


FORM 10

Aon File Reference: 2.5

Aon NZ Limited
 Aon Sprinkler Certification
 Aon Building, 1st Floor,
 4 Fred Thomas Drive,
 Takapuna, North Shore City
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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 18 October 2007, this organisation, as the nominated Sprinkler System Certifier considers that the appropriate requirements of NZS 4541:2003 have been adequately met with respect to the item described below, for use under the conditions set out on this certificate.	
Item Aquatherm Firestop 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 2)	Effective from 1 November 2007
Manufacturer / Supplier Aquatherm GmbH/Aquatherm NZ Limited	
Make Firestop	
Model Firestop	
Reference information <i>LPCB Certificate 684a, VdS Certificate G 4050042</i> <i>Aquatherm Technical Instruction Firestop Issue 1/23-10-2006</i>	
Range limitations	
Maximum pressure -1200kPa	
Allowable temperature range 4°C to 50°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
Special conditions	
Refer Attachment AQ-1 for special conditions	
 Signed	Date 30 October 2007
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 Technical Instruction Firestop Issue 1//23-10-2006
- Fusiontherm Pipe System Installers Manual

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, an epoxy based primer as approved by Aquatherm shall be used.

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

- One layer of 10mm gypsum board or equivalent, or
- Quick response sprinklers in accordance with 1.5.2 of Aquatherm's Technical Instruction Firestop Issue 1//23-10-2006

Installation

Installation shall comply with Aquatherm Technical Instruction Firestop issue 1//23-10-2006

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