



Certificate of Conformity

Certificate num.	Registration date	Version	Valid until	
afp - 1294	25-Feb-2000	Number 13	Issue date 26-Apr-2019	30-Apr-2020

Page 1 of 4

Product designation

Ginge-Kerr, ARGONITE®, 200 bar, Inert Gas, Total-Flood Type Fixed Fire Extinguishing System
(Refer to the Schedule/enclosures for further specified details)

Agent/distributor

Kidde Australia
Unit 3, Ground Floor, 10 Ferntree Place, NOTTING HILL, VIC, AUSTRALIA, 3168

Registrant

Kidde Australia
Unit 3, Ground Floor, 10 Ferntree Place, NOTTING HILL, VIC, AUSTRALIA, 3168

Producer

Ginge-Kerr (UK) Limited
526 Fleet Lane, ST. HELENS, MERSEYSIDE, UNITED KINGDOM, WA9 2NB

Conformance criteria and evaluation

The Ginge-Kerr, ARGONITE®, 200 bar, Inert Gas, Total-Flood Type Fixed Fire Extinguishing System has been evaluated and verified as conforming with the relevant requirements of the following criteria.

1. Australian Standard AS 4214-2002, 'Gaseous fire extinguishing 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. Use only where the ambient temperature of the storage cylinders will be between -10°C and 50°C. System design shall be done strictly in accordance with the Ginge-Kerr ARGONITE® Fire Extinguishing Systems Design Manual Revision 'D' of 17 April 1997. Pipe sizing and overall design of balanced or unbalanced agent reticulation pipework for this system shall be done with the aid of the VdS Calculation Program for ARGONITE® Fire Extinguishing Systems, Version 4.6a. System installation shall be done in accordance with the Ginge-Kerr ARGONITE® System Installation Procedure, Revision 1, 27 July 1999. Maintenance shall be in accordance with the Ginge-Kerr ARGONITE® System Maintenance Procedure, Revision 'C', 1 August 1998.

(Limitations/conditions of conformance continue)

This certification is issued within the scope of CSIRO Verification Services – Rules governing ActivFire Scheme and is valid only for the product(s) as submitted for evaluation and verification of conformity, subject to the following conditions.

- Reference to details, limitations and requirements, where documented as a schedule/enclosure with this certificate.
- The Registrant is responsible for their attestation of conformity and ensuring that on-going production complies with the conformance criteria defined in this certificate.
- This certificate will not be valid if any changes or modifications are made to the product which have not been notified and validated by CSIRO Verification Services.
- This certificate is subject to periodical re-validation upon verification that all requirements, as determined by the conformity assessment body, continue to be satisfactorily met by the Registrant.
- This certificate may only be reproduced in its published form, without modification and inclusive of all schedules/enclosures.
- Any changes, errors or omissions, must be submitted in writing and if necessary or requested, substantiated with relevant evidence.
- Any representations, such as advertising or other marketing related activities or articles shall reflect the correct contents of this certificate and conform with all relevant trade practices and consumer protection legislation and regulations.
- Any terms or conditions of use as applicable to content and documentation as published or accessed through web sites administered by the CSIRO Verification Services.

Issued by

David Whittaker
Executive Officer – ActivFire Scheme



Schedule to Certificate of Conformity

Certificate num.	Registration date	Version		Valid until	Page 2 of 4
afp - 1294	25-Feb-2000	Number 13	Issue date 26-Apr-2019	30-Apr-2020	

- ii. Nozzle Coverage. For systems with no intermediate level nozzles, and designed to operate at the maximum allowable distribution pipe pressure of 60 bar, maximum allowable nozzle height above floor is 5.0 meters. Maximum allowable nozzle horizontal spacing is 6.0 metres in rooms and 3.0 metres in voids.
- iii. Enclosure venting shall be provided and designed to ensure that, when the system is being discharged, the pressure within the enclosure can not become harmful to the enclosure or its occupants. The above VdS Calculation Program includes a reliable means of determining the free area of relief opening which will limit the enclosure over-pressurisation to a safe value.

Producer's description

The Ginge-Kerr, ARGONITE®, 200 bar, Inert Gas, Total-Flood Type Fixed Fire Extinguishing System, is an engineered system which extinguishes fire by using a patented blend of inert gases to dilute the oxygen content of the air within the protected enclosure. The inert gas blend is marketed as "ARGONITE®" (IG-55), and is a mixture of equal parts by volume of argon and nitrogen. As these gases occur naturally in the atmosphere, accidental or deliberate releases of "ARGONITE®" do not contribute to global atmospheric warming or ozone depletion. With the exception of risks involving fuels such as carbon disulphide, methanol, and morpholine, ARGONITE® can be used to protect occupiable areas because the recommended ARGONITE® concentrations result in the atmosphere, within the protected enclosure, having a residual oxygen concentration of between 12% and 13% (oxygen concentration may be less if a well-established fire exists). Such an atmosphere can be inhaled for at least several minutes without risk to health and with little if any discomfort. The agent storage cylinders of the Ginge-Kerr, ARGONITE®, 200 bar, Inert Gas, Total-Flood Type Fixed Fire Extinguishing System are charged to a nominal pressure of 200 bar measured at 15°C. The maximum pressure in the reticulation pipework is limited, by design, to between 12 and 60 bar by means of an orifice installed at the downstream end of the manifold pipework. Where appropriate, selector valves included in the listed equipment can be used to enable a number of separate enclosures to be supplied with agent from a common cylinder bank of capacity somewhat less than that needed to fully supply all enclosures simultaneously.

Technical specification

The following details are a representative extract of the technical specification for the Ginge-Kerr, ARGONITE®, 200 bar, Inert Gas, Total-Flood Type Fixed Fire Extinguishing System and may be subject to change. Complete and current details should be determined from the designated producer's technical manual/data sheets.

Basic engineering data:

1.	Typical ARGONITE® concentration in enclosure after discharge.	40% v/v
2.	Minimum allowable ARGONITE® concentration in enclosure after discharge.	34% v/v
3.	Maximum allowable time to attain 95% of applicable minimum design concentration in enclosure (after initiation of discharge valve)	60 sec
4.	Allowable temperature range of equipment operation.	-20 to 50°C
5.	Nominal internal volume of storage cylinder.	80 litres
6.	Charging pressure of storage cylinder.	200 bar @ 15°C
7.	Nett usable cylinder contents (mass basis).	22.5 kg
8.	Nett usable cylinder contents (volume @ 15°C & 101.3 kPa abs.).	15.9 m³
9.	Approx. mass of empty cylinder with bare discharge valve.	85.2 kg
10.	Approx. height of cylinder without discharge valve.	1725 mm
11.	Approx. diameter of cylinder.	267 mm
12.	Standard centre-to-centre spacing of cylinders.	305 mm

The components that have been evaluated and form part of the listed system include the following:

Ginge-Kerr Part num.	Description	Data sheet rev. and date
01-1422-5999	ARGONITE® Cylinder, empty, with valve, 80 litre WC, 300 bar T.P.	B, 990122
01-2131-0102	ARGONITE® Cylinder Label	C, 990105
01-8121-1000	Wall-mounting Rail, 1 cylinder	A, 990108
01-8122-1000	Wall-mounting Rail, 2 cylinders	
01-8123-1000	Wall-mounting Rail, 3 cylinders	
01-8131-0000	Cylinder Bracket	A, 990111

Schedule to Certificate of Conformity

Certificate num.	Registration date	Version	Valid until	
afp - 1294	25-Feb-2000	Number 13	Issue date 26-Apr-2019	30-Apr-2020
				Page 3 of 4

Ginge-Kerr Part num.	Description	Data sheet rev. and date
15-9090-0011	Manifold Bracket, 1 row of cylinders	C, 990112
15-9090-0002	Manifold Bracket, 2 rows of cylinders	
15-9090-0007	Manifold Bracket, 3 rows of cylinders	
01-6410-0200	ARGONITE® Discharge Valve, bare	B, 980311
03-4161-0000	Pneumatic Actuator	E, 950706
03-4162-0000	Manual/Pneumatic Actuator	F, 980519
01-7171-0300	Pressure Gauge and Pressure Switch Assembly	B, 980629
01-7172-0300	Pressure Gauge, Pressure Switch and Solenoid Valve Assembly	B, 980420
15-8000-0015	Pressure Switch	A, 960819
01-3460-1200	Nozzle Assembly, 1/2" BSPT, 2 mm to 10 mm orifice range	B, 990112
01-3460-1300	Nozzle Assembly, 3/4" BSPT, 7 mm to 14 mm orifice range	
01-3460-1400	Nozzle Assembly, 1" BSPT, 10 mm to 18 mm orifice range	
01-3460-1500	Nozzle Assembly, 1 1/2" BSPT, 15 mm to 26 mm orifice range	
01-3461-5150	Nozzle Orifices, 15 mm to 20 mm (VdS-approved)	B, 950830
01-3461-5200		
01-3281-0100	Discharge Hose Assembly, 400 long.	D, 990202
01-3281-0100	Discharge Hose Assembly, 500 long	
01-3272-0100	Actuation Hose Assembly, 250 long.	A, 990202
01-3272-0200	Actuation Hose Assembly, 500 long	
01-3273-0100	Actuation Hose Assembly, 300 long, with elbow	B, 990202
01-3273-0150	Actuation Hose Assembly, 450 long	
01-3273-0200	Actuation Hose Assembly, 700 long	
01-3512-0000	Manifold Assembly, for 2 cylinders	A, 950914
01-3513-0000	Manifold Assembly, for 3 cylinders	
01-3514-0000	Manifold Assembly, for 4 cylinders	
01-3515-0000	Manifold Assembly, for 5 cylinders	
01-3516-0000	Manifold Assembly, for 6 cylinders	
01-3517-0000	Manifold Assembly, for 7 cylinders	
01-3529-0100	Connection Piece, for manifolds of Main & Reserve cylinder banks	C, 980326
01-6652-0000	Pressure Relief Valve, 3/8" BSPT, 240 bar set pressure	A, 990112
01-6451-0000	Check Valve, with socket, 1/2" BSP	E, 990112
01-3454-1200	Restrictor Assembly, 1/2" BSP	D, 980407
01-3454-1300	Restrictor Assembly, 1" BSP	
01-3454-1400	Restrictor Assembly, 1 1/2" BSP	
01-6231-0000	Selector Valve Assembly, with pneumatic actuator, 1/2" BSP	B, 990128
01-6233-0000	Selector Valve Assembly, with pneumatic actuator, 1" BSP	
01-6236-0000	Selector Valve Assembly, with pneumatic actuator, 1 1/2" BSP	
	Ginge-Kerr ARGONITE® Fire Extinguishing Systems Design Manual	Revision 'D' 17 April 1997
	Ginge-Kerr ARGONITE® System Installation Procedure	Revision 1, 27 July 1999
	Ginge-Kerr ARGONITE® System Maintenance Procedure,	Revision 'C', 1 August 1998
	VdS Calculation Program for ARGONITE® Fire Extinguishing Systems	Version 4.6

Piping requirements:

Except for flexible connectors, all pipework, including pipe fittings, of a Ginge-Kerr, ARGONITE®, 200 bar, Inert Gas, Total-Flood Type Fixed Fire Extinguishing System shall be of carbon steel, stainless steel, copper, or copper alloy. The pipework of each ARGONITE®, 200 bar system shall be as follows:

1. High pressure piping, extending from the storage cylinders to the pressure reducing orifice. This shall be suitable for a working pressure of at least 23.0 MPa. Steel high pressure piping that conforms to API 5L Grade 'B' may be used for pipes of 50 mm and larger. Pipes of 40 mm and smaller shall be seamless, and may conform to BS3601 Grade 410. All other steel high pressure piping shall be seamless type complying with BS3602: Part 1, and made of Grade 410 steel with wall thickness conforming to BS1600 Schedule 160.

Schedule to Certificate of Conformity

Certificate num.	Registration date	Version		Valid until	
afp - 1294	25-Feb-2000	Number 13	Issue date 26-Apr-2019	30-Apr-2020	Page 4 of 4

Flanges shall be of forged carbon steel, with raised face, and shall comply with Class 1500 of Table PE 1 of BS1560: Part 2. Fittings shall be forged steel, 3000 lb, complying with BS3799. Fittings of nominal size up to and including 40 mm shall be screwed or socket-weld type. Fittings of nominal size exceeding 40 mm shall be socket-weld type only. With due regard to the pressure ratings, stainless steel compression couplings complying with BS4368 may be used, where it is desired to install tubes complying with BS3605.

2. Low pressure piping, extending from the pressure reducing orifice to the nozzles. This shall be suitable for a working pressure of at least 7.5 MPa. Flanges shall be of forged carbon steel, with raised face, and shall comply with Class 300 of Table PE 1 of BS1560: Part 2. All low pressure fittings may be screwed type, with screw threads conforming to the dimensions specified in BS21 or API 5B. Fittings of 40 mm and smaller shall comply with BS1740, or be of forged steel and conform to Grade WPA or WPB of BS3799. Fittings larger than 40 mm shall be of forged steel and conform to Grade WPA or WPB of BS3799.

Steel low pressure pipes shall conform to the following requirements:

Nominal/pipe size	Applicable standard	Type of pipe ¹	Grade of steel	Minimum wall thickness ²
Up to and including 40 mm	BS1387	BW	-	Heavy
	BS3601	S	410	Schedule 40
	BS3601	ERW	410	
	BS3601	BW	320 or 410	
	BS3602: Pt 2	HFS or CFS	360 or 410	
Over 40 mm up to and including 150 mm	API 5L		B	Schedule 40
	BS3601	S	410	
	BS3601	ERW	410	
	BS3601	HFS or CFS	360 or 410	
	API 5L		B	

1 Abbreviations:

BW	Butt welded
CD	Cold drawn
HFS	Hot finished seamless
CFS	Cold finished seamless
ERW	Electric resistance welded and induction welded
S	Seamless

2 Where Schedule numbers are given, these determine the minimum wall thickness in accordance with BS1600. Where specified pipe is not obtainable in these dimensions, the next larger thickness shall be used.