WATERTITE PERFORMANCE COMPARISON

See how Woodhead Watertite devices differ from the competition in seven key performance tests

Tests Performed:

- Compression
- IP69K Reference High Pressure
- Submersion
- Cold Temperature
- Abrasion Resistance
- Internal Pressure
- Water Abrasion
# Watertite Performance Comparison

## Performance Tests

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Compression</th>
<th>IP69K Reference</th>
<th>High Pressure</th>
<th>Submersion</th>
<th>Cold Temperature</th>
<th>Abrasion Resistance</th>
<th>Internal Pressure</th>
<th>Water Abrasion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodhead</td>
<td>Pass</td>
<td>No Water Entry</td>
<td>Pass</td>
<td>Pass</td>
<td>Best</td>
<td>30 PSI</td>
<td>Best</td>
<td></td>
</tr>
<tr>
<td>Brand A</td>
<td>Pass</td>
<td>Water at 2nd seal</td>
<td>Failed</td>
<td>Pass</td>
<td>Most Damaged</td>
<td>N/A</td>
<td>Damaged</td>
<td></td>
</tr>
<tr>
<td>Brand B</td>
<td>Pass</td>
<td>Water at 2nd seal</td>
<td>Pass</td>
<td>Failed</td>
<td>Damaged</td>
<td>8 PSI</td>
<td>Damaged</td>
<td></td>
</tr>
<tr>
<td>Brand C</td>
<td>Pass</td>
<td>Water at 2nd seal</td>
<td>Pass</td>
<td>Pass</td>
<td>Damaged</td>
<td>24 PSI</td>
<td>Failed</td>
<td></td>
</tr>
<tr>
<td>Brand D</td>
<td>Pass</td>
<td>Water at 1st seal</td>
<td>Pass</td>
<td>Pass</td>
<td>Damaged</td>
<td>8 PSI</td>
<td>Failed</td>
<td></td>
</tr>
</tbody>
</table>

1. **Compression Test (as performed to meet UL 498):**
   Plug must be capable of withstanding a crushing force of 125 lbs. for 1 minute. All products passed, as expected.

2. **High Pressure Test After Compression Test (test from IP69K standard):**
   Water pressure of 2000 PSI, water temperature of 20°C. Sprayed from 6 inches at four different angles for 2 minutes.

3. **Submersion Test After Compression Test:**
   Plugs are submerged at a depth of 6 inches in 20°C water for 15 minutes immediately following the Crush Test.

4. **Cold Temperature Test (Reference UL 50E):**
   Samples are fully submerged into water and frozen for 12 hours at -25°C.

5. **Abrasion Resistance Test (reference IEC 60068-2-31):**
   Plug and connector are wired with 4-inch pigtail cable. Both are tumbled in a barrel with 2 lbs. of lava rock for 50 minutes (4,000 falls).

6. **Internal Pressure (Bubble) Test:**
   Maximum air pressure of 30 PSI is supplied to the inside of the mated plug and connector.

7. **Water Abrasion Test (IP69K):**
   Products rated to IP69K must be able to withstand high-pressure and steam cleaning. A spray nozzle fed with 80°C water at 80–100 bar with a flow rate of 14–16 L/min. is held 10–15 cm from the tested device at angles of 0°, 30°, 60° and 90° for 30 seconds each, while the tested device sits on a turntable that rotates every 12 seconds.

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