

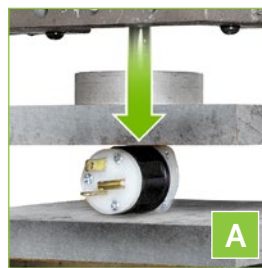
What is Hospital Grade?

All UL Listed attachment plugs, connectors and receptacles, including hospital grade plugs, connectors and receptacles, must comply with applicable construction and performance requirements in UL 498, the Standard for Safety for Attachment Plugs and Receptacles. In addition to UL Listing requirements for general use devices, hospital grade plugs, connectors and receptacles incorporate additional construction features and are subjected to more stringent performance requirements. These include grounding reliability, assembly integrity, and strength and durability tests. This document highlights just some of these rigorous tests.

UL Testing for Plugs and Connectors

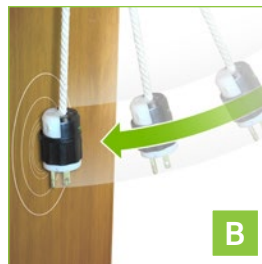
Crush Test (A)

A wired plug or connector is placed between two steel plates and subjected to a force which is steadily increased to 500 pounds. "There shall be no breakage, deformation or other effects that may interfere with the function of the device."



Mechanical Drop Test (B)

A sample wired plug or connector is suspended horizontally by its attached cord, and released so that it impacts a hard wood surface 45 inches below the point of suspension — repeated for 1300 cycles. "There shall be no breakage, deformation, or other damage which would interfere with the functioning of the device."



Cord Pull Test (C)

The cord must remain securely fastened after straight pulls of 30 pounds and rotating pulls (in a 3-inch circle) of 10 pounds for two hours. "Displacement of conductors, insulation, and outer jacket of the flexible cord shall not exceed 1/32 inch. There shall be no cuts, rips, or tears in cord insulation." Heavy-duty cord stress is typical abuse for industrial plugs and connectors.



UL Testing for Receptacles

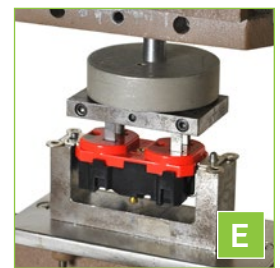
Ground Contact Overstress Test (D)

The grounding contact of the receptacle is conditioned by 20 insertions with a .204 inch oversized pin. After conditioning, a 0.184 inch diameter pin shall be inserted in the grounding contact which shall be capable of supporting at least four ounces for one minute. The displacement of the test pin shall not be greater than 0.079 inch (2 mm). There shall not be any breakage that adversely affects the integrity of the enclosure of live parts.



Assembly Security Test (E)

A force of 100 pounds is applied through the slots to the base of the receptacle while the yoke is supported at its screw mounting positions. There shall not be any permanent deformation of the yoke that would render the receptacle incapable of functioning as intended.



Abrupt Removal of Plug Test (F)

A steel-bodied test plug with brass blades is inserted into the receptacle. A 10 pound weight dropped from 24 inches yanks the plug out of the receptacle. This test is done eight times with the receptacle rotated into different positions to create the greatest stress on its face and contact. After this, the grounding contact must retain a four ounce, 0.184 inch diameter grounding pin, with the receptacle face down, for one minute. There shall be no breakage of the receptacle that interferes with the receptacle function or the integrity of the enclosure. The receptacle shall maintain the grounding path integrity through the receptacle. This test is followed by additional tests for Ground Contact Temperature Rise, Resistance and Fault Current. For more information on the Abrupt Removal Test, please see UL 498.



Impact Test (G)

A receptacle mounted in a box is subjected to impact from a 5 pound weight dropped from a height of 18 inches. "There shall be no breakage, deformation or other effect that may interfere with the function of the device."



Leviton is proud to offer a wide array of devices that comply with Hospital Grade Standards. Learn more at: www.leviton.com/healthcare