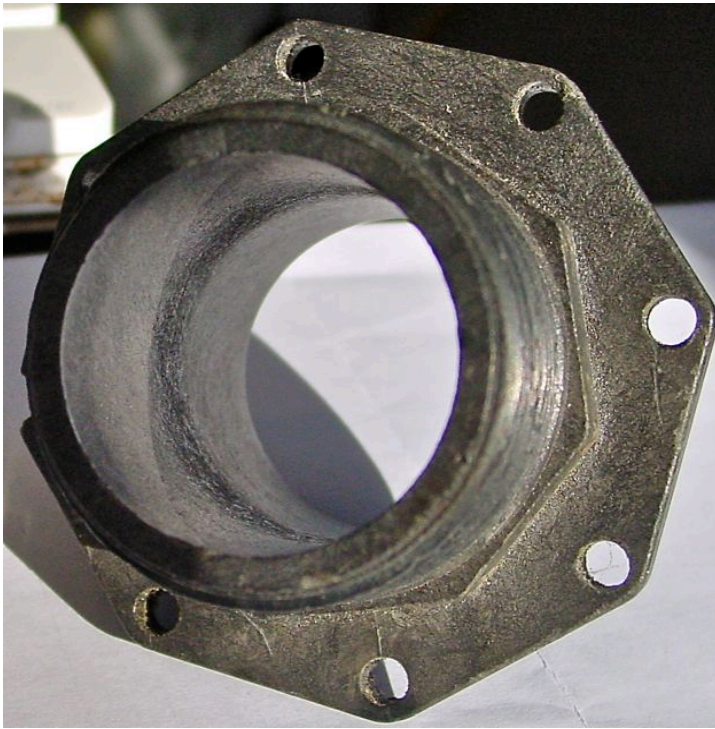
Picture 4



Picture 5, is one of the carriage bolts after the tests were finished. It clearly, shows the impact strength of TPU and the quality of the Turncouple molded threads.



Pictures 6 and 7 show the black Turncouple nipple fitting seen in pictures 2 and 4. This fitting has over 100 hits and shows no cracks.



Picture 8 shows a 33% glass filled nylon part used by a leading boat builder as the tailpiece for their seacocks. It was immersed in water for 48 hours. It took only two hits to “shatter” this part.

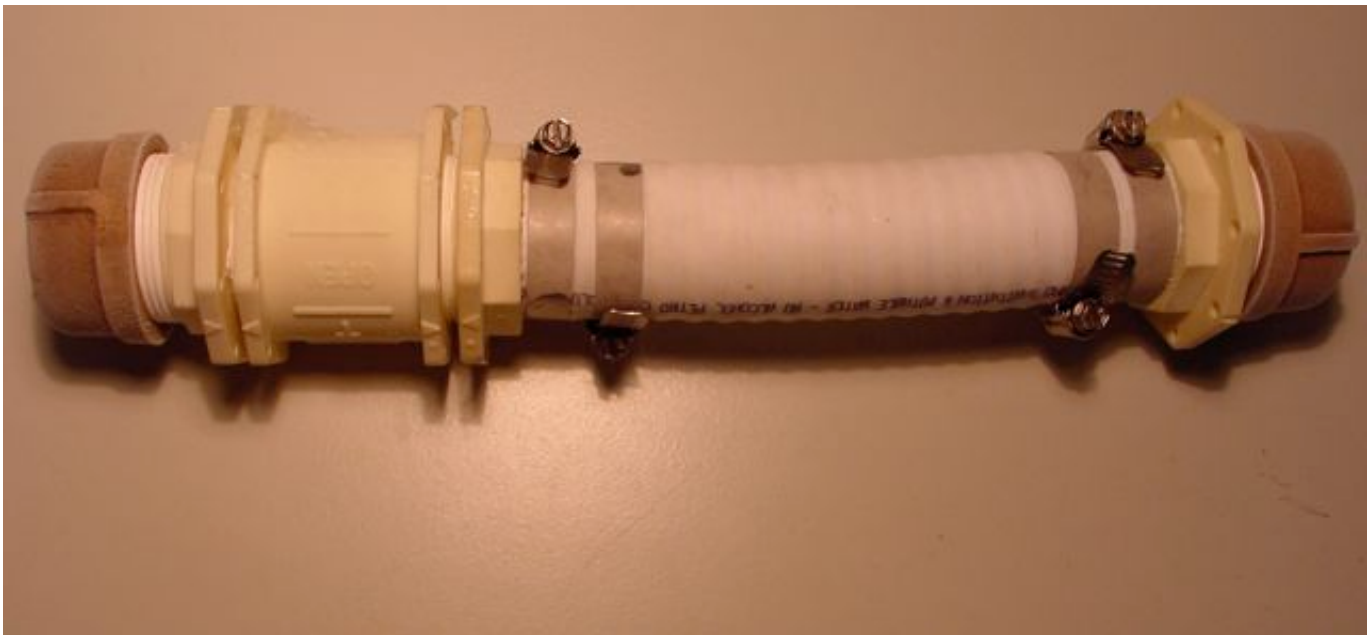


Pictures 8 and 9 are Turncouple fittings with bronze caps that were filled with water and set outside for 14 hours at -20 degrees. They provide proof that Turncouple molded Isoplast parts can withstand serious internal pressures without cracking.

Picture 8



Picture 9



There's more pictures if desired.