

AON SPRINKLER CERTIFICATION



Aon New Zealand

Aon Sprinkler Certification
Building 3, 46 Maki Street
Westgate
Auckland 0814
Telephone: 0800-AONFIRE

Aon Sprinkler Certification Technical Note		
Note Number: TN21-54	Issue: 1.	Date: 13 July 2021
Subject	Pre-Action ,Dry Pipe and Deluge Systems - Electronic Detection	
Notice: Aon Sprinkler Certification Technical Notes provide guidance notes which may be used in certification of sprinkler installations by Aon New Zealand. If sprinkler installations are being certified by any other Sprinkler System Certifier, these Technical Notes may not apply.		

With the advent of electronic preaction system being permitted by clause 3.2.4 additional documentation is necessary to enable validation of the design.

To enable Aon to fulfil our obligations as the Sprinkler System Certifier please include:

Additional to the Form 1 application:

- A schematic for the detection and control system.
- Data sheet for the electronic detection
- Design spacing for the electronic detection
- Data sheet for the control panel
- Data sheet for the preaction valve and trim proposed
- A cause and effect matrix; i.e fire pump starts, solenoid release, plant shut down is initiated, and if there are any delay timers built in.

Additional to the Form 5 statement:

- As built drawing of the detection system
- On the block plan the location of the test points for the electronic detection shall be shown.
- A schedule of the ongoing maintenance and testing required.
- Inspectors report including Complex Fire Matrix endorsement.

The inspectors report needs to include a statement by an inspector who is knowledgeable in the electronic arena. It is our expectation that the electronic portion will be inspected and tested by an inspector whose IANZ accreditation for NZS4512 includes Complex Fire Systems.

The inspector of the electronic portion shall confirm:

1. The detection device(s) is located in the prescribed location. As these detection spacings may be more onerous than what

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- NZS4512 normally requires they shall avail themselves of the peculiarities of the project.
2. The field of view, or coverage area, of the detection device covers all of the sprinkler zone and does not overlap into an adjacent zone.
 3. The detection device is secured in the manner prescribed by the manufacturer.
 4. In the case of linear wire that the wire is installed to accommodate the change in temperature that the environment is subject to.
 5. That all defect and fire conditions of the detection device(s) and control panel that are prescribed in NZS4512:2020 are carried though the system to the Direct Brigade Alarm, if one is fitted.
 6. That the system fulfils the cause and effect matrix.

Testing of preaction systems with electronic detection requires end to end testing to be conducted. This means the electronic detection is activated and the system allowed to cascade though its full sequence of operations. For example in the case of linear wire the end of line test point is used or for a flame detector a light. This test will need witnessed by an inspector, or inspectors, whose IANZ accreditation includes both Praction and Complex Fire Systems.

A handwritten signature in blue ink, consisting of a stylized 'S' followed by a long horizontal line.

Stephen Ridder
Fire Protection Consultant