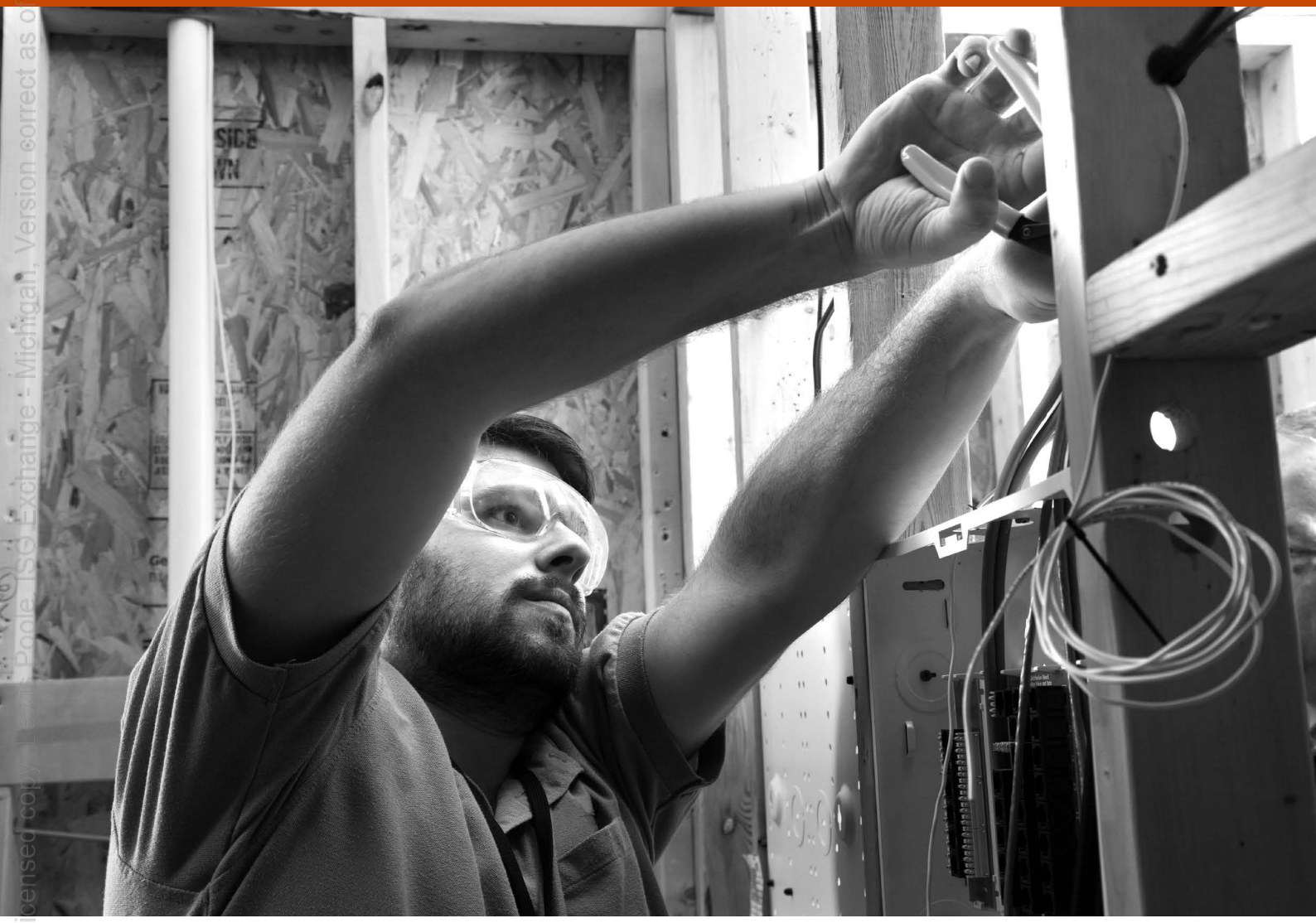
PAS 35491:2017

Design and installation of telecommunications and broadcast infrastructure within the home – Code of practice



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Foreword

This PAS was sponsored by CEDIA. Its development was facilitated by BSI Standards Limited and it was published under licence from The British Standards Institution. It came into effect on 31 March 2017.

Acknowledgement is given to the following organizations that were involved in the development of this PAS as members of the steering group:

- BT Group plc
- CEDIA
- Confederation of Aerial Industries (CAI)
- Electrical Contractors' Association (ECA)
- e-Ready Building Limited
- The Institution of Engineering and Technology (IET)
- Sky UK
- WSP Parsons Brinkerhoff

Acknowledgement is also given to the members of a wider review panel who were consulted in the development of this PAS.

This PAS is not to be regarded as a British Standard. It will be withdrawn upon publication of its content in, or as, a British Standard.

The PAS process enables a code of practice to be rapidly developed in order to fulfil an immediate need in industry. A PAS can be considered for further development as a British Standard, or constitute part of the UK input into the development of a European or International Standard.

Relationship with other publications

The guidance and recommendations outlined in this PAS were developed in line with BS EN 50173-4, BS EN 50174-1 and BS EN 50174-2:2009+A2:2014 Clause **10**.

Use of this document

As a code of practice, this PAS takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this PAS is expected to be able to justify any course of action that deviates from its recommendations.

It has been assumed in the preparation of this PAS that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Presentational conventions

The provisions of this PAS are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

Commentary, explanation and general informative material is presented in italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. "organization" rather than "organisation").

The word "should" is used to express recommendations of this PAS. The word "may" is used in the text to express permissibility, e.g. as an alternative to the primary recommendation of the clause. The word "can" is used to express possibility, e.g. a consequence of an action or an event.

Notes are provided throughout the text of this PAS. Notes give references and additional information that are important but do not form part of the recommendations.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a PAS cannot confer immunity from legal obligations.

Introduction

The purpose of this PAS is to provide house builders, developers, specifiers, service providers and mechanical & electrical (M&E) consultants with a simple, low cost, service provider neutral wiring infrastructure, which is based on existing British Standards, for design and installation. In certain areas this PAS provides enhancements to the technical requirements of those Standards. For the occupier it represents flexibility and availability for all services such as TV (IPTV, terrestrial, satellite and cable), radio (FM and DAB), broadband, Internet, telephony and over-the-top TV services.

The modern family has numerous devices such as personal computers, laptops, smart phones, tablets, TVs, satellite boxes, Blu-Ray players, and games consoles that all require an Internet connection to utilize all of their facilities. Even the most basic household may have in excess of 15 connected devices. Typically these devices are distributed around the home in different locations.

Home owners expect good TV and broadband services; and house prices can be adversely affected as a result of poor broadband speeds. Once the service arrives at the home there may be inadequate provision for maximizing its use around the dwelling.

Many manufacturers and service providers recommend wireless as their preferred method for transmitting data. Wireless technology, including Wi-Fi, is part of the solution within the home but it is not always a complete solution. Modern building materials, such as foil-covered insulation and foil-backed plaster board, inhibit wireless signals creating a Faraday cage effect that in the worst cases may prevent wireless transmission from one room to the next. Domestic properties typically use a mix of communication and TV services that may change over time subject to the occupier's needs and the changing landscape of content delivery.

The recommendations set out in this PAS enables the infrastructure provider to meet the changing requirements of the occupier and make it easy to change service provider without additional cabling or upheaval around the home.

This PAS is aimed at new build properties and those under major refurbishment and facilitates any service provider's content to be transmitted to rooms of the occupiers' choice. The system does not rely on any specific manufacturer's equipment and is not limited to any one service provider.

1 Scope

This PAS gives recommendations for the design and installation of domestic wiring infrastructure for the delivery of digital services based upon the requirements of BS EN 50173 and BS EN 50174. It is suitable for use within single residential dwellings and most homes of multiple occupation.

NOTE 1 *For larger, more complex properties additional advice can be sought.*

It covers:

- incoming services;
- primary home distribution space (PHDS) planning;
- component selection;
  - balanced cabling components of Category 5, 6 and 6_A;

    NOTE *Category 5e and 6A as specified in the American standards approximate to Category 5 and Category 6_A of BS EN 50173-4.*
  - coaxial cabling components;
- cable installation and termination;
- commissioning (testing, verification and certification); and
- documentation.

This PAS does not cover:

- distribution cabling for network speeds above 10 Gbit/s;
- distribution cabling using optical fibre;
- distribution cabling for home automation systems;
- installation of satellite dishes or aerials;
- cabling to the home provided by the service provider; or
- Wi-Fi design and location of access points.

This PAS makes no provision for the transmission of uncompressed digital video over balanced or coaxial cables.

This PAS does not cover safety requirements or building regulations.

NOTE 2 *See CAI* CoP 03, Code of Practice for Electrical Safety Requirements for Signal Reception Systems (excluding CATV) *[1].*