



WS51W & WS52W Classification System

What is the Difference?



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AS/NZS3013 covers the Fire & Mechanical performance of wiring system elements for electrical installations. Within this standard, it summarises the Classification System that was established to define the performance of a wiring system. This basically means that all elements of a cabling system need to have been tested and have passed the tests defined in this standard. These tests ensure that a cabling system can and will maintain circuit integrity under fire conditions for a specified time period and from mechanical impacts during non-fire conditions.

These tests classify each element with a 3 part rating, 'WS xxx', e.g WS51W or WS52W:

- Fire Resistance
- Impact Resistance
- Water Spray Resistance

5 Fire Resistance

ALL FireSense Fire Rated cables have a 2HR Fire Rating (120 mins).

All FireSense FR series Fire Rated cables offer a WS51W or WS52W rating for fire (2 hours) to comply with the requirements of installation standards. Any cable that does not meet 2 hours (120 mins) should not be used as a fire rated cable for essential services.

TABLE 3.1
DEGREE OF PROTECTION INDICATED
BY THE FIRST CHARACTERISTIC NUMERAL
(Protection against fire conditions)

First characteristic numeral	Minimum time for which the test is conducted min
1	15
2	30
3	60
4	90
5	120

2 Impact Resistance

This represents the degree of mechanical impact and cutting force that a cable can be subjected to without failure when operating at maximum allowable continuous operating temperature ie 110°C. This rating specifically tests the strength of the protective outer sheath and the quality of the cable's construction and materials.

Cables with conductors <1.50mm will generally only have a Level 1 Protection (Light).

Cables with conductors >=1.50mm should have at least a Level 2 Protection (Moderate).

FireSense 0.75mm Fire Rated cables have a mechanical rating of Level 1 @ 110°C.

All FireSense cables from 1.50mm up to 630mm Single Core are constructed to maintain a Level 2 Protection (Moderate) @ 110°C.

Most mechanical services standards and applications will require a cable with WS52W as a minimum. This represents 6x improvement in impact strength and 3x improvement in cutting strength over a WS51W cable.

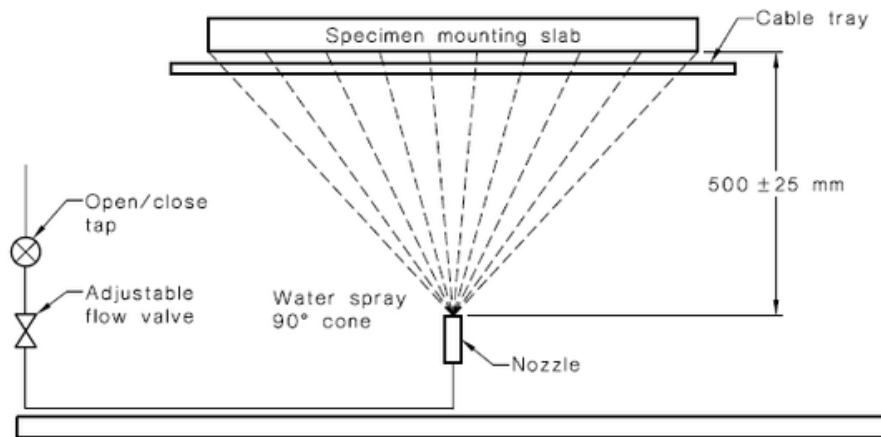
WS51W cables CANNOT be used in applications where WS52W is required.

TABLE 3.2
DEGREES OF PROTECTION INDICATED BY THE
SECOND CHARACTERISTIC NUMERAL
(Protection against mechanical damage)

1	2	3	4
Second characteristic numeral	Test criteria		Level of impact protection
	Impact test (Appendix D) J	Cutting test (Appendix E) kN	
1	2.5	0.3	light
2	15	1.0	moderate
3	50	5.0	heavy
4	500	5.0	very heavy
5	5 000	5.0	extremely heavy

W Water Spray

Once the cable has been tested in the fire test for 120 mins, the cable is then subjected to water spray to simulate a sprinkler in a true condition. The insulation must not break down during a water spray of 12.5L/min for 180 seconds. All FireSense Fire Rated series cable have been awarded a **W** rating.



FireSense are the Fire Rated Cable specialists and our cables have been designed & manufactured by experts ensuring they meet the needs of the fire, electrical & mechanical industries. FireSense cables have all relevant certifications & approvals, are independently certified, environmentally friendly meeting Green Building Council of Australia guidelines & are the ONLY full range of ActivFire certified fire cables in Australia.



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