CSIRO Verification Services
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Certificate of Conformity

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Product designation

FireSense, FR Series, fire rated cables

(Refer to the Schedule/enclosures for further specified details)

Agent/distributor

FireSense Pty Ltd
18-20 Brookhollow Avenue, BAULKHAM HILLS, NSW, AUSTRALIA, 2153

Registrant

FireSense Pty Ltd
18-20 Brookhollow Avenue, BAULKHAM HILLS, NSW, AUSTRALIA, 2153

Producer

FireSense Pty Ltd
18-20 Brookhollow Avenue, BAULKHAM HILLS, NSW, AUSTRALIA, 2153

Conformance criteria and evaluation

The FireSense, FR Series, fire rated cables has been evaluated and verified as conforming with the relevant requirements of the following criteria.

1. Australian/New Zealand Standard AS/NZS 3013:2005, 'Electrical installations - Classification of the fire and mechanical performance of wiring system elements'.

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. Reference should be made to the relevant test report to determine applicability to a proposed installation

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

Kai Loh
Executive Officer – ActivFire Scheme

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The validity and authenticity of this certificate can be verified by the certification register located at https://activfire.csiro.au

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Producer's description

FireSense, FR Series, fire rated cables have been specifically designed for use with Australian Fire Alarm and EWIS and have been independently evaluated for conformity by Warrington Fire to the requirements of AS/NZS 3013 for both fire and mechanical cable properties.

All FireSense cables are certified 2 hour fire rated.

The cable's stranded copper conductors and firm insulation material also allows for neat placement on cable trays and allows ease of stripping and termination.

It is the manufacturer's recommendation that FireSense stainless steel cable ties be used for fixing cable to tray every 1.0 meter when mounted horizontal and every 0.6 meters when mounted vertically.

Technical specification

The following details are a representative extract of the technical specification for the FireSense, FR Series, fire rated cables and may be subject to change. Complete and current details should be determined from the designated producer's technical manual/data sheets.

Schedule of variant designations

The following is a schedule of validated variant designations of the certified/listed equipment.

Part number	Num. of cores	Cross-section	Overall diameter	Classification	Certificate of test/Assessment ident.
FR-0.75-2C	2	0.75 mm^2	9.6 mm	WS51W	SFC 2331900a.1 (PC: Type 1)
FR-0.75-2CW	2	0.75 mm^2	9.6 mm	WS51W	
FR-0.75-3C	3	0.75 mm^2	10.8 mm	WS51W	24560h-R5.0
FR-0.75-10C	10	0.75 mm^2	28.0 mm	WS52W	SFC 2871200.2 (PC:FR-0.75-10)
FR-0.75-2CS	2	0.75 mm^2	10.1 mm	WS51W	SFC 2331900b.1 (PC: Type 3)
FR-0.75-6CS	6	0.75 mm^2	15.5 mm	WS51W	24560l-R5.0
FR-0.75-8CS	8	0.75 mm^2	15.8 mm	WS51W	24560m-R5.0
FR-1.00-2C	2	1.00 mm^2	9.9 mm	WS51W	24560a-SFC5.0 (PC: Type 5)
FR-1.00-2CW	2	1.00 mm^2	9.9 mm	WS51W	
FR-1.50-2C	2	1.50 mm^2	10.3 mm	WS52W	SFC 2401600a.1 (PC: Type 2)
FR-1.50-2CW	2	1.50 mm^2	10.3 mm	WS52W	SFC 2401600a.1 (PC: Type 2)
FR-1.50-2CS	2	1.50 mm^2	10.5 mm	WS52W	SFC 2401600b.2 (PC: Type 4)
FR-1.50-2CS + SWA	2	1.50 mm^2	15.0 mm	WS52W	
FR-4.00-2C	2	4.00 mm^2	13.3 mm	WS52W	24560j-R5.0
FR-6.00-2C	2	6.00 mm^2	15.4 mm	WS52W	24560k-R5.0
FR-2.50-2C	2	2.50 mm^2	10.4 mm	WS52W	24560c-R5.0 (PC: Type 9)
FR-1.50-3C	3	1.50 mm^2	10.0 mm	WS52W	24560d-R5.0 (PC: Type 7)
FR-1.50-4C	4	1.50 mm^2	12.0 mm	WS52W	24560b-R5.0 (PC: Type 8)
FR-1.50-4CS	4	1.50 mm^2	12.0 mm	WS52W	24560g-R5.0
FR-1.50-6C	6	1.50 mm^2	16.0 mm	WS52W	24560e-R5.0
FR-1.50-10C	10	1.50 mm^2	18.0 mm	WS52W	24560f-R5.0
FR-1.5-3C+E	3 + E	1.50 mm^2	12.5 mm	WS52W	SFC 2602900a.2 (PC: Type 11)
FR-2.5-3C+E	3 + E	2.50 mm^2	14.5 mm	WS52W	26123A-SFC5.0 (PC:Type12)
FR-4.0-3C+E	3 + E	4.00 mm^2	16.1 mm	WS52W	26123B-SFC5.0 (PC: Type 13)
FR-6.0-3C+E	3 + E	6.00 mm^2	18.2 mm	WS52W	26123C-SFC5.0 (PC: Type 14)
FR-2.5-2C+E	2 + E	2.50 mm^2	13.4 mm	WS52W	26123D-R5.0
FR-4.0-2C+E	2 + E	4.00 mm^2	14.9 mm	WS52W	26123D-SFC5.0
FR-6.0-2C+E	2 + E	6.00 mm^2	17.5 mm	WS52W	26123D-SFC5.0
FR-1.5-3C+ES	3 + ES	1.50 mm^2	14.5 mm	WS52W	SFC 2602900b.2 (PC: Type 16)*
FR-2.5-3C+ES	3 + ES	2.50 mm^2	17.7 mm	WS52W	26123E-R5.0 (PC: Type 17)*
FR-4.0-3C+ES	3 + ES	4.00 mm^2	19.3 mm	WS52W	26123F-R5.0 (PC: Type 18)*
FR-6.0-3C+ES	3 + ES	6.00 mm^2	21.3 mm	WS52W	26123G-R5.0 (PC: Type 19)*
FR-10.00-3C+E(4)	3 + E	10 mm^2	22 mm	WS52W	SFC 2711500b.2

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Part number	Num. of cores	Cross-section	Overall diameter	Classification	Certificate of test/Assessment ident.
FR-2.50-4C+E(2.5)	4 + E	2.5 mm^2	15.8 mm	WS52W	26123I-R5.0
FR-4.0-4C+E(2.5)	4 + E	4.00 mm^2	17.2 mm	WS52W	26123H-R5.0
FR-6.00-4C+E(2.5)	4 + E	6.00 mm^2	20 mm	WS52W	SFC27760B-06
FR-10-4C+E(4)	4 + E	10 mm^2	23 mm	WS52W	SFC27760B-06
FR-16-4C+E(6)	4 + E	16 mm^2	27 mm	WS52W	SFC27760B-06
FR-25-4C+E(6)	4 + E	25 mm^2	31 mm	WS52W	SFC27760B-06
FR-35-4C+E(10)	4 + E	35 mm^2	36 mm	WS52W	SFC27760B-06
FR-50-4C+E(16)	4 + E	50 mm^2	42 mm	WS52W	SFC27760B-06
FR-70-4C+E(25)	4 + E	70 mm^2	46.7 mm	WS52W	SFC27760B-06
FR-95-4C+E(25)	4 + E	95 mm^2	51.3 mm	WS52W	SFC27760B-06
FR-6-1C	1	6 mm^2	10 mm	WS52W	SFC27760A-06
FR-10-1C	1	16 mm^2	11.4 mm	WS52W	
FR-16-1C	1	16 mm^2	13 mm	WS52W	SFC27760A-06
FR-25-1C	1	25 mm^2	15 mm	WS52W	SFC27760A-06
FR-35-1C	1	35 mm^2	16 mm	WS52W	SFC27760A-06
FR-50-1C	1	50 mm^2	18 mm	WS52W	SFC27760A-06
FR-70-1C	1	70 mm^2	20 mm	WS52W	SFC27760A-06
FR-95-1C	1	95 mm^2	23 mm	WS52W	SFC27760A-06
FR-120-1C	1	120 mm^2	25 mm	WS52W	SFC27760A-06
FR-150-1C	1	150 mm^2	28 mm	WS52W	SFC27760A-06
FR-185-1C	1	185 mm^2	30 mm	WS52W	SFC27760A-06
FR-240-1C	1	240 mm^2	33 mm	WS52W	SFC27760A-06
FR-300-1C	1	300 mm^2	35 mm	WS52W	SFC27760A-06
FR-400-1C	1	400 mm^2	41 mm	WS52W	SFC27760A-06
FR-500-1C	1	500 mm^2	46 mm	WS52W	SFC27760A-06
FR-630-1C	1	630 mm^2	50 mm	WS52W	SFC27760A-06

E = Earth, ES = Earth Screened

Schedule of installation components

The following is a schedule of validated installation components of the certified/listed system.

Part number	Type	Length	Width	Max. cable bundle diameter	Stainless steel grade	Certificate of test/Assessment ident.
SST-200	Cable tie	200 mm	4.6 mm	50 mm	ANSI.304	SFC 2871301a (PR:SST)
SST-360		360 mm		95 mm		

Supplementary information

Schedule of relevant articles

The following schedule is an extract of articles significant and/or related as evidence of conformity.

Reference		Title / description	Date issued (or date validated)	Source
Ident. type	Ident.			
Certificate of Assessment	SFC 2401600a.1	Certificate of Test Firesense Type 2, Cable Group 4, WS52W	28-Oct-2009	Warringtonfire Australia Pty Ltd, AU
	SFC 2331900a.1	Certificate of Test Firesense Type 1, Cable Group 4, WS51W	28-Oct-2009	
	SFC 2331900b.1	Certificate of Test Firesense Type 3, Cable Group 4, WS51W	28-Oct-2009	
	24560a.SFC5.0	Certificate of Test 2C x 1.0mm, Firesense Type 5, Cable Group 4, WS51W	4-Aug-2015	
	24560b-R5.0	4C x 1.5mm, Firesense Type 8, Cable Group 4, WS52W	21-May-2020	
	24560c-R5.0	2C x 2.5mm, Firesense Type 9, Cable Group 4, WS52W	21-May-2020	

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Reference		Title / description	Date issued (or date validated)	Source
Ident. type	**Ident.**			
Certificate of Assessment	24560d-R5.0	3C x 1.5mm, Firesense Type 7, Cable Group 4, WS52W	21-May-2020	Warringtonfire Australia Pty Ltd, AU
	SFC 2602900a.2	3C + E (1.5mm^2), Firesense Type 11, Cable Group 3, WS52W	8-Aug-2011	
	26123A-SFC5.0	3C + E (2.5mm^2), Firesense Type 12, Cable Group 3, WS52W	21-May-2020	
	26123BSFC5.0	3C + E (4.0mm^2), Firesense Type 13, Cable Group 3, WS52W	21-May-2020	
	26123C-SFC5.0	3C + E (6.0mm^2), Firesense Type 14, Cable Group 3, WS52W	21-May-2020	
	SFC 2871200.2	10C (0.75mm^2), FR-0.75-10, Cable Group 4, WS52W	5-Sep-2013	
	SFC 2871301a	FireSense Stainless Steel Cable tie with Roller Ball Lock, SST	10-Sep-2013	
	24560g-R5.0	4C screened x 1.5 mm^2, WS52W	21-May-2020	
	24560e-R5.0	6C x 1.5 mm^2, WS52W	21-May-2020	
	24560f-R5.0	10C x 1.5 mm^2, WS52W	21-May-2020	
	24560h-R5.0	3C x 0.75 mm^2, FireSense Cable Group 4, WS51W	21-May-2020	
	24560j-R5.0	2C x 4.0 mm, FR-4.0-2C, 4, WS52W	21-May-2020	
	24560k-R5.0	2C x 6.0 mm, FR-6.0-2C, 4, WS52W	21-May-2020	
	24560l-R5.0	6CS x 0.75mm, FR-0.75-6CS, 4, WS51W	21-May-2020	
	24560m-R5.0	8CS x 0.75mm, FR-0.75-8CS, 4, WS51W	21-May-2020	
	26123A-SFC5.0	3C + E (2.5mm^2), FR-2.50-3C+E, 3, WS52W	21-May-2020	
	26123H-R5.0	3C x 0.75mm, FR-0.75-3C, 3, WS51W	21-May-2020	
	27760A-SFC6.0	Single core cable 6mm^2, 10mm^2, 16mm^2, 25mm^2, 35mm^2, 50mm^2, 70mm^2, 95mm^2, 120mm^2, 150mm^2, 185mm^2, 240mm^2, 300mm^2, 400mm^2, 500mm^2, 630mm^2 conductor sizes, WS52W	21-May-2020	
	27760B-SFC6.0	Four core + earth cable 6mm^2, 10mm^2, 16mm^2, 25mm^2, 35mm^2, 50mm^2, 70mm^2, 95mm^2 conductor sizes, WS52W	21-May-2020	
	SFC 2711500b.2	Multi core cable comprising 3 x 10 mm^2 cores + 4 mm^2 Earth, WS52W	14-Aug-2014	
Report number	27760ASFC6.0 27760B-SFC6.0	Firesense Four core + earth cable 6.00mm^2, 10 mm^2, 16mm^2, 25mm^2, 35mm^2, 50mm^2, 70mm^2, 95mm^2 conductor sizes, WS52W	25-Feb-2020	Warringtonfire Australia Pty Ltd, AU
		Classification of Various FireSense Cables in accordance with AS 3013:2005 Firesense Single core cable 6mm^2, 10mm^2, 16mm^2, 25mm^2, 35mm^2, 50mm^2, 70mm^2, 95mm^2, 120mm^2, 150mm^2, 185mm^2, 240mm^2, 300mm^2, 400mm^2, 500mm^2, 630mm^2 conductor sizes, WS52W		
	26123-05	The Classification of Various FireSense Cables in accordance with AS 3013:2005 Firesense Two/three/four core + earth/screen cable 2.5mm^2, 4 mm^2, 6mm^2 conductor sizes, WS52W	21-May-2020	
Assessment certificate	26123A-SFC5.0	FireSense type 12, 2.5mm^2 – 3 core + E cable	21-May-2020	
	26123B-SFC5.0	FireSense type 12, 4.0mm^2 – 3 core + E cable	21-May-2020	
	26123C-SFC5.0	FireSense type 14, 6.0mm^2 – 3 core + E cable	21-May-2020	
	26123D-R5.0	FireSense 2 core + E cables with 2.5 mm^2, 4 mm^2, 6 mm^2 conductor sizes	21-May-2020	
	26123E-R5.0	FireSense type 17, 2.5mm^2 – 3 core + ES cable	21-May-2020	
	26123F-R5.0	FireSense type 18, 4.0mm^2 – 3 core + ES cable	24-Jun-2019	
	26123G-R5.0	FireSense type 19, 6.0mm^2 – 3 core + ES cable	21-May-2020	
	SFC27760A-06	FireSense 1 Core FR cables	25-Feb-2020	
	SFC27760B-06	FireSense 4 Core + Earth FR cables	25-Feb-2020	
EWFA Report No.	24560-R5.0	The Classification of Various Firesense cables in accordance with AS/NZS 3013 : 2005	21-May-2020	