



Certificate of Conformity

Certificate num.	Registration date	Version	Valid until	
afp - 1509	20-Mar-2002	Number 13	Issue date 28-Apr-2017	30-Apr-2018
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Product designation

Orrfire®, ALLGAL®, medium wall electro-galvanized sprinkler pipe
(Refer to the Schedule/enclosures for further specified details)

Agent/distributor

Orrcon Steel
121 Evans Road, SALISBURY, QLD, AUSTRALIA, 4107

Registrant

Orrcon Steel
121 Evans Road, SALISBURY, QLD, AUSTRALIA, 4107

Producer

Orrcon Steel
121 Evans Road, SALISBURY, QLD, AUSTRALIA, 4107

Conformance criteria and evaluation

The Orrfire®, ALLGAL®, medium wall electro-galvanized sprinkler pipe has been evaluated and verified as conforming with the relevant requirements of the following criteria.

1. Australian Standard AS 4118.2.1-1995, 'Fire sprinkler systems - Piping - General'.
2. SSL Appraisal Specification FAS-120, Version 1.0, 'Medium ERW & ILG Steel Pipe, Sizes DN25 to DN100, to AS 4118.2.1 & Draft Australian Standard 2462.CDR, for Fire Protection Systems'.
3. SSL Appraisal Specification FAS-120, Version 2.1, 'Medium ERW Galvanised Steel Pipe, to AS 4118.2.1 & Draft Australian Standard (2462.CDR), for Fire Protection Systems'.

Limitations/conditions of conformance

Limitations/conditions of conformance, where identified on this certificate, are derived from qualifications from evaluation(s) for conformity and/or other related technical documentation. All details with respect to design, assembly and installation instructions and restrictions should be checked against the producer's current technical manual/data sheets and the requirements of the Authority having Jurisdiction.

Specified limitations/conditions, determined from the evaluation for conformity, include the following.

- i. Fire sprinkler system designers, and authorities having jurisdiction, must confirm that the codes or standards used for the system design adequately address the hydraulic characteristics of this product. Full hydraulic analysis is an approved and recommended method of determining that system performance will meet design requirements.
- ii. Pipes shall not be used below ground.

Issued by

David Whittaker
Executive Officer – ActivFire Scheme



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Producer's description

The production and physical characteristics of Orrfire®, ALLGAL®, medium wall electro-galvanized sprinkler pipe are summarised as follows:

- The pipe is produced as ERW tube from Hot Rolled steel strip.
- Both side of the feed strip for tubemaking are coated with electro deposited zinc.
- The strip is chemically cleaned and de-scaled prior to electro coating with zinc.
- Steel is processed in accordance with AS1074.
- Steel properties conform to AS/NZS 1163 Steel Grade 250L0.
- Zinc coating conforms to AS 4750–2003 (Electro galvanized (zinc) coatings for ferrous hollow sections).
- The zinc coating mass is 50 g/m² on each side.
- The loss of Zinc coating on the pipe's external surface, during ERW, is reinstated by plasma-spraying of zinc-aluminum alloy.
- A specially formulated clear polymer coating, "Clear-Tec", is applied to the outer surface of the tube to suppress "white rust".

Pipes are produced in wall thickness that meet or exceed those specified in AS 4118.2.1 – 1995 providing suitability for use in AS 2118 – conforming sprinkler systems.

All listed sizes are suitable for use with roll-grooved type couplings and fittings of suitable diameter and groove profile. Additionally they are suitable for joining by shouldered-end coupling, by appropriate screw-threading techniques, or by butt-welding.

Technical specification

The following details are a representative extract of the technical specification for the Orrfire®, ALLGAL®, medium wall electro-galvanized sprinkler pipe and may be subject to change. Complete and current details should be determined from the designated producer's technical manual/data sheets.

Pipe dimensional data:

Nominal size mm	Nominal outside diameter mm	Nominal inside diameter mm	Nominal wall thickness mm	Mass per metre kg/m
25	33.7	29.7	3.2	2.42
32	42.4	36.0	3.2	3.11
40	48.3	41.9	3.2	3.57
50	60.3	53.1	3.6	5.05
65	76.1	68.9	3.6	6.46
80	88.9	80.9	4.0	8.40
90	101.6	93.6	4.0	9.66
100	114.3	105.3	4.5	12.22
125	139.7	129.7	5.0	16.65
150	165.1	155.1	5.0	19.79

Notes:

1. The above mass values have been calculated based on a steel density of 7850 kg / m³ and assume a pipe of the exact dimensions listed above.
2. Wall thickness; the figures are "nominal" unless otherwise noted as minimum (min).

General

Orrfire®, ALLGAL®, medium wall electro-galvanized sprinkler pipe is manufactured by using an electric resistance welding method in accordance with the requirements of SSL Appraisal Specification FAS-120: Version 3.0, Medium ERW Steel Pipe, to AS 4118 Part 2.1, & Draft Australian Standard 2462.CDR, for Fire Protection Systems'.

Leak-tightness

The weld zone is tested in-line using a Eddy Current Flaw Detection System. Testing is carried out in accordance with AS 1074 section 2.8 (b) and Appendix B.

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Galvanising:

Electro-galvanized coating conforms to AS 4750 and has a minimum average coating mass of 50 g/m² of pipe surface. The loss of Zinc coating on the pipe's external surface, during ERW, is reinstated by plasma-spraying of zinc-aluminum alloy. A specially formulated clear polymer coating, "Clear-Tec", is applied to the outer surface of the tube to suppress "white rust".

Steel properties, as per AS/NZS 1163 Steel Grade C250L0

Yield strength (MPa) min	250
Ultimate Tensile Strength (MPa) min	320
Minimum elongation (%) where gauge length = $5.65 \cdot (S_0)^{0.5}$	22
Dimensional tolerance conform to AS 1074	