

# AON SPRINKLER CERTIFICATION



Aon NZ Limited  
 Aon Sprinkler Certification  
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## FORM 10



Aon File Reference: 2.5

### LISTING CERTIFICATE – SPRINKLER SYSTEM EQUIPMENT

As per section 114 of NZS 4541:2007

This is to confirm that, on the basis of the information supplied in the application for listing of the equipment dated July 2013, this organisation, as the nominated Sprinkler System Certifier considers that the appropriate requirements of NZS4541:2007 have been adequately met with respect to the item described below, for use under the conditions set out on this certificate.

Item **Aquatherm Red Pipe PP-R Plastic Pipes and Pipe Fittings**

For use as **Pipework and fittings as Listed by a SSC in accordance with table 4.3**

Certificate number **AQ-1 (Revision 4)**

Effective from **July 2013**

Manufacturer / Supplier **Aquatherm GmbH/Aquatherm NZ Limited**

Make **Aquatherm Red Pipe**

Model **Aquatherm Red Pipe**

Reference information: *LPCB Certificate 684a, VdS Certificate G 4050042  
 Aquatherm Red Pipe Technical Instruction Manual E40000 edition 03/2013*

Range limitations

**Maximum pressure -1200kPa**

**Allowable temperature range 4<sup>o</sup>C to 50<sup>o</sup>C**

**Refer attachment AQ-1 for permitted Occupancies**

Restrictions and warnings

**Pipe is specified by OD. Care needed to ensure hydraulic calculations correct**

**Wet pipe systems only. No antifreeze or other additives**

**Pipe may be used in buried situations. Good trade practise shall be employed in selection of backfill material.**

Special conditions

**Refer Attachment AQ-1 for special conditions**

Signed

Date

*16<sup>th</sup> July 2013*

Name **Chris Mak**

Designation **Sprinkler Certification Manager**

## ATTACHMENT TO LISTING CERTIFICATE AQ-1

### General

Pipework shall only be installed by trade staff trained and certified by Aquatherm NZ Limited.

Reference documentation shall be made available to those designing and installing Aquatherm based systems, including

- Aquatherm Red Pipe Technical Instruction Manual E40000 edition 03/2013

### Permitted Occupancies

Extra Light Hazard - all occupancies

Ordinary Hazard Group 1, 2 and 3 – Occupancies including or having conditions similar to hotels and hospitals (excluding kitchens and plant rooms), museums, libraries (excluding stock rooms), court rooms, nursing homes, offices and data processing rooms, schools, colleges, prisons, churches, restaurant seating areas, theatres and auditoriums (excluding stages and prosceniums), unused attics and retail sales areas.

Storage is limited to free standing (block stacked) storage of category 1 goods only. Only concealed pipework shall be used in storage areas – exposed pipework shall not be used.

Notes:

1. Permitted occupancies based on LPCB and VdS Certification
2. Firestop shall not be used in occupancies not typical of those listed above, including:
  - a. Processing and production plants
  - b. Laboratories, (including those in schools and the like)
  - c. Car parks

### Exposed Pipework

- Pipework shall not be used out doors or where exposed to direct UV Radiation. Where used indoors and exposed to UV Radiation, paint or lagging may be used to shield the pipe. If paint is used, Aquatherm provide specialised water based UV resistant paint systems.

Where pipework is exposed to the fire area, it shall be either:

- Quick response sprinklers in accordance with Aquatherm Red Pipe Technical Instruction Manual E40000 edition 03/2013
- One layer of 10mm gypsum board or equivalent, or

### Installation

- Installation shall comply with Aquatherm Red Pipe Technical Instruction Manual E40000 edition 03/2013
- Installers shall be certified by Aquatherm in pipe work fusion welding

### Hydraulic Calculations

Hydraulic calculations shall be carried out using a Hazen-Williams coefficient of 150, using the following internal diameters and equivalent fitting lengths:

Pipe Dimensions									
OD firestop	25.0mm	32.0mm	40.0mm	50.0mm	63.0mm	75.0mm	90.0mm	110.00mm	125.0mm
Internal pipe size (bore)	18.0mm	23.2mm	29.0mm	36.2mm	45.8mm	54.4mm	65.4mm	79.8mm	90.8mm
Article	Equivalent length of pipe (m)								
Socket	0.22	0.30	0.40	0.52	0.70	0.86	1.07	1.36	1.58
Socket Reduction of one dimension	0.27	0.37	0.48	0.63	0.83	1.03	1.28	1.63	1.90
Socket Reduction of two dimension	0.36	0.49	0.64	0.84	1.11	1.37	1.71	2.17	2.53
Elbow 90°	0.67	0.91	1.20	1.57	2.09	2.57	3.20	4.07	4.74
Elbow 45°	0.33	0.46	0.60	0.78	1.04	1.28	1.60	2.03	2.37
Standard Tee or cross - flow: branch	0.98	1.34	1.76	2.30	3.06	3.76	4.70	5.96	6.96