Contact
Residential/Commercial/Industrial
Phone: 905-944-4300
buildingwire.canada@nexans.com

Armoured Unshielded SECUREX® II FAS 105

Fire Alarm, Signal and Security System Cable FAS 105

Description

20 to 12 AWG solid bare copper conductors (stranded conductors optional). Multiconductors: 3 to 50 armoured. Conductor #3 of multiconductor cables is coloured green, suitable for bonding purposes. Armoured constructions must have a minimum of 3 conductors, using the green conductor for bonding only.

Outer jacket is 105°C flame retardant red PVC. Optional aluminum/mylar shield with tinned copper drain wire. Rip cord under jacket for safe, easy jacket stripping.

Interlock aluminum or galvanized steel armour with or without overall jacket.

Standards

National CSA C22.2 N° 208,
File No. LL23462

Application

SECUREX® II is a 300V 105°C cable specifically designed for the interconnection of security system elements: including fire protective signaling devices such as smoke and fire detectors, fire alarms, and two-way emergency communication systems.

Code Requirements

Although SECUREX® II cable is fire rated to CSA FT4 requirements, Section 32 of the Canadian Electrical Code requires the use of mechanical protection for fire alarm cable installations in non-combustible buildings.

RULE 32-102

Subrule (1)

All conductors of a fire alarm system shall be:

installed in metal raceway of the totally enclosed type; or
incorporated in cable having a metal armour or sheath; or
installed in rigid non-metallic conduit where embedded in at least 50mm of masonry or poured concrete, or or installed underground; or
installed in electrical non-metallic tubing where embedded in at least 50mm of masonry or poured concrete.

Subrule (2)

Notwithstanding Subrule (1), conductors installed in buildings of combustible construction in accordance with Rules of Section 12 shall be permitted to be:

nonmetallic sheathed cable; or
fire alarm and signal cable; or
installed in a totally enclosed nonmetallic raceway.

As a cost-effective alternate to metal raceway, SECUREX® II is now available in popular sizes and conductor counts with aluminum interlock armour.

Characteristics

Construction characteristics	
Conductor material	Copper
Electrical characteristics	
Maximum operating voltage	300 V
Usage characteristics	
Maximum operating temperature	105 °C

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Colour Codes

Multiconductor					
Cond. No.	**Base Colour**	**Longitudinal Stripe**	**Cond. No.**	**Base Colour**	**Longitudinal Stripe**
1	Black		16	White	Brown
2	Red		17	Green	Brown
3	Green		18	Yellow	Brown
4	Blue		19	White	Orange
5	Brown		20	Black	Orange
6	Orange		21	Red	Orange
7	Black	White	22	Green	Orange
8	Red	White	23	Brown	Orange
9	Green	White	24	White	Blue
10	Yellow	White	25	Red	Blue
11	Red	Black	26	Yellow	Blue
12	Green	Black	27	Brown	Blue
13	Yellow	Black	28	Black	Red
14	Green	Red	29	White	Red
15	Yellow	Red	30	Brown	Red
Note: Cables over 30 Conductors will have Black or White insulation with number coding.					

SECUREX® II 18 AWG Multiconductor Aluminum Armoured Unshielded

No. of Conductors	Ins. Wall		Jacket Wall		Cable Diameter		Cable Weight	
	mils	mm	mils	mm	in.	mm	lb/mft	kg/km
3 *	15	0.38	50	1.27	0.451	11.46	88	133
4 *	15	0.38	33	0.84	0.445	11.30	80	118
5 *	15	0.38	33	0.84	0.464	11.79	90	134
6	15	0.38	35	0.89	0.497	12.62	115	171
8	15	0.38	35	0.89	0.519	13.18	127	188
10	15	0.38	35	0.89	0.544	13.82	151	224
20	15	0.38	50	1.27	0.676	17.16	244	362
30	15	0.38	50	1.27	0.766	19.46	328	487
50	15	0.38	60	1.52	0.910	23.11	501	742

*Jacket thickness and cable diameters are a result of Nexans armouring practice. They meet or exceed CSA requirements.

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Electrical Properties - Solid Copper Conductors

AWG	12		14		16		18		20	
D.C.Resistance										
@ 20°C (ohms/km)										
Bare Copper	5.21		8.27		13.60		20.90		33.10	
Tinned Copper	5.54		8.79		14.70		22.10		34.40	
Mutual Capacitance	*	**	*	**	*	**	*	**	*	**
(picofarads/m)										
Unshielded Cables	108	--	98	--	89	--	82	--	79	--
(Pairs or Singles)										
O/A Shielded Cables > 6/C	108	197	98	177	89	161	82	148	79	141
O/A Shielded Cables 6/C or less	223	400	203	361	177	318	157	279	154	272
*Capacitance between adjacent conductors.										
**Capacitance between one conductor and other conductors connected to shield.										

Selling information

CAUTION
In case of fire, well-maintained early warning smoke detectors will give an alarm long before non-metallic coverings become combustible.

However, in spite of the widespread and longstanding use of PVC in residential and commercial buildings, all purchasers of PVC insulated/jacketed products should be aware of the following:

Non-metallic coverings of electrical cables can burn and may transmit fire when ignited.
Burning non-metallic coverings may emit gases which are toxic and may generate dense smoke.
Emission of acid gases may corrode metal in the vicinity; e.g., sensitive instruments and reinforcing rods in cement.