(13) Provide the minimum buoyancies specified in Table 160.077–15(b)(13).

<table>
<thead>
<tr>
<th>Inherent buoyancy (deflated condition):</th>
<th>Adult</th>
<th>Youth</th>
<th>Small child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type II</td>
<td>45 N (10 lb)</td>
<td>40 N (9 lb)</td>
<td>30 N (7 lb)</td>
</tr>
<tr>
<td>Type III</td>
<td>45 N (10 lb)</td>
<td>40 N (9 lb)</td>
<td>N/A</td>
</tr>
<tr>
<td>Type V</td>
<td>33 N (7.5 lb)</td>
<td>34 N (7.5 lb)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total buoyancy (inflated condition):</th>
<th>Adult</th>
<th>Youth</th>
<th>Small child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type II</td>
<td>100 N (22 lb)</td>
<td>67 N (15 lb)</td>
<td>53 N (12 lb)</td>
</tr>
<tr>
<td>Type III</td>
<td>100 N (22 lb)</td>
<td>67 N (15 lb)</td>
<td>N/A</td>
</tr>
<tr>
<td>Type V</td>
<td>100 N (22 lb)</td>
<td>67 N (15 lb)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

(14) Meet any additional requirements that the Commandant may prescribe, if necessary, to approve unique or novel designs.

(c) Inflation mechanism. (1) Each inflation mechanism on a recreational hybrid PFD must—
   (i) Not require tools to activate it or replace its inflation medium cartridge or water sensitive element;
   (ii) Have an intended method of operation that is obvious to an untrained wearer; and
   (iii) Be located outside of its inflation chamber.

(2) Each oral inflation mechanism must—
   (i) Be designed to operate without pulling on the mechanism;
   (ii) Not be capable of locking in the open or closed position except that, a friction-fit dust cap that only locks in the closed position may be used; and
   (iii) Have a non-toxic mouthpiece.

(3) Each automatic and manual inflation mechanism must—
   (i) Have a simple method for replacing the inflation medium cartridge; and
   (ii) Be in a ready-to-use condition or be conspicuously marked to indicate that the inflation mechanism is not in a ready-to-use condition and that the purchaser must assemble it.

(4) Each manual inflation mechanism must—
   (i) Provide an easy means of inflation that requires only one deliberate action on the part of the wearer to activate it; and
   (ii) Be operated by pulling on an inflation handle that is marked “Jerk to Inflate” at two visible locations.

(5) Each automatic inflation mechanism must—
   (i) Have an obvious method for indicating whether the mechanism has been activated; and
   (ii) Be incapable of assembly without its water sensitive element.

(6) The marking required for the inflation handle of a manual inflation mechanism must be waterproof, permanent, and readable from a distance of 2.5 m (8 ft.).

(d) Deflation mechanism. (1) Each inflation chamber must have its own deflation mechanism.

(2) Each deflation mechanism must—
   (i) Be readily accessible to either hand when the PFD is worn while inflated;
   (ii) Not require tools to operate it;
   (iii) Have an intended method of operation that is obvious to an untrained wearer, and
   (iv) Not be able to be locked in the open or closed position.

(3) The deflation mechanism may be the oral inflation mechanism.

(e) Sewn seams. Stitching used in each structural seam of a PFD must provide performance equal to or better than a Class 300 Lockstitch meeting Federal Standard No. 751.

§ 160.077–17 Construction and Performance—Type I and Commercial Hybrid PFD.

(a) General. Each commercial hybrid PFD must meet—
   (1) Paragraph (b) of this section; and

(b) Additional requirements. Each commercial hybrid PFD must—
§ 160.077–19 Approval Testing—Recreational Hybrid PFD’s.

(a) General. (1) This section contains approval tests and examinations for recreational hybrid PFD’s. Each test and examination must be conducted or supervised by an independent laboratory. The tests must be done using PFD’s that have been constructed in accordance with the plans and specifications in the application for approval. In each test only one PFD is required to be tested unless otherwise specified or needed to complete the tests in paragraph (d) of this section.

(2) All data relating to buoyancy and pressure must be taken at, or corrected to, standard atmospheric pressure of 760 mm (29.92 inches) of mercury and temperature of 20 °C (68 °F).

(3) The tests in paragraph (b) of this section must be completed before doing the tests in paragraph (d) of this section.

(4) In each test that specifies inflation by an automatic inflation mechanism and either or both of the other mechanisms, the automatic inflation mechanism must be tested first.

(5) Some tests in this section require PFD’s to be tested while being worn. The number and characteristics of the test subjects must be as prescribed in section 11 of UL 1517.

(b) Tests. Each PFD design must be tested according to the procedures in the following tests and meet the requirements in those tests:

(1) Donning and Operability, UL 1517, section 12.

(2) Jump Test, UL 1517, section 13.

(3) Flotation Stability and Inflation.

(i) Uninflated Flotation Stability, UL 1517, section 14.

NOTE: If the freeboard of a test subject is close to zero, caution must be taken to prevent the subject from inhaling water. The subject may use lightweight breathing aids to avoid inhaling water.