

What's New March 2018

Contents

Content Common to CAWS and BG 56 Based Specifications

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A full record of the content revisions can be obtained within the report that is produced when you run the update routine on your user specifications.

Detailed PDF guidance documents can be found by clicking on the 'Sustainability' or 'Technical Design Guides' icons in the 'Guidance' toolbar.

Unless stated otherwise, section or clause guidance is accessed via the right-hand window.

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Section 1	Summary
Detailed Technical Guidance	<p>New or enhanced existing guidance:</p> <ul style="list-style-type: none"> • Guidance added to filter sections/clauses giving overview of standard BS EN ISO 16890 (replacement for BS EN 779 from June 18) • Section guidance added for new sections on Medical IT Power Supplies (IPS) and Electrical Energy Storage Systems (EESS) • Section guidance for Solar PV and Wind Power Systems updated <p style="text-align: right;"><i>See Section 2 for details</i></p>
Work Section Updates	<p>Key points:</p> <ul style="list-style-type: none"> • New section added for Medical IT Power Supplies (IPS) • New section added for Electrical Energy Storage Systems (EESS) • Wind Power, Solar PV and UPS sections significantly updated in line with current standards and practices • Electrical Installation (Self-Contained Specification) updated & rationalised • USB charging socket-outlets added in various sections • General update/audit of flues/chimney clauses in various sections • Clauses amended/supplemented (B20, V90, V91, V92, Y74 & Part 2) to enable filters to be specified in accordance with either BS EN ISO 16890 or BS EN 779 • Clause added to LTHW section for when radiant panels are also used for cooling • Clauses in Section Chilled Ceilings amended for use when chilled ceiling panels are used for cooling and heating • Addition of clause for unvented hot water storage units • Underfloor heating systems clauses amended/enhanced for pipe types etc. <p style="text-align: right;"><i>See Section 2 for further details and Section 3 for details of schedules</i></p>
Standards and Regulations Updates (only significant standards listed here)	<p>Some significant documents covered by the update include:</p> <ul style="list-style-type: none"> • IET Code of Practice for Electrical Energy Storage Systems • IGEM/UP/19 for gas interlock devices <p>Some significant standards covered by the update include:</p> <ul style="list-style-type: none"> • All parts of BS EN ISO 16890 for air filters classification and testing • BS 1363-2:2016 for socket-outlets • BS EN 14471 for plastic flues (domestic size boilers) • BS EN 61770 and BS EN 13618 for connection of appliances to drinking water <p style="text-align: right;"><i>See Section 4 for details of all changes to reference documents</i></p>

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Section 2 Details of Work Section Updates & Audits

Refer to separate 'CAWS - BG 56 NES Master Content Reference Document' for details of the corresponding BG 56 part/section to the following CAWS section references.

Electrical Energy Storage Systems (EESS) – V35 (NEW SECTION)

New Work Section V35 includes clauses to specify low voltage or extra-low voltage electrical energy storage systems that use batteries as the storage medium, in accordance with BS 7671 (IET Wiring Regulations) and the IET Code of Practice for Electrical Energy Storage Systems.

Medical IT Power Supplies (IPS) – V33 (NEW SECTION)

New Work Section V33 includes clauses to specify isolated power supplies (IPS) for medical applications, their final circuits and associated supplementary bonding networks for medical locations, in accordance with Section 710 of BS 7671 (IET Wiring Regulations) and HTM 06-01.

Wind Power Systems – V14

- Work section audited and updated in line with current standards and practices.
- Throughout the work section, changed terms "off-grid" to "grid-independent" to align with BS 7671 and IET Codes of Practice.
- Clause 300.010 has minor restructuring to improve flow.
- Clauses 300.011 and 300.031 are deleted as they duplicate the requirements of 300.010 and 300.030 respectively.
- In Clause 300.020, reference to ENA Engineering Recommendation G5/4-1 has been updated.
- DC voltages have been rationalised to more commonly used set in Clauses 300.030 and 310.050.
- The battery storage requirements in Clauses 310.030, 300.015 and 300.016 have been removed and placed (updated) into new clause 310.060 STORAGE BATTERIES, as these may also be used for grid-independent AC systems.
- Clause 310.030 has been renamed POWER CONVERTING EQUIPMENT (PCE) and includes options for different types of PCE, in line with updates to V13.
- Option for battery storage included in Clause 300.050.
- New Clauses have been added as follows:
 - Clause 300.070 INTEGRATION, CONTROL AND MONITORING
 - Clause 300.080 SOFTWARE
 - Clause 300.090 ELECTROMAGNETIC COMPATIBILITY
 - 310.060 STORAGE BATTERIES
 - 320.040 QUALITY CONTROL
 - 320.050 HANDOVER
- Workmanship requirements in Clause 320.010 have been updated in line with updates in Work Section V13 and take into account battery safety and storage during construction/erection, and labels in line with ENA Engineering Recommendations and BS 7671 for multiple sources of supply.
- Section guidance has also been updated.

Solar Photovoltaic (PV) Systems – V13

- Work section audited and updated in line with current standards and practices.
- Throughout the work section, including headings/titles, updated terms "PV" to "Solar PV" and "off-grid" to "grid-independent" to align with BS 7671 and IET Codes of Practice.
- Clause 300.010 has been restructured and now contains rationalised requirements formerly in Clauses 300.020, 300.030 and 300.040. The clause has been reviewed and standards updated.
- Clauses 300.011 and 300.031 have been deleted as they duplicated requirements in other clauses.
- Clause 300.020 has been replaced with a new Clause EQUIPMENT SCHEDULES. Requirements formerly in this clause are now included in Clause 300.010.
- Clause 300.030 has been replaced with a new Clause SOLAR PV SPECIALIST. Requirements formerly in this clause are now included in Clauses 300.010 and 310.060.

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Section 2 Details of Work Section Updates & Audits

- Clause 300.040 has been replaced with a new Clause ELECTROMAGNETIC COMPATIBILITY. Requirements formerly in this clause are now included in Clause 300.010.
- New Clauses 300.070, 300.080 and 320.040 have been added to enable software-managed systems and integrated systems to be specified.
- New Clause 310.060 STORAGE BATTERIES FOR GRID-INDEPENDENT SYSTEMS, contains requirements for storage batteries, reviewed and updated, that were formerly in Clause 300.030 for DC grid-independent systems. The requirements have been split out into a new clause, because AC grid-independent systems may also use storage batteries.
- Clause 310.030 has been renamed SOLAR PV POWER CONVERTING EQUIPMENT, so that it can be used to specify inverters, DC to DC converters and bi-directional converters.
- Workmanship clauses in 320.000 have been expanded and updated to reflect latest standards, with new Clause 320.050 HANDOVER, added.
- Section guidance has been updated accordingly, and new guidance on MCS-registered installers added to Clause 300.030 guidance.

Uninterruptible Power Supply (UPS) – V32

- Work section audited in line with latest standards and practices.
- Clauses under 300.000 PRODUCTS/MATERIALS have been renumbered to 310.000 PRODUCTS/MATERIALS:
 - Clause 300.010 now 310.010. The Clause has been updated to reflect latest standards, and rationalised where appropriate, and now refers to large static UPS exceeding 20 kVA, or UPS with rotary components
 - Clause 300.020 now 310.020 (minor corrections have been made)
 - Clause 300.025 now 310.025
 - Clause 300.027 now 310.027
 - Clause 300.030 now 310.030 (updated to align earth switching with BS 7671)
 - Clause 300.040 now 310.040 (updates have been made to standards referred to in this clause)
 - Clause 300.050 now 310.050 (updates have been made to standards referred to in this clause)
 - Clause 300.060 now 310.060 (clause rationalised, and utilises recently updated Clauses Y71.250A and Y71.260A)
 - Clause 300.070 now 310.070 (clause updated to reflect current systems integration practices for monitoring)
 - Clause 300.080 now 310.080 (clause title changed to POWER CONVERTING EQUIPMENT, and updated)
 - Clause 300.090 now 310.090 (standards in this clause have been updated, including new battery types Lithium and NiCd)
 - Clause 300.100 now 310.100
- Clauses under 310.000 WORKMANSHIP have been renumbered to 320.000 WORKMANSHIP
 - Clause 310.010 is not 320.010, and has been updated to align with similar clauses in other work sections
 - New Clauses added as follows:
 - 320.020 COMMISSIONING
 - 320.030 QUALITY CONTROL
 - 320.040 HANDOVER
- The following new clauses have been added, to facilitate embedded control and monitoring equipment and integration with building management, SCADA, building systems integration, maintenance management and network management systems etc.
 - Clause 300.010 SYSTEM REQUIREMENTS (provides an overview of the UPS system requirements)
 - Clause 300.020 EQUIPMENT SCHEDULES (facilitates a schedule approach where one is desired)
 - Clause 300.030 UPS SPECIALIST (facilitates the specification that a specialist UPS supplier / installer is to use)

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- Clause 300.040 ELECTROMAGNETIC COMPATIBILITY (aligns with latest EMC requirements)
- Clause 300.050 INTEGRATION, CONTROL AND MONITORING (provides overview requirements for system interfacing and integration)
- Clause 300.060 SOFTWARE (contains baseline requirements for software)
- Clause 310.015 PACKAGED UPS SYSTEMS (STATIC UPS RATED UP TO 20 KVA)

Electrical Installation – V90 (Self-Contained Specification)

- Clause 200.010 has been updated and rationalised.
- Clause 200.120 has been updated to include requirements for underground cable sheath identification.
- The title of Clause 300.000 has changed to WIRING SYSTEMS - MATERIALS
- Clause 300.200 has been added to enable specification of fire alarm cables.
- The title of Clause 400.000 has change to WIRING SYSTEMS - WORKMANSHIP
- Clause 700.050 updated in line with current standards.
- Clauses 800.150, 800.160, 800.170, 800.200, 800.215, have been updated to align with updates made to Work Section W50 in the September 2017 Content Release.
- New Clause 800.213 for multi-sensor fire detectors added.
- The following Clauses have been changed to pre-delete strikethrough, as Mineral Insulated Cables are not often specified these days (but still available):
 - 300.120
 - 400.130
- The following clauses have been deleted as they are no longer necessary:
 - 200.130 (requirements now included in 200.120)
 - 800.310, 800.320 (requirements have been included in renumbered Clause 200.250 EQUIPOTENTIAL BONDING AND MAIN BONDING)
 - 800.370 (this can be specified by adding Clause 300.010 from Work Section V32 to the specification)
 - 800.090
 - 800.175 (serves no purpose, could be included in 800.170 or a schedule)
- The following clauses have been renumbered, to ensure they are in a more logical position in the specification
 - Clauses 200.130 to 200.200 inclusive, 200.040, 200.050 and 200.060 are renumbered 600.040 to 600.130 inclusive as they relate to workmanship
 - Clauses 800.280, 800.290, 800.350 and 800.360 are renumbered 500.270 to 500.300 inclusive as they relate to products/materials
 - Clauses 800.240, 800.270, 800.300, 800.330, 800.350, 800.336 and 800.041, are renumbered 200.220 to 200.270 inclusive, as they relate to system level requirements

USB Charging Socket-outlets – Y74 & Part 2 Clauses / B20, V90, V91, V92 (Self-Contained Specifications)

- B20 Residential Projects
 - Clause 800.518 updated to accommodate industrial socket-outlets to BS EN 60309-2 and BS EN 60309-4, and UK socket-outlets with USB charging ports to BS 1363-2:2016
 - New Clause 800.525 for USB charging outlets added
- V90 Electrical Installation
 - Clause 500.170 updated to accommodate industrial socket-outlets to BS EN 60309-2 and BS EN 60309-4, and UK socket-outlets with USB charging ports to BS 1363-2:2016
 - New Clause 500.260 for USB charging outlets added
- V91 Telecommunications Networks
 - Clause 900.140 updated to accommodate industrial socket-outlets to BS EN 60309-2 and BS EN 60309-4, and UK socket-outlets with USB charging ports to BS 1363-2:2016
 - New Clause 900.240 for USB charging outlets added

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- V92 Security Systems, AV Systems and Non-Security Alarms
 - Clause 900.140 updated to accommodate industrial socket-outlets to BS EN 60309-2 and BS EN 60309-4, and UK socket-outlets with USB charging ports to BS 1363-2:2016
 - New Clause 900.240 for USB charging outlets added
- Y74 (& Part 2 clauses) Accessories for Electrical Services
 - Part 2 Clause:274.110 updated to accommodate industrial socket-outlets to BS EN 60309-2 and BS EN 60309-4, and UK socket-outlets with USB charging ports to BS 1363-2:2016
 - New Part 2 Clause:274.115 for USB charging outlets added
 - Clause 2090# updated to enable specification of socket-outlets with USB charging outlets, and better specification of industrial socket-outlets to BS EN 60309-2 or BS EN 60309-4
 - New Clause 2090F for UK socket-outlets, double, switched, with integral USB charging ports to BS 1363-2:2016 added
 - New Clause 2090G for UK socket-outlets, single, switched, with integral USB charging ports to BS 1363-2:2016 added
 - New Clause 2090H for unswitched industrial socket-outlets to BS EN 60309-2 added
 - New Clauses 2090I for switched industrial socket-outlets to BS EN 60309-2 and BS EN 60309-4 added
 - New Clause 2095A for dual USB charging outlets added

Air Filters for General Ventilation – Y42, Y40 & other sections listed below:

- Various clauses in the work sections listed below have been amended / supplemented to enable filters to be specified in accordance with BS EN ISO 16890 (classification system based upon particulate matter efficiency ePM) instead of BS EN 779. This standard will be withdrawn by BSI at the end of June 2018 and references to it will be retained in NES until the end of 2018.
- New Part 2 Clause:242.035 added and marked as pre-deleted strikethrough because it is generally done on critical projects such as exhaust from cat 4 containment level laboratories and would be an expensive test.
- Guidance note giving an overview of BS EN ISO 16890 and comparison with BS EN 779 added as section guidance to Y42, and clause guidance for Part 2 Clause:240.040, U19:200.010 & U39:200.020 (filters in AHUs).
- Part of the new guidance note has also been added to Part 2 Clause:240.020 / Y40.1010 clauses on AHU casing air leakage because BS EN 1886 refers to BS EN 779.
- Sections / clauses amended:
 - Part 2 Clause:242.020 & Y42.2020#
 - Part 2 Clause: 240.040 (AHU filters)
 - U19:200.010 (AHUs)
 - U39:300.110 (FCUs), 200.020 (AHUs), 300.050 (free standing AC unit)
 - U41:300.030 (induction units)
 - U43:300.030 (terminal heat pumps)
 - U50:300.050 (terminal heat pumps)
 - U60:300.060, 300.065 (CRAC units)
 - U70:300.020, 300.030, 300.040 (air curtains)
 - T40:300.020, 300.025, 300.030 (air heating air handling units)
 - T41:200.010 (Warm Air Heating Self-Contained Section(AHUs))
 - T42:300.020 (local heating units)
 - T70:300.020 (local cooling unit)
 - Part 2 Clause:230.085 (filters in ground – air heat exchange system)
 - B20:600.210 and 700.302 (AHUs)
- Clauses removed:
 - Y42.2020A, Y42.2020C (to avoid repeating information in Part 2 and Y reference clauses, as these clauses just listed the British Standards that were in Part 2 Clause:242.020)

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Flues and Chimneys – T10, T32, S12, T50, T11, T13, T16, T41, T42, B20, R33

- General update/rationalisation of clauses to provide more clarity on standards and types/materials of construction of flues and chimneys.
- Standards/other guidance references clarified and/or added:
 - BS EN 1856 (system chimney products)
 - BS EN 1859 (test methods for metal chimneys)
 - BS EN 13216 (general chimney test methods)
 - BS EN 1443 (general requirements)
 - BS EN 15287 (room sealed appliances)
 - BS EN 14471 (plastic flues for domestic boilers)
 - BS EN 14989 (room sealed appliances air supply)
 - BS EN 13084 (free standing chimneys)
 - BS EN 16475-2 for inline and chimney outlet exhaust fans
 - BS EN 16475-3 for draught regulators and other devices
- Standards removed:
 - BS 41
 - BS 835
- Clauses below amended:
 - B20:300.207 & 400.204
 - R33:310.080
 - T10:310.090 & 320.060
 - T11:310.130 & 320.050
 - T13:320.030
 - T16:310.130 & 320.040
 - T32:200.030 & 200.034
 - T41:200.020
 - T42:300.040
 - S12:200.050
 - Part 2 Clause:243.056

Fume Cupboard and Safety Cabinet Systems – U15

- Standards / other guidance references amended / clarified:
 - BS 5276 and BS EN 12469 for safety cabinets
- Classes of safety cabinet added to Clause 300.020.
- Detailed guidance added to Clause 300.020 to clarify British Standards and define safety cabinet classes.

Fume Extract – U16

- Standards / other guidance references added:
 - BS EN ISO 14644 Parts 1 & 7 (controlled clean environments)
 - PD CEN/TR 16589 (articulated extension extract arms in laboratories)
- New Clauses 300.032 and 300.034 added for clean air hoods, isolators and extension extract arms.

LTHW Heating – T31

- New Clause 310.102 added for radiant panels when used for both heating and cooling (refers to relevant parts of BS EN 14037).
- Radiant heating schedule also updated to allow for heating and cooling.

Low Temperature Hot Water Heating (Underfloor Heating) – T31, T32, B20

- Requirement for all pipework to incorporate an oxygen diffusion barrier added.
- Plastic multilayer composite system added.

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- Pipework material standards supplemented / amended / clarified.
- Standards / other guidance references clarified and/or added:
 - BS EN ISO 21003 (multilayer piping systems)
 - PE-Xc to BS EN ISO 15875
 - PE-RT to BS EN ISO 22391-2
- Clauses below amended:
 - T31:310.150, T32:300.050, B20:400.305

Chilled Ceilings – U62

Clauses 300.030 and 300.040 and schedule of Chilled Ceiling Panels, Rafts and Sails updated to include testing standard BS EN 14037-5 for thermal output when chilled ceiling panels are also used for heating.

Unvented Hot Water Storage Units – Y23 & Part 2 Clauses / S12 & B20 (Self-Contained Specifications)

- New Part 2 Clause:223.102 added.
- Clauses S12:200.100 and B20:300.213 enhanced / modified to clarify that BS 12897 is only suitable for units up to 2000l and 10bar; enable duty detail to be included for indirect heating source and auxiliary electric heating.
- Text added to Y23.2060#, 2060A, 2060B (calorifiers & storage vessels) to better describe BS EN ISO 4126 (safety devices for protection against excess pressure).

Kitchen Ventilation – U12

- Standards / other guidance references added:
 - BS 6173
 - IGEN/UP/19
- New clause 310.040 added for kitchen ventilation gas safety interlock facilities.

GRP Tanks – R20, R21 & S14

All relevant parts of BS EN 13121 correctly referenced in R20:310.010, R21:310.020 and S14:310.050.

Sewage Treatment – R21

Clause 300.100 for standards enhanced to provide explanation of each standard and various parts of BS EN 12566 (small wastewater treatment systems) added.

Water Reclamation System – S17

- General update of clauses to remove reference to withdrawn HSG 193 and clear reference to COSHH Control guidance sheets added regarding use of chemicals for water treatment.
- Clauses below amended:
 - 310.010, 310.020, 310.030, 310.040 (BREEAM notes for water meters removed as they refer to mains water supply meters, not meters for reclaimed water)

Hot and Cold Water – S10 & S11

- Clauses S10:310.010 & S11:310.020 enhanced to include references to standards for flexible hose assemblies for connecting to drinking water and standard for connecting electrical appliances to water mains to prevent backsiphonage of non-potable water.

Compressed Air – S30 & S31

New clause 310.166 for flexibles hose assemblies.

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Natural Gas – S32 / S12, T32 & B20 (Self-Contained Specifications)

- The Measuring Instruments Regulations added to Clause 300.010.
- Clauses 310.005, 310.010, 310.012, 310.014 amended to reflect 2014 version of MID / Annex.
- BS 6400-3 removed as it is for LPG and text associated with Parts 1 & 2 of BS 6400 enhanced for clarity in clauses 310.010 & 310.012.
- S12:200.160, T32:200.055 and B20:300.224 & 400.205 amended to align with modifications to the S32 clauses listed above.
- Various meter standards and text for when meters used for billing purposes added to S32:200.055 to further align the clause with other S32 clauses.
- Maximum duty for small gas meters (to BS 6400-1) added to B20:300.224 & 400.205.
- Clause guidance for above clauses amended to reflect clause text changes.

Solar Hot Water – T15

Parts 1 & 2 of BS EN ISO 22975 for collector components testing, added to 310.021.

Pipeline Ancillaries – Y11

- Reference to BS EN 16668 added to Part 2 Clause:211.010. The standard is for metallic valves and covers the relevant minimum requirements to meet the Essential Safety Requirements of the Pressure Equipment Directive. Bursting discs also added to the clause.
- BS EN ISO 4126 (safety devices for protection against excess pressure) added to 1010 and clause title changed to include DEVICES i.e. not just relief valves.

Fans – Y41

BS EN 16475-2 for inline and chimney outlet exhaust fans added to general clause Y41.1000.

Insulation – Y50

Line added to general materials reference clause 1030 for testing materials classified to BS EN 13501-1 to show they do not show any propensity to smoulder (reference to BS EN 16733).

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Section 3 Schedules

Below is a summary of the updates to schedules in Excel that can be activated by clicking on the links from NES clauses.

Some guidance has been incorporated into many of the schedules in the form of "comments" that are displayed when hovering over certain cells.

These supplied NES schedules:

- Are independent of classification
- Have been updated to a common formatting theme
- Are orientated as landscape for ease of publishing

For a complete listing and print preview of all NES schedules refer to document NES Building Services Schedules, located on the "Guidance" tool bar, under "Other Resources".

The list below covers significant amendments / changes to existing schedules and new schedules.

Types

U – Existing schedule that has been significantly updated

N – New schedule

Section Reference		Schedule Name	Type	Details
CAWS	BG 56			
T31, T32	C1.4.10	Radiant Heating	U	Updated to include additional worksheet for use when radiant panels are used for both heating and cooling (refers to relevant parts of BS EN 14037)
U62	C1.4.370	Chilled Ceiling Panels, Rafts and Sails	U	Updated to include additional work sheet for use when chilled ceiling panels are also used for heating (Ref BS EN 14037-5)

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Section 4 Detail Changes to Reference Documents

Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
A13, A64, S33, W50, W51, Y41, Y61, Y92	A1.4, C1.3.20, C2.5.10, C2.1.100, D1.4.460, D2.6.20, D4.30	BS EN 60079-13:2010 Explosive atmospheres. Equipment protection by pressurized room "p"	Withdrawn, Superseded	BS EN 60079-13:2017 Explosive atmospheres. Equipment protection by pressurized room "p" and artificially ventilated room "v"
A13, A64, S33, W50, W51, Y41, Y61, Y92	A1.4, C1.3.20, C2.5.10, C2.1.100, D1.4.460, D2.6.20, D4.30		Amendment 1	BS EN 60079- 18:2015+A1:2017 Explosive atmospheres. Equipment protection by encapsulation "m"
A13, A37, A64, B20, V90, V91, V92, W10, W11, W30, W51, W56, W60, W61, W69, W70	A1.4, A3.8, C2.3.10, D2.3.40, D2.3.20, C2.1.100, C2.1.110, C1.7.10, D1.7.20, D2.3.30, B8.10.30, D2.6.60, D2.7.20		Amendment 1	BS 6701:2016+A1:2017 Telecommunications equipment and telecommunications cabling. Specification for installation, operation and maintenance. Specification for installation, operation and maintenance
B20, S12, S32, T32, T41, Y61	D1.3.10, D2.6.20	BS 6400-1:2006 Specification for installation, exchange, relocation and removal of gas meters with a maximum capacity not exceeding 6 m ³ /h. Low pressure (2nd family gases)	Withdrawn, Superseded	BS 6400-1:2016 Specification for installation, exchange, relocation, maintenance and removal of gas meters with a maximum capacity not exceeding 6 m ³ /h. Low pressure (2nd family gases)
B20, S32	C1.3.10	BS 8499:2009 Specification for domestic gas meter boxes and meter bracket	Withdrawn, Superseded	BS 8499:2017 Specification for domestic gas meter boxes and meter bracket
N12, Y60, Y74	C5.30, D2.6.10, D2.6.70		Amendment 1	BS 1363-1:2016+A1: 2018 13 A plugs, socket- outlets, adaptors and connection units. Specification for rewirable and non-

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Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
				rewirable 13 A fused plugs
B20, N12 V33, V90, V91, V92, W14, X22, Y60, Y74	C5.30, C2.1.150, C2.3.60, D2.6.10, D2.6.70		Amendment 1	BS 1363-2:2016+A1:2018 13 A plugs, socket-outlets, adaptors and connection units. Specification for 13 A switched and unswitched socket-outlets
N12, Y60	C5.30, D2.6.10		Amendment 1	BS 1363-3:2016+A1:2018 13 A plugs, socket-outlets, adaptors and connection units. Specification for adaptors
B20, N12, V33, V90, X22, Y60, Y74	C5.30, C2.1.150, D2.6.10, D2.6.70		Amendment 1	BS 1363-4:2016+A1:2018 13 A plugs, socket-outlets, adaptors and connection units. Specification for 13 A fused connection units switched and unswitched
B20, S12, S32, T32, T69, U19, U39, Z Part 2	C1.3.10, C1.8.20	BS EN 593:2009+A1:2011 Industrial valves. Metallic butterfly valves	Withdrawn, Superseded	BS EN 593:2017 Industrial valves. Metallic butterfly valves for general purposes
B20, T10, T32	C1.4.30	BS EN 14471:2013+A1:2015 Chimneys. System chimneys with plastic flue liners. Requirements and test methods	Current – clause requirements clarified	
B20, N11, N12, R10, S11, S12, V50, V51	C5.20, C5.30, C1.1.10, C1.2.20, C1.4.160, C1.4.170		Amendment 13	BS EN 60335-1:2012+A13:2017 BS EN 60335-1:2012+A13:2017. Part 1: General requirements
B20, V90, V91, V92, Y74	D2.6.70		New Addition	BS EN 62680-1-1:2015 Universal Serial Bus interfaces for data and power. Universal Serial Bus interfaces. Common components. USB Battery

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Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
				Charging Specification, Revision 1.2 (TA 14)
B20, T40, T41, T42, T70, U19, U39, U40, U43, U50, U60, U70, Z Part 2,	C1.4.140, C1.4.150, C1.4.390, C1.4.310, C1.4.320, C1.4.340, C1.4.350, C1.4.430, C1.4.470, C1.4.450, C1.4.510	BS EN 779:2012 Particulate air filters for general ventilation. Determination of the filtration performance	Partially Superseded – to be withdrawn June 2018	BS EN ISO 16890-1:2016 Air filters for general ventilation. Technical specifications, requirements and classification system based upon particulate matter efficiency (ePM)
U19, U39, Y42, Z Part 2	D1.4.470, C1.4.470		Partially Superseded – to be withdrawn June 2018	BS EN ISO 16890-2:2016 Air filters for general ventilation. Measurement of fractional efficiency and air flow resistance
U19, U39, Y42, Z Part 2	D1.4.470, C1.4.470		Partially Superseded – to be withdrawn June 2018	BS EN ISO 16890-3:2016 Air filters for general ventilation. Determination of the gravimetric efficiency and the air flow resistance versus the mass of test dust captured
U19, U39, Y42, Z Part 2	D1.4.470, C1.4.470		Partially Superseded – to be withdrawn June 2018	BS EN ISO 16890-4:2016 Air filters for general ventilation. Conditioning method to determine the minimum fractional test efficiency
N11, N12, S10, S11	D5.20, C5.30, D1.2.10, D1.2.20	BS EN 61770:2009 Electric appliances connected to the water mains. Avoidance of backsiphonage and failure of hose-sets	Current - more detail added to clause requirements	
N30, V13, X21, Y21, Z Part 2	C4.40, C2.1.40, C3.2.20, D1.2.12, C1.2.10		Amendment 1	BS EN 1991-1- 3:2003+A1:2015 Eurocode 1. Actions on structures. General actions. Snow loads
R11, T20, T61, U16, U39, U41, Y10, Z Part 2	B8.1.20, C1.4.110, C1.4.385, C1.4.240, C1.4.320,		New Addition	BS ISO 5660-1:2015 Reaction-to-fire tests. Heat release, smoke production and mass loss rate. Heat release rate

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Section 4 Detail Changes to Reference Documents

Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
	D1.8.10, C1.4.120			(cone calorimeter method) and smoke production rate (dynamic measurement)
R21	C1.1.70		New Addition	BS EN 12566-3:2016 Small wastewater treatment systems for up to 50 PT. Packaged and/or site assembled domestic wastewater treatment plants
R21	C1.1.70		New Addition	BS EN 12566-6:2016 Small wastewater treatment systems for up to 50 PT. Prefabricated treatment units for septic tank effluent
R21	C1.1.70		New Addition	BS EN 12566-7:2016 Small wastewater treatment systems for up to 50 PT. Prefabricated tertiary treatment units
S10, S11	D1.2.10, D1.2.20		New Addition	BS EN 13618:2016 Flexible hose assemblies in drinking water installations. Functional requirements and test methods
S30, S31	C1.5.10, C1.5.20		New Addition	BS EN ISO 5774:2016 Plastics hoses. Textile-reinforced types for compressed-air applications. Specification
S32, T41, U12	C1.3.10, D1.3.10, C1.4.200	IGEM/UP/19 Design and application of interlock devices and associated systems used with gas appliance installations in commercial catering establishments	Current - more detail added to clause requirements / guidance	
S32, T32	C1.3.10	BS EN 1359:1999 Gas meters. Diaphragm gas meters	Withdrawn, Superseded	BS EN 1359:2017 Gas meters. Diaphragm gas meters
T10, T41	C1.4.30	BS EN 15316-1:2007 Heating systems in buildings. Method for	Withdrawn, Superseded	BS EN 15316-1:2017 Energy performance of buildings. Method for

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Section 4 Detail Changes to Reference Documents

Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
		calculation of system energy requirements and system efficiencies. General		calculation of system energy requirements and system efficiencies. General and Energy performance expression, Module M3-1, M3-4, M3-9, M8-1, M8-4
T10, T41	C1.4.30	BS EN 15316-2-1:2007 Heating systems in buildings. Method for calculation of system energy requirements and system efficiencies. Space heating emission systems	Withdrawn, Superseded	BS EN 15316-2:2017 Energy performance of buildings. Method for calculation of system energy requirements and system efficiencies. Space emission systems (heating and cooling), Module M3-5, M4-5
T10, T41	C1.4.30	BS EN 15316-2-3:2007 Heating systems in buildings. Method for calculation of system energy requirements and system efficiencies. Space heating distribution systems	Withdrawn, Superseded	BS EN 15316-3:2017 Energy performance of buildings. Method for calculation of system energy requirements and system efficiencies. Space distribution systems (DHW, heating and cooling), Module M3-6, M4-6, M8-6
		BS EN 15316-3-2:2007 Heating systems in buildings. Method for calculation of system energy requirements and system efficiencies. Domestic hot water systems, distribution		
T10, T41	C1.4.30	BS EN 15316-3-3:2007 Heating systems in buildings. Method for calculation of system energy requirements and system efficiencies. Domestic hot water systems, generation	Withdrawn, Superseded	BS EN 15316-4-1:2017 Energy performance of buildings. Method for calculation of system energy requirements and system efficiencies. Space heating and DHW generation systems, combustion systems (boilers, biomass), Module M3-8-1, M8-8-1
		BS EN 15316-4-1:2008 Heating systems in buildings. Method for calculation of system energy requirements and system efficiencies. Space heating generation systems,		

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Section 4 Detail Changes to Reference Documents

Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
		combustion systems (boilers)		
		BS EN 15316-4-7:2008 Heating systems in buildings. Method for calculation of system energy requirements and system efficiencies. Space heating generation systems, biomass combustion systems		
T10, T14 T41, U43	C1.4.30, C1.4.70, C1.4.340	BS EN 15316-4-2:2008 Heating systems in buildings. Method for calculation of system energy requirements and system efficiencies. Space heating generation systems, heat pump systems	Withdrawn, Superseded	BS EN 15316-4-2:2017 Energy performance of buildings. Method for calculation of system energy requirements and system efficiencies. Space heating generation systems, heat pump systems, Module M3-8-2, M8-8-2
T10, T41	C1.4.30	BS EN 15316-4-3:2007 Heating systems in buildings. Method for calculation of system energy requirements and system efficiencies. Heat generation systems, thermal solar systems BS EN 15316-4-6:2007 Heating systems in buildings. Method for calculation of system energy requirements and system efficiencies. Heat generation systems, photovoltaic systems	Withdrawn, Superseded	BS EN 15316-4-3:2017 Energy performance of buildings. Method for calculation of system energy requirements and system efficiencies. Heat generation systems, thermal solar and photovoltaic systems, Module M3-8-3, M8-8-3, M11-8-3
T10, T19, T41	C1.4.30, C1.4.100	BS EN 15316-4-4:2007 Heating systems in buildings. Method for calculation of system energy requirements and system efficiencies.	Withdrawn, Superseded	BS EN 15316-4-4:2017 Energy performance of buildings. Method for calculation of system energy requirements and system efficiencies. Heat

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Section 4 Detail Changes to Reference Documents

Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
		Heat generation systems, building-integrated cogeneration systems		generation systems, building-integrated cogeneration systems, Module M8-3-4, M8-8-4, M8-11-4
T10, T41	C1.4.30	BS EN 15316-4-5:2007 Heating systems in buildings. Method for calculation of system energy requirements and system efficiencies. Space heating generation systems, the performance and quality of district heating and large volume systems	Withdrawn, Superseded	BS EN 15316-4-5:2017 Energy performance of buildings. Method for calculation of system energy requirements and system efficiencies. District heating and cooling, Module M3-8-5, M4-8-5, M8-8-5, M11-8-5
T10, T41	C1.4.30	BS EN 15316-4-8:2011 Heating systems in buildings. Method for calculation of system energy requirements and system efficiencies. Space heating generation systems, air heating and overhead radiant heating systems	Withdrawn, Superseded	BS EN 15316-4-8:2017 Energy performance of buildings. Method for calculation of system energy requirements and system efficiencies. Space heating generation systems, air heating and overhead radiant heating systems, including stoves (local), Module M3-8-8
T10, T32, Y41	C1.4.30, D1.4.460		New Addition	BS EN 16475-2:2017 Chimneys. Accessories. Chimney fans. Requirements and test methods
T10, T32, Y41	C1.4.30, D1.4.460		New Addition	BS EN 16475-3:2016 Chimneys. Accessories. Draught regulators, standstill opening devices and combined secondary air devices. Requirements and test methods
T15	C1.4.80		New Addition	BS EN ISO 22975-1:2016 Solar energy. Collector components and materials. Evacuated tubes. Durability and performance
T15	C1.4.80		New Addition	BS EN ISO 22975-2:2016 Solar energy. Collector

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Section 4 Detail Changes to Reference Documents

Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
				components and materials. Heat-pipes for solar thermal application. Durability and performance
T15	C1.4.80	BS EN ISO 9806:2013 Solar energy. Solar thermal collectors. Test methods	Withdrawn, Superseded	BS EN ISO 9806:2017 Solar energy. Solar thermal collectors. Test methods
T19	C1.4.100		New Addition	BS EN 13203-4:2016 Gas-fired domestic appliances producing hot water. Assessment of energy consumption of gas combined heat and power appliances (mCHP) producing hot water and electricity
T19	C1.4.100	BS EN 62282-3-200:2012 Fuel cell technologies. Stationary fuel cell power systems. Performance test methods	Withdrawn, Superseded	BS EN 62282-3-200:2016 Fuel cell technologies. Stationary fuel cell power systems. Performance test methods
T19	C1.4.100	BS EN 62282-3-201:2013 Fuel cell technologies. Stationary fuel cell power systems. Performance test methods for small fuel cell power systems	Withdrawn, Superseded	BS EN 62282-3-201:2017 Fuel cell technologies. Stationary fuel cell power systems. Performance test methods for small fuel cell power systems
T19	C1.4.100	BS EN 62282-6-200:2012 Fuel cell technologies. Micro fuel cell power systems. Performance test methods	Withdrawn, Superseded	BS EN 62282-6-200:2017 Fuel cell technologies. Micro fuel cell power systems. Performance test methods
T30, T31, T32	C1.4.20, C1.4.10	BS EN 14037-1:2003 Ceiling mounted radiant panels supplied with water at temperature below 120°C. Technical specifications and requirements	Withdrawn, Superseded	BS EN 14037-1:2016 Free hanging heating and cooling surfaces for water with a temperature below 120°C. Pre-fabricated ceiling mounted radiant panels for space heating. Technical specifications

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Section 4 Detail Changes to Reference Documents

Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
T30, T31, T32	C1.4.20, C1.4.10	BS EN 14037-2:2003 Ceiling mounted radiant panels supplied with water at temperature below 120°C. Test methods for thermal output	Withdrawn, Superseded	and requirements BS EN 14037-2:2016 Free hanging heating and cooling surfaces for water with a temperature below 120°C. Pre- fabricated ceiling mounted radiant panels for space heating. Test method for thermal output
T30, T31, T32	C1.4.20, C1.4.10	BS EN 14037-3:2003 Ceiling mounted radiant panels supplied with water at temperature below 120°C. Rating method and evaluation of radiant thermal output	Withdrawn, Superseded	BS EN 14037-3:2016 Free hanging heating and cooling surfaces for water with a temperature below 120°C. Prefabricated ceiling mounted radiant panels for space heating. Rating method and evaluation of radiant thermal output
U15, U16, Y43	C1.4.230, C1.4.240, D1.4.480		New Addition	PD CEN/TR 16589:2013 Laboratory installations. Capture devices with articulated extract arm
U62	C1.4.370		New Addition	BS EN 14037-5:2016 Free hanging heating and cooling surfaces for water with a temperature below 120°C. Open or closed heated ceiling surfaces. Test method for thermal output
V11, V13, V14, V32, V35, W60, W69, Y71, Y72	D2.1.20, C2.1.40, C2.1.50, C2.1.90, C2.1.170, C1.7.10, D2.6.50, D2.6.60	BS EN 62056-5-3:2016 Electricity metering data exchange. The DLMS/COSEM suite. DLMS/COSEM application layer	Withdrawn, Superseded	BS EN 62056-5-3:2017 Electricity metering data exchange. The DLMS/COSEM suite. DLMS/COSEM application layer
V11, V13, V14, V32, V35, W60, W69, Y71, Y72	D2.1.20, C2.1.40, C2.1.50, C2.1.90, C2.1.170, C1.7.10,	BS EN 62056-6-1:2016 Electricity metering data exchange. The DLMS/COSEM suite. Object Identification System (OBIS)	Withdrawn, Superseded	BS EN 62056-6-1:2017 Electricity metering data exchange. The DLMS/COSEM suite. Object Identification System (OBIS)

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Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
	D2.6.50, D2.6.60			
V11, V13, V14, V32, V35, W60, W69, Y71, Y72	D2.1.20, C2.1.40, C2.1.50, C2.1.90, C2.1.170, C1.7.10, D2.6.50, D2.6.60		New Addition	BS EN 62056-7-3:2017 Electricity metering data exchange. The DLMS/COSEM suite. Wired and wireless M-Bus communication profiles for local and neighbourhood networks
V11, V13, V14, V32, V35, W60, W69, Y71, Y72	D2.1.20, C2.1.40, C2.1.50, C2.1.90, C2.1.170, C1.7.10, D2.6.50, D2.6.60		New Addition	BS EN 62056-8-5:2017 Electricity metering data exchange. The DLMS/COSEM suite. Narrow-band OFDM G3- PLC communication profile for neighbourhood networks
V11, V13, V32, V35, V90, V91, V92, W42, W60, W69, Y82	C2.1.20, C2.1.40, C2.1.90, C2.1.170, C2.4.30, C1.7.10, D2.7.20		Amendment 7	BS EN ISO 7010: 2012+A7:2017 Graphical symbols. Safety colours and safety signs. Registered safety signs
V13, V14, V32, V35	C2.1.40, C2.1.50, C2.1.90, C2.1.170		New Addition	BS EN 62281:2017 Safety of primary and secondary lithium cells and batteries during transport
V13, V14, V32, V35	C2.1.40, C2.1.50, C2.1.90, C2.1.170		New Addition	BS EN 62619:2017 Secondary cells and batteries containing alkaline or other non-acid electrolytes. Safety requirements for secondary lithium cells and batteries, for use in industrial applications
V13, V14, V32, V35	C2.1.40, C2.1.50, C2.1.90, C2.1.170		New Addition	BS EN 62620:2015 Secondary cells and batteries containing alkaline or other non-acid electrolytes. Secondary lithium cells and batteries for use in industrial applications

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Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
V13, V14, V32, V35	C2.1.40, C2.1.50, C2.1.90, C2.1.170	BS EN 62056-6-2:2016 Electricity metering data exchange. The DLMS/COSEM suite. COSEM interface classes	Withdrawn, Superseded	BS EN IEC 62056-6- 2:2018 Electricity metering data exchange. The DLMS/COSEM suite. COSEM interface classes
V13	C2.1.40		New Addition	BS EN 61215-1:2016 Terrestrial photovoltaic (PV) modules. Design qualification and type approval. Test requirements
V13	C2.1.40		New Addition	BS EN 61215-1-1:2016 Terrestrial photovoltaic (PV) modules. Design qualification and type approval. Special requirements for testing of crystalline silicon photovoltaic (PV) Modules
V13	C2.1.40		New Addition	BS EN 61215-1-2:2017 Terrestrial photovoltaic (PV) modules – Design qualification and type approval. Part 1-2: Special requirements for testing of thin-film Cadmium Telluride (CdTe) based photovoltaic (PV) modules
V13	C2.1.40		New Addition	BS EN 61215-1-3:2017 Terrestrial photovoltaic (PV) modules - Design qualification and type approval. Part 1-3: Special requirements for testing of thin-film amorphous silicon based photovoltaic (PV) modules
V13	C2.1.40		New Addition	BS EN 61215-1-4:2017 Terrestrial photovoltaic (PV) modules. Design qualification and type approval. Special requirements for testing

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Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
				of thin-film Cu(In,Ga)(S,Se) ₂ based photovoltaic (PV) modules
V13	C2.1.40		New Addition	BS EN 61215-2:2017 Terrestrial photovoltaic (PV) modules. Design qualification and type approval. Test procedures
V13, V32, V35	C2.1.40, D2.1.90, B8.8.180, C2.1.170, D2.1.170		New Addition	IET Code of Practice for Electrical Energy Storage Systems
V13	D2.1.40		New Addition	BS EN 62446-1:2016 Photovoltaic (PV) systems. Requirements for testing, documentation and maintenance. Grid connected systems. Documentation, commissioning tests and inspection
V13	D2.1.40		New Addition	BS IEC 62548:2016 Photovoltaic (PV) arrays. Design requirements
V13	D2.1.40		New Addition	PD IEC/TS 62446-3:2017 Photovoltaic (PV) systems. Requirements for testing, documentation and maintenance. Photovoltaic modules and plants. Outdoor infrared thermography
V31, V32	C2.1.80, C2.1.90		New Addition	BS IEC 60747-2:2016 Semiconductor devices. Discrete devices. Rectifier diodes
V31, V32	C2.1.80, C2.1.90		New Addition	BS IEC 60747-3:2013 Semiconductor devices. Discrete devices: Signal, switching and regulator diodes
V31, V32	C2.1.80, C2.1.90		New Addition	BS IEC 60747-4:2007 Semiconductor devices.

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Section 4 Detail Changes to Reference Documents

Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
				Discrete devices. Microwave diodes and transistors
V31, V32	C2.1.80, C2.1.90		New Addition	BS IEC 60747-5-4:2006 Semiconductor devices. Discrete devices. Optoelectronic devices. Semiconductor lasers
V31, V32	C2.1.80, C2.1.90		New Addition	BS IEC 60747-6:2016 Semiconductor devices. Discrete devices. Thyristors
V31, V32	C2.1.80, C2.1.90		New Addition	BS IEC 60747-8-4:2004 Discrete semiconductor devices. Metal-oxide semiconductor field-effect transistors (MOSFETs) for power switching applications
V31, V32	C2.1.80, C2.1.90		New Addition	BS IEC 60747-9:2007 Semiconductor devices. Discrete devices. Insulated-gate bipolar transistors (IGBTs)
V31, V32	C2.1.80, C2.1.90		New Addition	BS IEC 60747-10:1991 Semiconductor devices. Generic specification for discrete devices and integrated circuits
V31, V32	C2.1.80, C2.1.90		New Addition	BS IEC 60747-14-1:2010 Semiconductor devices. Semiconductor sensors. Generic specification for sensors
V31, V32	C2.1.80, C2.1.90		New Addition	BS IEC 60747-14-2:2000 Discrete semiconductor devices and integrated circuits. Semiconductor devices. Semiconductor sensors. Hall elements
V31, V32	C2.1.80, C2.1.90		New Addition	BS IEC 60747-14-3:2009 Semiconductor devices. Semiconductor sensors. Pressure sensors
V31, V32	C2.1.80, C2.1.90		New Addition	BS IEC 60747-14-4:2011 Semiconductor devices. Discrete devices. Semiconductor

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Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
				accelerometers
V31, V32	C2.1.80, C2.1.90		New Addition	BS IEC 60747-14-5:2010 Semiconductor devices. Semiconductor sensors. PN-junction semiconductor temperature sensor
V32, V33	C2.1.90, C2.1.150		New Addition	BS EN 62040-4:2013 Uninterruptible power systems (UPS). Environmental aspects. Requirements and reporting
V32, V33	C2.1.90, C2.1.150		New Addition	BS EN 62040-5-3:2017 Uninterruptible power systems (UPS). DC output UPS. Performance and test requirements
V33, Y81	C2.1.150, D2.8.10		New Addition	BS EN 61557-8:2015 Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. Equipment for testing, measuring or monitoring of protective measures. Insulation monitoring devices for IT systems
V33, Y81	C2.1.150, D2.8.10		New Addition	BS EN 61557-9:2015 Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. Equipment for testing, measuring or monitoring of protective measures. Equipment for insulation fault location in IT systems
V90, W60, W69, Y72, Y82	C1.7.10, D2.6.60, D2.7.20	BS EN 60445:2010 Basic and safety principles for man- machine interface, marking and identification. Identification of equipment terminals,	Withdrawn, Superseded	BS EN 60445:2017 Basic and safety principles for man- machine interface, marking and identification. Identification of equipment terminals, conductor terminations and conductors

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Section 4 Detail Changes to Reference Documents

Work Section		Reference Document - Current	Status of Current Reference	Reference Document - New
CAWS	BG 56			
		conductor terminations and conductors		
Y50	D1.9.10		New Addition	BS EN 16733:2016 Reaction to fire tests for building products. Determination of a building product's propensity to undergo continuous smouldering
Z Part 2	C1.8.20		New Addition	BS EN 16668:2016 Industrial valves. Requirements and testing for metallic valves as pressure accessories
Z Part 2	C1.4.470		New Addition	BS EN ISO 16170:2016 In situ test methods for high efficiency filter systems in industrial facilities