

**COMPLIANCE TESTING REPORT FOR  
AUSTRALIAN STANDARD AS/CA S008:2010  
INCLUDING AMENDMENT No 1/2014  
REQUIREMENTS FOR CUSTOMER CABLING PRODUCTS**

Client: Siemens Limited  
Address: 885 Mountain Highway, Bayswater, Victoria 3153, Australia  
Report Number: 0222SIEPC16\_S008  
Date of Testing: 8 January to 2 February 2018  
File Number: SIE171220

Product Name: Elevator Cable  
Brand Name: SIEMENS  
Product Model No: PC16 (100208913)  
Product Description: PVC Flat Travelling Cable - PC16 4x2.1mm<sup>2</sup> + 10x0.8mm<sup>2</sup> + 1x(2x0.5mm<sup>2</sup>) SH Flat

Result: **Complies**  
Compiled by: Zhimou Qin  
Testing Engineer  
Approved by: Nina Rodoreda  
Lab supervisor  
Date of Issue: 22 February 2018



Results appearing herein relate only to the sample(s) tested.  
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**\* Refer to summary page for any conditions.**

## **SUMMARY OF COMPLIANCE WITH AUSTRALIAN STANDARD AS/CA S008:2010 (Including Amendment No 1/2014)**

The Elevator Cable, model number: PC16 (100208913) was supplied for AS/CA S008:2010 testing by Siemens Limited of 885 Mountain Highway, Bayswater, Victoria 3153, Australia.

The Equipment Under Test (EUT) consisted of a length of Elevator Cable. The cable consisted of one set of twisted pair data elements, four large power conductors and two sets of five small power conductors. Only the data elements were tested. The data element pair was individually shielded with wrapping PET foil and tinned copper wire braiding. The conductors were stranded copper consisting of 16 strands of 0.19mm diameter copper. The conductors were insulated with Polyethylene (PE). The conductor insulation was coloured coded for identification. The entire cable assembly was covered with PVC jacketing. Please also refer to the photo in Appendix B and Product Specifications in Appendix C, at the rear of the report.

The EUT had the following sheath markings:  
Siemens Australia (100208913)-PC16-Flat PVC Cable 4x2.1mm<sup>2</sup> + 10x0.8mm<sup>2</sup> + 1x(2x0.5mm<sup>2</sup>) SH

The requirements for labelling cable and cable products are specified in the ACMA Telecommunications Cabling (Customer Equipment and Customer Cabling) Notice.

The Elevator Cable, model number: PC16 (100208913) **COMPLIES** with the tested clauses of AS/CA S008:2010.

### **SPECIAL CONDITIONS FOR COMPLIANCE:**

**The cable must comply with Clause 5.6.3 requirements for insulation and sheath materials.**

This cable is compliant for indoor use only.

### **Possible Test Case Verdicts:**

- test case does not apply to the test object .....N(.A)
- test object does meet the requirements .....P(ass)
- test object does not meet the requirements .....F(ail)
- testing was not performed.....NT
- noted.....ND

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AS/CA S008:2010			
Clause	Requirement - Test	Result - Remark	Verdict
5.	REQUIREMENTS		P
5.1	GENERAL Cabling products shall be physically distinguishable from products used for distribution or connection of AC mains supply.		P
5.2	MARKINGS		P
5.2.1	Labelling Notice		ND
5.2.2	Inappropriate markings Cabling products intended solely for telecommunications use shall not bear markings indicating hazardous services.		P
5.2.3	Additional markings (excluding cable markings)		N
5.2.3.1	International protection (IP) rating		N
5.2.3.2	Multidiscipline telecommunications connecting hardware		N
5.3	UNDERGROUND CONDUIT		N
5.4	CABLE DISTRIBUTION DEVICES		N
5.5	OPTICAL FIBRE DISTRIBUTION DEVICES AND ENCLOSURES Optical fire distribution devices and splice enclosures shall comply with AS/NZS 2211.1		N

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AS/CA S008:2010			
Clause	Requirement - Test	Result - Remark	Verdict
5.6	CABLES		P
5.6.1	General A customer cable shall meet the requirements of Clauses 5.6.2 to 5.6.9 where specified in Clauses 5.6.10 to 5.6.18 of this Standard.		P
5.6.2	Conductor and optical fibre identification Shall use a system of identification such that all conductors, coaxial tubes or optical fibres within the cable are readily distinguishable visually from one another.	The data elements were coloured coded	P
5.6.3	Insulation and sheath material		NT
	(a) shall use insulation and sheath materials suitable for telecommunications purposes;	PE insulation PVC sheath	ND
	(b) Where PVC insulation or sheath materials are used, they shall comply with the requirements of Table 1 or 2, as applicable: and		NT
	Table 1 - PVC Insulation Requirements Tensile strength (unaged): 13 MPa Elongation (unaged): 100% Elongation (Aged): 50% of initial after 100C at 120h Volatile Loss: 20 g/m <sup>2</sup> after 80C aging for 120h Volume Resistivity: 400GΩ m at 23C, 0.4GΩ m at 60C		N
	Table 2 - PVC Sheath Requirements Tensile strength (unaged): 12 MPa Elongation (Unaged): 100% Elongation (Aged): 50% of initial after 100C at 120h Volatile Loss: 20 g/m <sup>2</sup> after 80C aging for 120h		NT
	(c) Where non-PVC insulation or sheath materials are used, they shall comply with the requirements of AS 1049 for-		NT
	(i) Tensile Strength Test (Aged/Unaged);		NT
	(ii) Elongation Test (Aged/Unaged); and		NT
	(iii) Shrinkback Tests for that particular type of insulation and sheath.		NT
5.6.4	Flammability A cable that is required to comply with this Clause shall pass the combustion propagation test of Method 5.6 including Appendix A and B of AS 1660.5.6.	Refer to table in Appendix A.	P

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AS/CA S008:2010			
Clause	Requirement - Test	Result - Remark	Verdict
5.6.5	UV resistance Requirements of AS 1049 for cables exposed to UV radiation.		N
5.6.6	Metallic conductors		P
5.6.6.1	Conductor composition Any metallic conductors, other than copper-clad steel used as an inner conductor in coaxial cable, or copper-clad aluminium with a centre conductor greater than 2mm used as an inner conductor in coaxial cable- (1) shall be either plain or plated copper; (2) may be either a single, solid conductor or multi-stranded; (3) the DC resistance shall be less than the values given in Table 3; and (4) the conductor finish should be plain or tinned	Requirement: 48.48 $\Omega$ /km max. Measured: 29.76 $\Omega$ /km  All pairs measured and average calculated.	P
5.6.6.2	Electrical withstand voltage A multi-conductor cable that is required to comply with this Clause by any of Clauses 5.6.10 to 5.6.18 of this Standard, when tested at a frequency of 50 Hz on at least 1 m length; (a) shall be able to withstand the appropriate AC voltage levels and test method listed in Table 4, without breakdown for a period of 60 s or a period of 2 s as stated; and (b) for Test 2 and 3, all cables/cordages shall comply to the Table 4 limits using the test specified in AS/NZS 3191 Table 2.1, test number 8(a), and using test method referred in Clause 3.5.1 of AS/NZS 1660.3.		P
5.6.6.3	Mutual capacitance (a) The maximum mutual capacitance between the two wires forming a pair measured at any frequency in the range 800 Hz to 1000 Hz shall not exceed the relevant value given in table 5. (b) The measurement, referred to in Clause 5.6.6.3 (a) shall be performed on a minimum cable length of 100m (c) The mutual capacitance shall be corrected to a length of 1000m	Requirement: 80 nF/km max.  Measured: 19.01 nF/km	P

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AS/CA S008:2010			
Clause	Requirement - Test	Result - Remark	Verdict
5.6.6.4	Capacitance unbalance (a) The maximum capacitance unbalance between pairs measured at any frequency in the range 800 Hz to 1000 Hz shall not exceed the relevant value given in Table 5. (b) During the measurement referred to in Clause 5.6.6.4 (a), all conductors, other than those under test and the metallic shield (where applicable) shall be connected to earth. (c) The measurement shall be performed on a minimum cable length of 100m. (d) The capacitance unbalance between two pairs of wires with one pair designated 'A' and 'B' and the second pair designated 'C' and 'D'. (e) The capacitance unbalance shall be corrected to a length of 500m.		N
5.6.6.5	Insulation resistance (a) shall not be less than the relevant value given in Table 5; (b) the measurement shall be made on a minimum length of 100m of cable or cordage at a potential of 500Vd.c. $\pm$ 50Vd.c. and the reading taken after the application of the voltage for 60s; and (c) the insulation resistance shall be corrected to a length of 1000m.	Requirement: 1000 M $\Omega$ /km min Measured: > 1000 M $\Omega$ /km	P
5.6.7	Metallic shield (a) any shield provided in the cable shall be electrically continuous; and (b) Where a foil shield is employed, a drain wire shall be placed in continuous contact with the metallic surface of the shield.		P P N
5.6.8	Water penetration test Water Penetration specified in Clause 25, Method-F5B of IEC 60794-1-2.		N
5.6.9	Integral bearer or strengthener		N
5.6.10	Cable with specific attributes Where a cable is claimed to have specific attributes, such as rodent or termite resistance or armouring strength, evidentiary documentation shall be made available on request to support the claim.		N

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AS/CA S008:2010			
Clause	Requirement - Test	Result - Remark	Verdict
5.6.11	Metallic paired cable		P
5.6.11.1	General requirements Metallic paired cable, other than cordage, a cord or a special application cable, shall comply with the following Clauses: 5.6.2, 5.6.3, 5.6.4, 5.6.5, 5.6.6.1, 5.6.6.2, 5.6.6.3, 5.6.6.4, 5.6.6.5, 5.6.7, 5.6.8 and 5.6.9.		P
5.6.11.2	Construction A cable intended to carry a frequency of 300 Hz or greater shall be shielded or of twisted pair construction.		P
5.6.12	Cordage with metallic conductors		N
5.6.13	Cords with metallic conductors		N
5.6.14	Metallic jumper wire and jumper cable		N
5.6.15	Coaxial cable		N
5.6.16	Optical fibre cable		N
5.6.17	Blown fibre tube systems		N
5.6.18	Special application cables		N
5.7	CONNECTING HARDWARE, INCLUDING PLUGS AND SOCKETS OF ALL DESIGNS		N
5.8	CABLING PRODUCTS FOR UNDERGROUND AND AERIAL INSTALLATIONS		N

\*\*\*\* END OF REPORT BODY \*\*\*\*

**Appendix A – Additional Test Data**

**Appendix B – Photographic Record of Sample**

**Appendix C – Product Specifications provided by the client**

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**Appendix A – Additional Test Data**

5.6.4		TABLE: Flammability Test								P
No	Object	Duration of application of flame (S)	Time object remained alight after removal of flame (S)	Time until ignition of tissue paper (S)	Time until ignition of particle board (S)	Ignition of tissue paper	Particle board scorching	Extent of burning upwards (mm)*	Extent of burning downwards (mm)*	Result
1	PC16	120 sec	14 sec	NI	NI	NI	NI	205 mm	510 mm	Pass

\* Measured from lower edge of upper clamp. Start of burn was 475 mm from upper clamp. Limit for upward burn is > 50 mm and limit for downward burn is <540 mm from upper clamp (AS 1660.5.6).

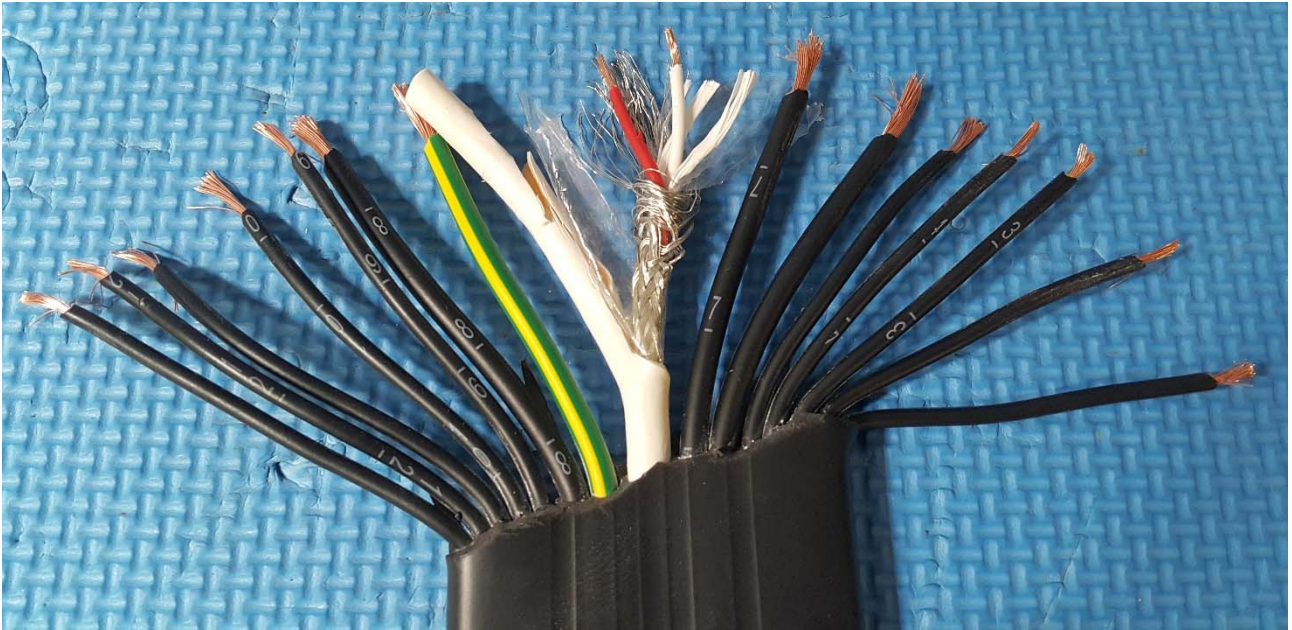
LEGEND	
P	Pass
F	Does not comply
NA	Not applicable
NI	No ignition

**NOTE:**

**INDIVIDUAL ITEMS OF THIS TEST REPORT SHOULD NOT BE QUOTED IN ISOLATION AS PROOF OF PRODUCT ACCEPTABILITY NOR APPLIED TO DIRECTLY ASSESS PERFORMANCE UNDER CONDITIONS OTHER THAN AS ENVISAGED BY THE REFERENCE SPECIFICATION, E.G. INDIVIDUAL FIRE TESTS TO PROVE AN OVERALL ACCEPTABLE FIRE HAZARD LEVEL.**



**Appendix B – Photographic Record of Sample**



Cable



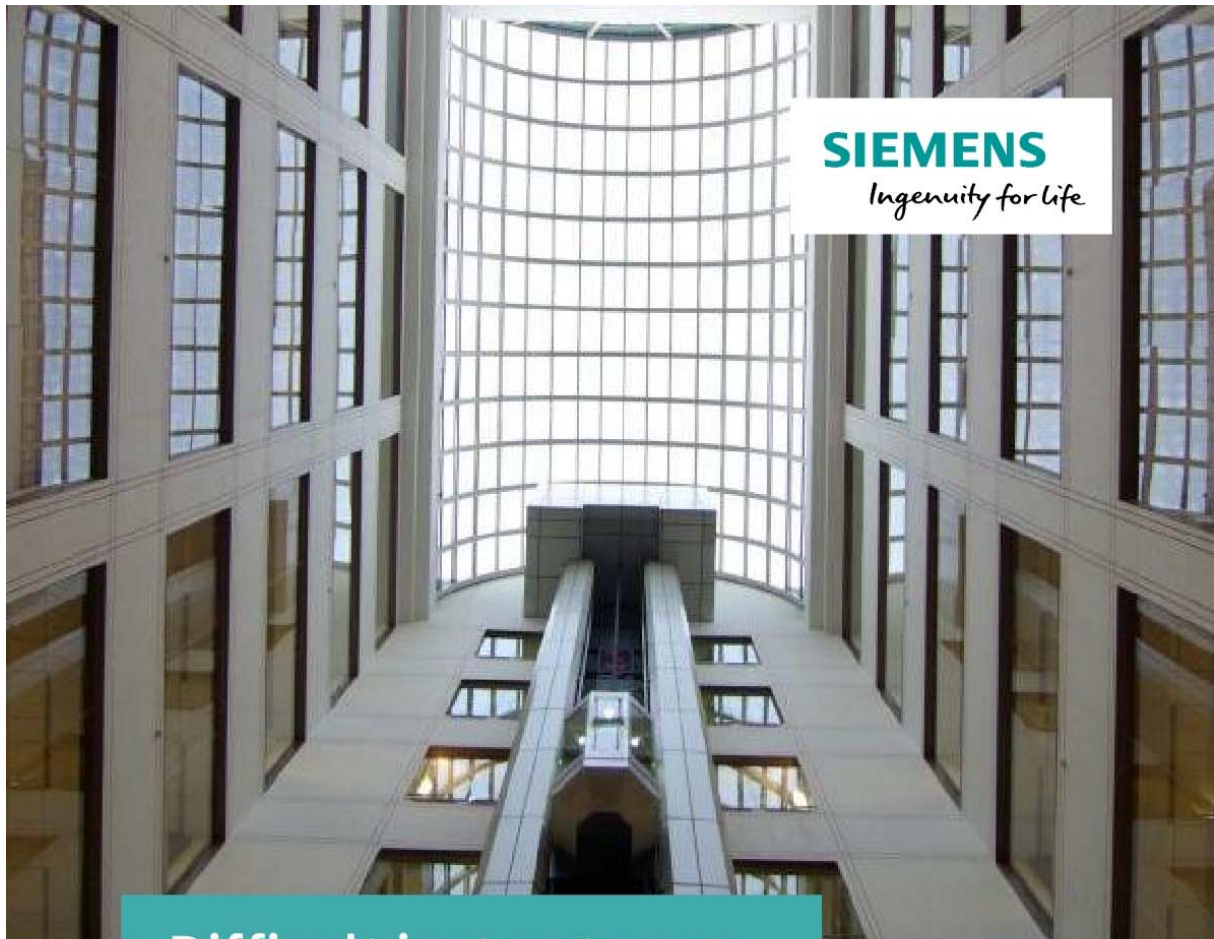
Sheath marking

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## Appendix C – Product Specifications provided by the client



Difficult just got easy

We provide the industry with high-quality elevator cables, backed by decades of experience in the Australian market.

Our cables have been developed to provide optimum performance, maximum safety and extended life for applications requiring power and control.

Features include ease of installation for high levels of efficiency, and options for maintenance, service and modernisation.

For more information visit:  
[www.siemens.com.au/auto-cables](http://www.siemens.com.au/auto-cables)

### PC16 Flat Travelling Cable

- Industry compatible construction and design
- Applications such as CCTV, swipe cards, security, card readers, telephone and display screens
- Capacity to provide application to multiple devices in one single cable
- AUSTEST AS/CA S008:2010 Approvals

[www.siemens.com.au/auto-cables](http://www.siemens.com.au/auto-cables)

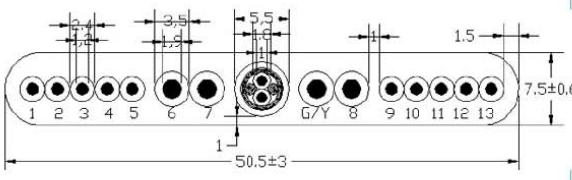
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**Appendix C – Product Specifications provided by the client**

Siemens Part Number	100208913	
Cable	PC16	
Suspension Device	FCSD-3 100205441	

<b>Specification</b>		4x2.1+10x0.8+1x2x0.5	
<b>Standard reference</b>		EN 50214-2006, GB/T5023.6-2006, IEC /EN60227-6	
<b>Strain bearing member</b>		/	
<b>Conductor</b>	Material	Bare CU conductor (Class 5) according IEC 60228	
	Nominal area	mm <sup>2</sup>	2.1      0.8
	Conductor resistance	Ω/km	Max .8.88 at 20°C      Max .26 at 20°C
	Quantity		4      10
<b>Insulation</b>	Material	PVC	
	Normal thickness	mm	0.8      0.6
	Identification	Black with White numbered 6~8,G/Y      Black with White numbered 1~5, 9~13	
<b>Data elements</b>	Type	Twist Pair	
	Quantity	1	
	Conductor	mm <sup>2</sup>	0.5
	Conductor resistance	Ω/km	Max .39.0 at 20°C
	Insulation	PE	
	Normal thickness	mm	0.4
	Colour	Red & White	
Shield	PET Foil Wrapping ,Tinned copper wires braiding		
<b>Jacketing</b>	Material	PVC	
	Normal thickness	See drawing	
<b>Completed cable</b>	Approximate weight	kg/km	613
	Nominal diameter	mm	50.5x7.5
	Bending Test	Min 30000 bending cycles according to EN50214	
	Min. Bending radius	mm	Static application 10x cable thickness
	Operating temperature	°C	-20 to +70
	Test voltage	2kV for 1.5mm <sup>2</sup> conductors,750V for data elements	
	Free suspension length	m	≤45
	Max. travelling height	m	≤80
	Max. travelling speed	m/s	≤4 (Acc. EN50214)
	Acceleration	m/s <sup>2</sup>	< 1.2

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Sydney Office  
Brisbane Office  
Perth Office  
Adelaide Office

885 Mountain Highway, Bayswater, VIC 3153, Australia  
160 Herring Road, Macquarie Park, NSW 2113, Australia  
Citylink Business Centre, 153 Campbell Street, Bowen Hills, QLD 4006, Australia  
185 Great Eastern Hwy, Belmont, WA 6104, Australia  
27 Greenhill Road, Wayville SA 5034, Australia

National Contact Number  
Cables: 131 773 (opt 1)

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