

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



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Watertite

Performance Comparison



Manufacturer	Performance Tests						
	COMPRESSION	IP69K REFERENCE HIGH PRESSURE	SUBMERSION	COLD TEMPERATURE	ABRASION RESISTANCE	INTERNAL PRESSURE	WATER ABRASION
Woodhead	Pass	No Water Entry	Pass	Pass	Best	30 PSI	Best
Brand A	Pass	Water at 2nd seal	Failed	Pass	Most Damaged	N/A	Damaged
Brand B	Pass	Water at 2nd seal	Pass	Failed	Damaged	8 PSI	Damaged
Brand C	Pass	Water at 2nd seal	Pass	Pass	Damaged	24 PSI	Failed
Brand D	Pass	Water at 1st seal	Pass	Pass	Damaged	8 PSI	Failed



COMPRESSION

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.



IP69K REFERENCE HIGH PRESSURE

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.



SUBMERSION

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.



COLD TEMPERATURE

4. Cold Temperature Test (Reference UL 50E):

Samples are fully submerged into water and frozen for 12 hours at -25°C.



ABRASION RESISTANCE

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).



INTERNAL PRESSURE

6. Internal Pressure (Bubble) Test:

Maximum air pressure of 30 PSI is supplied to the inside of the mated plug and connector.



WATER ABRASION

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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