







International Protection Ratings & Technical Terms









PROTECTION AGAINST SOLIDS

	TEST	PROTECTION
x	No test applied	No specific protection
0	No test applied	Inherent degree of protection
1		Protected against solid objects equal to or greater than 50mm diameter. (eg. accidental contact with hand)
2		Protected against solid objects equal to or greater than 12.5mm diameter. (eg. contact with finger)
3		Protected against solid objects equal to or greater than 2.5mm diameter. (eg. tools and wires)
4		Protected against solid objects equal to or greater than 1mm diameter. (eg. fine tools and wires)
5		Protected against quantities of dust that could interfere with satisfactory operation.
6		Completely protected against dust.

Defined by IEC 60529
DIN 40050 CEI 70-1

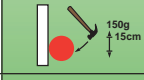
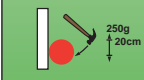



To Australian standards AS 60529-2004
Degrees of protection provided by enclosures.
(IP Code)

PROTECTION AGAINST LIQUIDS

	TEST	PROTECTION
x	No test applied	No specific protection
0	No test applied	Inherent degree of protection
1		Protected against drops of water falling vertically.
2		Protected against drops of water falling at up to 15 degrees from the vertical.
3		Protected against spraying water at up to 60 degrees from the vertical.
4		Protected against splashing water from all directions.
5		Protected against jets of water from all directions.
6		Protected against jets of water of similar force to heavy seas.
7		Protected against the effects of temporary immersion.
8		Protected against the effects of continuous immersion.

Defined by IEC 60529

PROTECTION AGAINST IMPACT

	TEST	PROTECTION
x	No test applied	No specific protection
1		Resistant to impacts of weight up to 150g falling from 15cm.
3		Resistant to impacts of weight up to 250g falling from 20cm.
5		Resistant to impacts of weight up to 500g falling from 40cm.
7		Resistant to impacts of weight up to 1.5kg falling from 40cm.
9		Resistant to impacts of weight up to 5kg falling from 40cm.

Defined by UTE 20010

The following technical terms are brief descriptions indicating the tests involved to attain ratings.
For further information refer to the standards indicated.

M-Rating (Refer AS/NZS3133)

Clipsal switches and switched socket outlets are marked with an M-Rating. This indicates that these products have been tested and found suitable for switching locked rotor current.

In part, this test involves 50 operations, make and break of the nominated locked rotor current at 0.5 power factor lagging. The switch will not fail to interrupt the current or fail in any way electrically or mechanically.

AC-15 (refer AS/NZS3947)

Control of electromagnetic loads (>72VA).

AC-23 (refer AS/NZS3947)

Switching of motor loads or highly inductive loads.

In part this involves five make and break operations at:

- 10 times rated current make
- 1.1 times rated voltage make
- 0.35 cos
- 8 times rated current break
- 1.1 times rated voltage break
- 0.35 cos.

Additional mechanical at no load and electrical endurance tests at rated current and voltage at 0.35 cos are conducted.

AC-21 (refer AS/NZS3947)

Switching of resistive loads, including moderate overloads

In part this involves five make and break operations, at 1½ times rated current and 1.1 times rated voltage at 0.95 cos.

Additional mechanical no load and electrical endurance tests at rated current and voltage at 0.95 cos are conducted.

AC-22 (refer AS/NZS3947)

Switching of mixed resistive and inductive loads, including moderate overloads.

In part this involves five make and break operations at three times rated current and 1.1 times rated voltage at 0.65 cos. Additional mechanical no load and electrical endurance tests at rated current and voltage at 0.65 cos.