Conventions (v 12) for RdSAP 10

This document contains conventions applicable to RdSAP version 10. This list of conventions will be extended as appropriate. Issue date marked with *****

(e.g. amended 31 Dec 2017*) Indicates that some paragraphs were deleted from a convention.

Amended and additional conventions are indicated by light blue background, and changes in the amended conventions are marked **in red.**

This edition of the Conventions is for use in conjunction with RdSAP 10. For RdSAP 2012, please refer to v11.4. Where any Convention is in conflict with the relevant published SAP specification, the Convention takes precedence.

Use RdSAP v10 Table 32 when referring to Fuel prices.

#	Topic	Convention	Issue date
		1. General	
1.01	Use of RdSAP	RdSAP is used to produce Energy Performance Certificates (EPCs) for existing dwellings only. Refer to Scheme Guidance for use of RdSAP Assessment.	Sept 2009 amended Jan 2012 amended Dec 2012 amended April 2015 amended 31 Dec 2017* amended 01 Sep 2019 amended 01 Jan 2024
1.02a	Flat or maisonette	A dwelling that does not extend to all storeys of the building is a flat or maisonette. RdSAP makes no distinction between flats and maisonettes as regards calculations; it is acceptable to select either type as definitions vary across the UK.	March 2010 amended Mar 2011
1.02b	Bungalow (see Appendix 2)	A bungalow is a dwelling with all of the habitable accommodation on one floor only. This excludes chalet bungalows and bungalows with rooms in the roof which are treated as houses.	01 Sep 2019

#	Topic	Convention	Issue date
1.03	Address close to England/Scotland border	Assessors must ensure that the correct country is identified so that the EPC will be lodged in the appropriate register.	April 2015
1.04a	Self-contained dwelling attached to or forming an extension of another building	A property can have an additional building unit (e.g. an 'annexe') which, if it is self-contained, and meets the "building" definition, needs to have its own EPC. If a dwelling is made-up of a several units with separate addresses but used as a single occupancy, then one EPC can be produced. A building altered for separate self-contained usage could be indicated by the accommodation having its own cooking and bathing facilities and its own access (from the outside, or via a communal corridor) and will need a separate EPC. The additional presence of an internal connecting door between the dwelling and another building does not prevent the dwelling from being treated as self-contained. An example might be a self-contained flat in a building. If the 'annexe' is not self-contained see 1.04b.	April 2015 amended Aug 2016 amended 31 Dec 2017 amended 01 Sep 2019
1.04b	Not self-contained separate part of dwelling	If there is a separate part of the dwelling which is not self-contained but contains rooms that are used as part of the main dwelling, e.g. bedrooms, study etc. in a large detached garage or outbuilding converted into part of the living accommodation of a main property: - if heated by the main heating system (as defined for the main dwelling), include in the assessment of the main dwelling and a single EPC for the main dwelling to be issued - otherwise omit from the assessment.	June 2016

#	Topic	Convention	Issue date
		2. Measurements and geometry	
2.01	Measurements	State on site survey notes/plans whether the dimensions recorded are external or internal. When measuring internally, measure between the finished internal surfaces of the walls bounding the dwelling. Where that cannot be done directly (i.e. when measuring room by room) include an allowance for the thickness of internal partitions. Measure all perturbations (e.g. bay windows) but disregard chimney breasts unless the assessor considers them significant e.g. large inglenook. False ceilings should be disregarded (i.e. where a room has a lower ceiling than the adjacent rooms.)	Sept 2009 amended Aug 2014 amended 31 Dec 2017 amended 01 Sep 2019
2.02	Precision of lengths	Measure to two decimal places (0.01 m) or better.	Sept 2009 amended 31 Dec 2017
2.03	Sheltered length (unheated corridors)	Always include in the heat loss perimeter There can only be one sheltered wall input per dwelling. When a dwelling (flat or maisonette) has a sheltered wall to an unheated corridor on more than one storey or building part, the sheltered length is the total for all storeys with a sheltered wall (example: 2 storeys with sheltered wall on each storey, length of sheltered wall is 5 m on each storey: enter 10 m for the sheltered length). The sheltered wall can be in any building part but must be recorded as an alternative wall (see 2.13). Where more than one sheltered wall type is present (unheated corridor and unheated stairwell), use the sheltered wall type of greatest length as your input. Where the sheltered wall extends over more than one building part, e.g. it extends across the main building and an extension, assign the sheltered wall length to the building part with the longer sheltered wall and deduct the relevant amount from the heat loss perimeter of the other. Example: total unheated corridor length is 10m of which 2m is in the main building part and 8m in the extension. Record the extension as having the sheltered alternative wall of length 10m, increase the heat loss perimeter of the extension by 2m and deduct 2m from the heat loss perimeter of the main dwelling.	Sept 2009 amended Oct 2010 amended April 2015 amended Aug 2016 amended 31 Dec 2017 Amended 15 June 2025

#	Topic	Convention	Issue date
2.04a	Habitable room count	Habitable rooms include any living room, sitting room, dining room, kitchen/diner, bedroom, study and similar; and also a non-separated conservatory. Excluded from the room count are: any room used solely as a kitchen, utility room, bathroom, cloakroom, en-suite bathroom/shower room/toilet or similar; any hallway, stairs or landing; and also any room without access to natural daylight. For a kitchen to be a kitchen/diner it must have space for a table and 4 chairs. A lounge/dining room where the door was temporarily removed (i.e. architrave and hinges still there) is two habitable rooms. A lounge/dining room with the door permanently removed (hinge holes filled, etc.) is one habitable room. A non-separated conservatory adds to the habitable room count if it has an internal quality door. between it and the dwelling. If a conservatory is open to the rest of the dwelling it is NOT counted as a separate room.	Sept 2009 amended April 2015 amended Aug 2016 amended 31 Dec 2017 amended 01 Sep 2019
2.04b	Heated habitable room count	Includes all habitable rooms heated by either main heating system(s) or fixed secondary heating Bedrooms with only open fire-places are disregarded from the heated habitable room count when identifying the heating systems (main and secondary).	June 2016 amended 31 Dec 2017
2.05	Basements (whether to include in the assessment)	Basement is the floor of the building which is partly (at least 50% of the heat loss perimeter) or entirely below ground level. Walls that are above ground level should be treated as a different wall construction Included when accessed via a permanent fixed staircase such that one is able to walk safely downwards facing forwards and either:- - basement is heated via fixed heat emitters, or - basement is open to the rest of the dwelling, - i.e. no door. A basement does not necessarily contain habitable rooms. If a basement meets the above criteria it becomes the lowest occupied floor and internal dimensions must be used throughout the assessment. If a basement does not meet the above criteria, it is not to be included in the assessment. In this	Sept 2009 amended April 2015 amended Jan 2019 amended 01 Jan 2024 amended 15 June 2025

		scenario treat the floor above the basement as suspended floor, above unheated space.	

#	Topic	Convention	Issue date
2.06	Roof rooms / Attics (whether to include in the assessment and rules for detailed measurements) See also diagrams in **Appendix 2.** Illustrations of roof rooms (see convention 2.06)	Include when accessed via a permanent fixed staircase such that one is able to walk downwards facing forwards. For a roof room to be classed as such and not a separate storey, there must be no common wall, or the height of the common wall must be equal to or less than 1.8 m, for 50% or more of the common wall (excluding gable ends or party walls), otherwise it is a separate storey. The common wall is a vertical continuation of the external wall of the storey below. There are two types of roof rooms and 2 assessment methods for both; • Type 1 = fully within the roof • Type 2 = Room in Roof NOT fully within the roof where an accessible common wall is part of the Room in Roof. For type 1 where a simplified assessment is used the additional measurement of the length of the gable(s) will be required. For type 2 where a simplified assessment is used the additional measurements of the length and height (to the highest point) of the gable(s) and common wall(s) will be required. There is no explicit allowance for dormer windows except to include in the floor area of the roof rooms. If any element of the roof room (ceiling/slope/stud/gable/common wall) have known insulation levels (see convention 3.07) the detailed assessment method must be used, and all elements must be measured. For each roof room type the gable type must be recorded, which can be one of; • Exposed – open to external air	March 2010 amended Jan 2012 amended Aug 2014 amended 31 Dec 2017 amended 01 Sep 2019 amended 15 June 2025

	For U-values see **Appendix 4.** Rooms in Roof – U-values applicable to room in roof insulation	• Party wall – adjacent to heated space (e.g. adjacent to a neighbouring property where the space appears to be either original room in the roof, or a verified loft conversion, or where dormers are visually present from the outside.) • Sheltered wall – adjacent to unheated space (e.g. adjacent to neighbouring properties loft space) • Connected – adjacent to another building part of the same dwelling For roof rooms with no exposed gable wall(s) (e.g. hipped roofs) assume the stud above the gable walls of lower floors is the exposed gable wall and measure as per guidance above. Where the detailed assessment method is used and the floor area of the parts of the dormer windows protruding beyond the roof-line is less than 20% of the floor area of the roof room, measure the elements of the roof room as if the dormers were not there. Otherwise total the vertical elements of all dormers in that building part and enter as stud wall and the flat ceiling elements as flat ceiling. For further guidance on rooms in roof see Appendix 2.	
2.07	Rooms within a Mansard roof	A storey having non-vertical walls of at least 70° pitch constitutes a separate storey; it is not treated as roof rooms. Use alternative wall if appropriate.	March 2010

#	Topic	Convention	Issue date
2.08	Whole dwelling (or building part) within roof	When the property or a building part of it is a single storey entirely located within a roof, model as: - lowest occupied level - timber frame construction of appropriate age band - room height must be entered as 2.2 m - include area and perimeter measurements as a normal storey - enter roof as pitched roof. For such dwellings with non-timber gables treat gable walls as “alternative wall”. If there are two storeys within the roof, enter the lower storey as above and the upper storey as rooms-in-roof.	March 2010 amended 31 Dec 2012 amended 01 Sep 2019
2.09a	Porches (Whether to include in the assessment)	If heated always include (separated or not). If external, not heated and thermally separated, - disregard. If internal, not heated and thermally separated, - disregard.	Sept 2009
2.09b	Draught lobby	A draught lobby is an arrangement of two doors that forms an airlock on the Main Entrance to the dwelling. It may be heated or unheated. (See convention 2.09a) To be included, the enclosed space must • Cover the Main Entrance to the dwelling • Be at least 2 m2 (floor area) • Have a door arrangement such that a person with a push-chair or similar is able to close the outer door before opening the inner door. • Lead into a further circulation area and not directly into any other room type*. * It may additionally provide access to a cloakroom (with or without WC). Flats with access via an enclosed heated or unheated corridor or stairwell should be classified as having a draught lobby.	15 June 2025

		The Main Entrance is the one designed to be the main entrance, which may not be the one the current occupier uses the most.	
2.10	Mezzanine floor	Enter the part of the property above and below the mezzanine deck as a two storey extension. Treat the remaining part as a single level with the full floor to ceiling/roof height. If the mezzanine is located such that it has no heat loss perimeter then assign a nominal 1 m perimeter to each floor of the mezzanine part and deduct 1 m from the heat loss perimeter of the other part.	March 2010 amended Oct 2010

#	Topic	Convention	Issue date
2.11	Vertical extension	Where an upper storey in the dwelling has a different build date or construction type to the storey below, enter the upper storey as an extension with a floor type of “same dwelling below” and the lower storey with a roof type of “same dwelling above” Where the above applies to only part of the dwelling, the upper storey and the part directly below it are both entered by creating extensions. If the upper storey extends beyond the part below it, this storey will also require creating an additional extension to separate the part with “same dwelling below” from the part with a different floor type. A roof room cannot be a vertical extension in its own right.	March 2010 amended Mar 2011 amended Dec 2012 amended 01 Sep 2019 amended 15 June 2025
2.12	More than 4 extensions	Add together floor areas and exposed perimeters of extensions (or add extension to main dwelling) to reduce to four extensions. Combine parts having the most similar age bands and thermal/construction characteristics (refer to Section 6 of RdSAP 10 for U-values of relevant constructions). Use alternative wall where appropriate.	March 2010 amended March 2011 amended 01 Sep 2019 amended 15 June 2025
2.13	Alternative wall	An alternative wall can be: • A sheltered wall (to unheated corridor or stairwell), or • A wall that has a construction type or heat-loss characteristics (U-value) different from the main external wall, or • Both of the above RdSAP 10 allows for two alternative walls per building part to be input, but only one sheltered wall. If more than two alternative walls are needed, this can usually be dealt with by creating an extension. Always include the alternative wall if it is sheltered, irrespective of size. Disregard non-sheltered alternative wall(s) if less than 10% of the total exposed wall area of the building part (including windows and doors).	March 2010 amended Jan 2012 amended Dec 2012 amended April 2015 amended Aug 2016 amended 31 Dec 2017 amended 15 June 2025

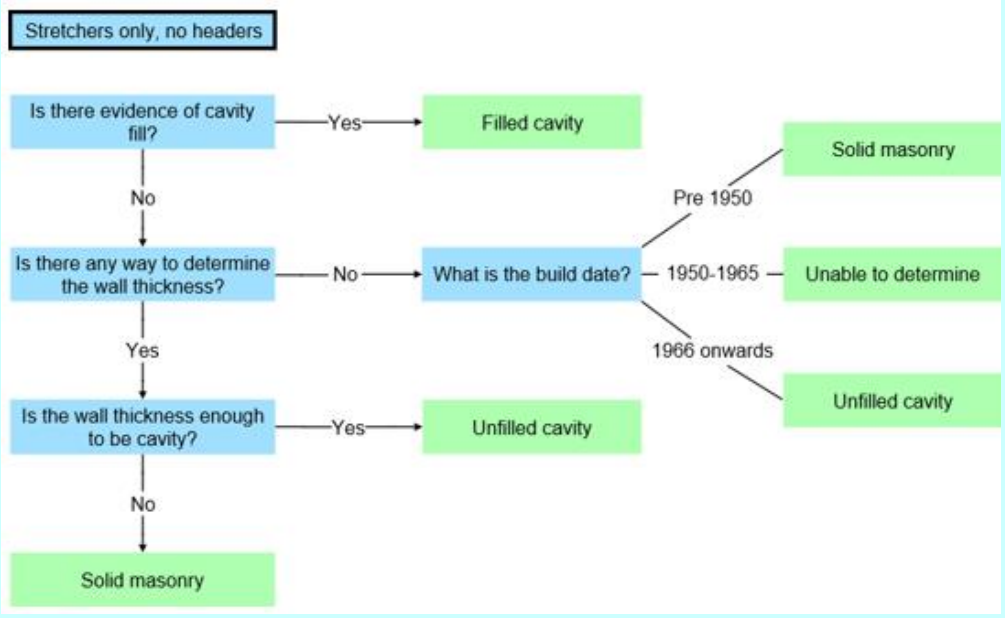
	(also see 2.03)	For stone walls assess thickness at each external elevation and at each storey and use alternative wall if the thickness varies by more than 100 mm (see also 2.22).	

#	Topic	Convention	Issue date
2.14	Definition of a "window"	A window is an opening in an external wall or roof of a building, fitted with glass or similar material, usually in a frame, that admits light. A door may be treated as a window if it is considered to be highly glazed. Examples of highly glazed doors are patio doors, fully glazed doors or French doors. If in doubt, measure it and treat as a window if glazing area is 60% or more.	March 2010 amended Dec 2012 amended April 2015 amended 31 Dec 2017 amended 01 Sep 2019
2.15	Window area See also convention 3.12b.	Assessors are required to measure and enter the width and height of all relevant windows (including the visible frame) in accordance with convention 2.02. This is the overall width of the window between the internal reveals, and the overall height of the window between the inner sill and the top reveal. Relevant windows are all windows, highly glazed doors and roof lights (see convention 2.14) in the heat loss envelopes. This includes in the envelope between the dwelling and a separated conservatory, an unheated corridor or a porch (if the porch is excluded), etc. It does not include windows in a non-separated conservatory. For arched windows enter the actual width and enter the height as the average between shoulder height and the height to the top point. For other unusually shaped windows, calculate to area by the most appropriate means. Enter the area as the width and enter the height as 1. For circular windows, calculate the area using the radius (half of the diameter). First calculate the square of the radius (multiply it by itself) then multiply that by 3.14. For oval windows, multiply the longest radius by the shortest radius and multiply that by 3.14. For semi-circular or half oval windows, apply the approach above as if the other half were present and halve the result.	March 2010 amended Mar 2011 amended April 2015 amended 31 Dec 2017 amended 01 Sep 2019 amended 01 Mar 2022 amended 15 June 2025

2.16	Secondary glazing	If secondary glazing with single glazing, record as secondary glazing. (Normal or Low-E if it can be determined). If secondary glazing with Age 1 double glazing, record as Age 2 double glazing. If secondary glazing with Age 2 double glazing, record as Age 3 double glazing. Age 1 means pre 2002 in E&W (2003 in Scotland, 2006 in NI). Age 2 means 2002-2021 in E&W (2003-2022 in Scotland, 2006-2021 in NI). Age 3 means 2022 onwards in E&W (2023 in Scotland, 2022 in NI). If secondary glazing has been removed in summer, enter as above only if assessor can confirm that the panels exist and can be re-fitted. Evidence to be recorded on site notes	March 2010 amended Mar 2011 amended 15 June 2025

#	Topic	Convention	Issue date
2.17	Sun room	For a highly glazed part of the dwelling, such as a sun room, which does not meet the criteria for a conservatory (50% of walls and 75% of roof glazed), measure all windows and roof windows, as per 2.15	Oct 2010 amended Dec 2012 amended 15 June 2025*
2.18	Dimensions	Do not mix internal and external measurements. If a basement or roof room is included in the assessment, it is likely that internal dimensions will be used throughout the dwelling.	Amended Dec 2017
2.19	Store rooms and utility rooms (whether to include in the assessment)	If heated always include. If accessible only via a separate external door and not heated, disregard. If directly accessible, not heated and thermally separated, disregard.	Oct 2010
2.20	Garages (whether to include in the assessment)	If heated from main heating system, always include. The presence of a boiler within the garage does not make it heated.	Oct 2010
2.21	Dwelling adjacent to commercial premises or unheated space above.	If a dwelling or part of a dwelling has commercial premises below record as partially heated space below. If a dwelling or part of a dwelling has commercial premises above, or has an unheated space above (e.g. garage or an unheated corridor in a block of flats), record as non-residential/other unheated space. If a dwelling has commercial premises alongside it, treat the separating wall as a party wall.	March 2011 amended April 2015 amended 01 Mar 2022 amended 01 Jan 2024 amended 15 June 2025

#	Topic	Convention	Issue date
2.22	Wall thickness (per building part)	Measure wall thickness in mm of each building part and any alternative wall within a building part. Evidence is required for each different thickness. It can be measured at door or window reveals or by internal/external measurement comparison (which can be direct measurement or estimated by counting bricks). Where thickness varies a little for the same construction use the average of the measured values. For additional guidance on solid brick and stone walls see convention 2.13.	January 2012 amended Dec 2012 amended Aug 2014 amended 31 Dec 2017 amended Sep 2018
2.23	Sloping sites	Where an individual wall (elevation) is not a heat loss wall for its full height (because of stepped arrangements either within the dwelling or between the dwelling and an adjacent one) obtain the "effective heat loss perimeter" for the individual wall as follows: 1. Where documentary evidence is available use it to calculate the wall's heat loss area. Divide this area by the room height to obtain the "effective heat loss perimeter". 2. Where documentary evidence is not available but the assessor is able to measure the heat loss area, this area is divided by the room height to obtain the "effective heat loss perimeter". 3. If neither 1 nor 2 is possible, make a visual estimation and use these guidelines: a. if height of heat loss area is not more than 25% of the room height, the "effective heat loss perimeter" is zero (disregard as heat loss wall); b. if height of heat loss area is more than 75% of the room height, "effective heat loss perimeter" is equal to the actual heat loss perimeter; c. if height of heat loss area is more than 25% and less than or equal to 75% of the room height, the "effective heat loss perimeter" should be considered to be 50% of the wall's actual heat loss perimeter. 4. If estimation cannot be made, use 3 c. The "effective heat loss perimeter" of the individual wall is then included in the heat loss perimeter of the building part.	August 2014

#	Topic	Convention	Issue date
2.24	Party wall lengths (See also convention 2.03)	To be recorded in all cases where a party wall is present. Party wall is any wall between the dwelling and: - another dwelling; - commercial premises; - a heated corridor or stairwell in blocks of flats; - a heated common area. Note: a heated corridor/stairwell is one with one or more controlled fixed heaters; heat from distribution pipes is disregarded. A flat in a block having **only** an unheated corridor adjacent to it is treated as detached (no party wall).	April 2015 amended 31 Dec 2017 amended 01 Sep 2019
2.24a	Party wall identification	Basis for determining party wall type to be entered when stretcher bond brickwork / blocks face on only and laid upright are encountered and there is no other specific construction evidence. 	added 01 Jan 2024

#	Topic	Convention	Issue date
2.25	Private access stairwell to a single dwelling (e.g. access to upper flats in four in a block dwelling)	If access stairwell separated from the dwelling by an **external quality door**, - treat stairwell as unheated stairwell (refer to Convention 2.03). If there is no external quality door between the dwelling and access stairwell – treat access stairwell as part of the dwelling. Treat this building part as a single storey with the floor area which extends to the perimeter of the access stairwell (at the floor level of the dwelling); record height as the rest of the property. For the ground floor flat adjacent to stairwell, treat the wall as a party wall and calculate accordingly.	Added 31 Dec 2017 amended 01 Sep 2019 amended 15 June 2025
2.26	Heated stairwell/corridor	Heated stairwell/corridor is one with one or more controlled fixed heaters.	01 Sep 2019
2.27	Curtain wall	A curtain wall is an independent building element, which may contain translucent and opaque parts, that may extend across party walls and floors and are fitted in or connected to frames. A curtain wall is an outer covering of the building; the curtain wall façade does not carry any structural load from the building, other than its own weight. Opaque panels must be treated as a curtain wall of the relevant age band with any translucent areas measured and entered as glazing. If documentary evidence is available, use calculated u value for whole curtain wall.	15 June 2025
3. Construction and insulation			
3.01	Cavity wall type	Where a cavity wall has been identified, enter as such, irrespective of the width of the cavity. Record insulation level, presence of dry-lining and wall thickness.	March 2010
3.02	System build type	If there is a system built wall that has evidence of retro cavity fill, record as system build with internal insulation, thickness unknown, and include Addendum 1. See also convention 3.14 relating to system built dwellings greater than four storeys. Timber frame should be recorded as such and not as system build irrespective of the external cladding.	March 2010 amended Jan 2012 amended Aug 2014 amended April 2015 amended 31 Dec 2017

3.02a	Timber framed wall with external brick/block work and added external wall insulation	Timber framed wall with external brick/block work and added external wall insulation should be treated “as built” and tick Adenda item “1”	01 Sep 2019

#	Topic	Convention	Issue date
3.03a	"As built" insulation category (walls, floors, roofs)	Assume "as-built" if there is no evidence of retro-fitted insulation including: 1. a pitched roof with sloping ceiling or a flat roof where there is no documentary evidence. 2. a roof space with rafter insulation if no evidence of retro-fitted insulation 3. roof rooms where there is no access and no documentary evidence.	April 2015 amended 31 Dec 2017
3.03b	"Unknown" insulation **type** (walls, floors, roofs)	Do not use the "unknown" insulation type option for insulation inappropriately as this automatically suppresses any insulation recommendation. "Unknown" should be used only in exceptional circumstances, such as: • when there is conflicting evidence (inspection and/or documentary) of added insulation whose presence cannot be ascertained conclusively • for a fully boarded or obstructed loft, unless the householder has documentary evidence (maximum thickness is depth of joists) or is prepared to lift the boards. • where there is a pitched roof and no access to the loft space or access prevented (see 3.04) and no documentary evidence In these cases clarification must be provided in site notes. Note: if the floor construction cannot be determined, "unknown" construction is appropriate.	March 2010 amended April 2015 amended Aug 2016 amended 31 Dec 2017 amended Sept 2018
3.03c	"Unknown" insulation **thickness**	"Unknown insulation thickness" should be used only in exceptional circumstances, such as: - conflicting evidence of insulation thickness (visual and/or documentary) - when you can see insulation present but cannot measure its thickness.	June 2016 amended 31 Dec 2017 amended Sept 2018 amended May 2019*

#	Topic	Convention	Issue date
3.04	Access to loft insulation and rafter insulation	Where safe and practicable access to the loft is possible, loft insulation should be measured and photographic evidence provided of its measured thickness. "No access" means there is no loft hatch or other means of gaining access to the loft space. If there is a loft hatch or other means of gaining access but it could not be used on the date of the site visit (e.g. painted over, obstruction preventing access for health and safety reasons) record as "access, loft insulation unknown". If loft insulation is fully obstructed (e.g. boarded or obscured by items stored) enter "pitched, access, loft insulation unknown" unless householder has documentary evidence (maximum thickness is depth of joists) or lifts the boards or removes the obstructions. If the loft, or part of the loft, is boarded and the assessor can establish and evidence the insulation present under the boards at multiple locations below the boarded area (visible through gaps or extending in from the edges) the boarded area is treated as insulated to the thickness that can be proved by the evidence. If the property has multi-foil or foam insulation at joists or rafters, see convention 3.07. If joist and rafter insulation are both present base the assessment on the joist insulation only. If varying levels of insulation, use an area-weighted average thickness. However, if there is an area with no insulation the dwelling should be split into building parts to allow different roof insulation scenarios. In the case of a thatched roof for age band J onwards use 'as built' rather than rafter insulation if there is rafter insulation in addition to the thatch.	March 2010 amended Mar 2011 amended Jan 2012 amended Aug 2014 amended April 2015 amended Aug 2016 amended 31 Dec 2017* amended Sep 2018

<table>
<tr><th>#</th><th>Topic</th><th>Convention</th><th>Issue date</th></tr>
<tr><td rowspan="2">3.05a</td><td>Age bands for conversions of heated buildings
Applicable to England, Wales and Northern Ireland</td><td>After applying Convention 1.01, for a conversion of a building originally intended to be heated (e.g. a non-domestic building converted into a house or flats, for example a school, a hotel, a community hall or other) or where a dwelling has been sub-divided (e.g. larger house converted to flats) always use the original construction date, and specify upgraded elements only where documentary or visual evidence is available.

See Convention 9.02 (on a basis of applicability) for acceptable documentary evidence.</td><td>March 2010
amended Dec 2012
amended Aug 2014
amended 31 Dec 2017*
amended 01 Sep 2019
amended 01 Nov 2020
amended 01 June 2021</td></tr>
<tr><td>Age bands for conversions of heated buildings
Applicable to SCOTLAND ONLY</td><td>After applying Convention 1.01, for a conversion of a building originally intended to be heated (e.g. a non-domestic building converted into a house or flats, for example a school, a hotel, a community hall or other) or where a dwelling has been sub-divided (e.g. larger house converted to flats):

• Where there is acceptable documentary evidence confirming the date of application for building warrant for the conversion of a building to form the dwelling being assessed, and the date of application was on or after 01 May 2005, apply the U-values cited below unless:
- there is acceptable documentary evidence of construction of thermal elements available; or
- inspection identifies evidence to indicate a poorer value should be assigned.
<table><tr><td>Element</td><td>01/5/2005 – 30/9/2010</td><td>From 01/10/2010</td></tr><tr><td>Wall</td><td>0.70</td><td>0.30</td></tr><tr><td>Roof</td><td>0.35</td><td>0.25</td></tr><tr><td>Floor</td><td>0.70</td><td>0.25</td></tr></table>• In all other cases, apply the date of construction of the original building, unless acceptable documentary evidence of the construction of thermal elements is available.

See convention 9.02 (Scotland only) for acceptable documentary evidence. Note that information on building warrant applications is available online from the building standards register of the relevant local authority.</td><td>01 June 2021</td></tr>
</table>

#	Topic	Convention	Issue date
3.05b	Age band for conversions of unheated buildings	After applying Convention 1.01, for a conversion of an unheated building (e.g. barn, farm building, warehouse, mill building, train station, workshop and similar) use the **conversion date** as the date of construction, based on the documentary evidence, e.g. the date of building control sign off or the date and details of installed insulation (if available) on the Local authority Planning Portal (England and Wales), relevant local authority Building Standards Register (Scotland) or relevant District Council Building Control (Northern Ireland). **Specify details of elements upgraded after the date of conversion only where documentary or visual evidence is available.** See Convention 9.02 (on a basis of applicability) for acceptable documentary evidence.	01 Nov 2020 amended 01 June 2021
3.06	Identifying internal wall lining (with an airspace behind)	This includes any type of internal lining that creates an airspace behind it, e.g. plasterboard on dabs, lath and plaster. Use tap test for plasterboard on dabs or on battens. If tap test is inconclusive regard as not dry-lined. Dry lining alone does not confirm the presence of insulation. Note. Applies only to stone, solid brick and cavity walls in age bands A to E.	January 2012 amended April 2015 amended Aug 2016 amended 31 Dec 2017 amended 01 Sep 2019
3.07	Insulation thickness	If insulation is multi-foil (multi-layered blanket-type insulation which contains at least three layers of foil-type material), the thickness is entered as twice its actual thickness. Any insulation (apart from where it is present on solid brick and stone walls age bands A-E*) can be doubled in thickness if there is documentary evidence of the type of insulation and manufacturer's information that the λ-value (thermal conductivity) is equal or less than 0.025 W/m·K. If the thermal conductivity is more than 0.08 W/m·K. then divide thickness of insulation by two (e.g. vermiculite). If there is both internal and external wall insulation add the insulation thicknesses together and enter as external. *For solid brick and stone walls (age bands A-E) where the thermal conductivity of insulation is known, can be one of; • 0.040 W/m·K • 0.030 W/m·K • 0.025 W/m·K	January 2012 amended Aug 2016 amended 31 Dec 2017 amended 01 Sep 2019 amended 15 June 2025

		Where documentary evidence confirms the thermal conductivity of the insulation material the appropriate λ-value should be selected. In instances where documentary evidence shows a λ-value between the above values round to the closest λ-value e.g. 0.019 W/m·K would be entered as 0.025 W/m·K or 0.044 W/m·K would be entered as 0.040 W/m·K. Where visual/documentary evidence confirms the presence of insulation, but the thermal conductivity is not available the options below should be applied; • mineral wool, rock wool, fibre glass or EPS (expanded polystyrene) = 0.040 W/m·K • XPS (extruded polystyrene) = 0.030 W/m·K • PUR (polyurethane foam), PIR (polyisocyanurate), phenolic foam = 0.025 W/m·K Where internal/external wall insulation is present the actual thickness measurement can be entered should it be different to the standard depths. This convention applies only in cases where the assessor specifies the thickness of insulation within the RdSAP software, but not if the U-value is calculated.	

#	Topic	Convention	Issue date
3.08	U-value entry (walls, roofs, floors) (see also 9.02)	The U-values of existing elements (walls/roofs/floors, etc.) must be the RdSAP default values (e.g. entered "as built") and must not be overwritten unless specific documentary evidence of the thermal conductivity of individual materials of the building element of the property being assessed is provided and was undertaken in accordance with BR 443 "Conventions for U-value calculations" (BRE, 2006). The U-value is that of the whole element, including any added insulation. Documentary evidence applicable to the property being assessed (see convention 9.02) must be provided and recorded if overwriting any default U-value. This evidence shall be either: - relevant building control approval, which both correctly defines the construction in question and states the calculated U-value; or - a U-value calculation produced or verified by a person with suitable expertise and experience. Evidence of suitable expertise and experience can be demonstrated by, but is not limited to, membership of a recognised U-value calculation competency scheme or OCDEA[1] or Level 4 non-domestic energy assessor membership, or any other process recognised by Accreditation Schemes/Approved Organisations and Government. Where it is known that only part of an element has been insulated use the alternative wall if possible for the insulated part, or use extensions.	January 2012 amended Aug 2014 amended April 2015 amended Aug 2016 amended 31 Dec 2017*

[1] In Scotland, membership of an Approved Organisation scheme for EPCs for new domestic buildings

#	Topic	Convention	Issue date
3.09	External doors (See also 2.25)	An external door is a door that forms part of the heat loss perimeter of the dwelling. See 2.14 for treatment of highly glazed doors. A multiple door should be recorded as such, e.g. a double door should be counted as 2 doors. A door to a heated access corridor is not included in the door count. A door to an unheated access corridor is part of the sheltered wall. If there is a second external door in the property it is directly to the outside. It is possible for a property to have no external door in the RdSAP data set (when any entrance to the property is via highly glazed doors which are counted as windows in RdSAP, or via a heated corridor). A door is counted as insulated only if documentary evidence is provided, which must include a U-value or manufacturer reference enabling the assessor to ascertain the U-value from the manufacturer. External quality door is one which provides resistance to external environment. If there is more than one insulated door and they have different U-values, enter the average U-value.	January 2012 amended Dec 2012 amended April 2015 amended 31 Dec 2017 amended July 2018 amended 01 Jan 2024
3.10	Windows (U-values and g-values)	Default U-values and g-values can be overwritten and known data specified only if documentary evidence is provided, which can be either a Window Energy Rating certificate (as defined by BFRC) or manufacturer's data. The U-value is for whole window, not centre pane.	January 2012 amended 31 Dec 2017
3.11a	Draught proofing (of external windows and doors)	If the state of the draught proofing cannot be determined then take triple, double or secondary glazed as being draught proofed, and single glazed windows and doors as not draught proofed unless there is a contrary evidence of draught-proofing. Include glazing in a non-separated conservatory.	January 2012 amended Dec 2012 amended 31 Dec 2017*
3.11b	Shutters	The performance of internal or external shutters (with or without insulation) is recognised in RdSAP (Table 24). Shutters are hinged panels (usually of timber), which can be closed in order to fully cover a window. When open, these generally sit within the window reveal. Shutters must be operational on the day of survey, confirmed by opening the shutter. Shutters can be insulated by using a thin insulation material, such as aerogel blanket, within the panels	15 June 2025

		of the shutters. This is often finished with a covering of timber; evidence needs to prove that they are insulated.	

#	Topic	Convention	Issue date
3.12a	Glazing age (See also 3.12b)	Choose unknown date if there is no evidence of the date. Multiple glazed units can be dated via the following methods: a) The manufacturing date on the spacer bar, or possibly on the frame. b) There is documentary evidence confirming the date of installation of the window e.g. FENSA / CERTASS / Building Control certificate or manufacturers guarantee. c) Property build date if after the following trigger dates: Post 2002 / post 2022 (E&W) Post 2003 / post 2023 (Scotland) Post 2006 / post 2022 (NI) In the absence of any of the above evidence. d) Presence of thermal spacer bar indicates glazing age post 2002 (E&W), 2003 (Scotland) or 2006 (NI) If none of the above applies choose 'unknown'.	August 2014 amended April 2015 amended Aug 2016 amended 31 Dec 2017 amended 01 Sep 2019 amended 15 June 2025
3.12b (was 3.15)	Glazing gap	Glazing gap is the width of the spacer bar between the two panes of glass. If windows with non-metal frames are pre-2002 (pre-2003 in Scotland; or pre-2006 in NI) or unknown period, identify glazing gap depth to the nearest value to 6, 12 or 16 mm. If the gap cannot easily be identified, select either 6 (if narrow gap) or 16 (if wide gap).	April 2015 amended Aug 2016 amended 31 Dec 2017 amended 15 June 2025
3.13	Age band for roof room	Same as the building part unless evidence proves otherwise. Evidence includes documentary evidence (e.g. planning applications), dated photographs of the property concerned validating date of construction (the evidence might establish the earliest possible date of construction if roof room is absent in the photograph).	August 2014 amended Aug 2016

#	Topic	Convention	Issue date
3.14	Blocks of flats (see also 2.13)	For the purposes of RdSAP record the construction of the heat loss walls (e.g. cavity, solid brick, stone, timber framed, system build) of the dwelling being assessed and not the construction of the overall superstructure. Ensure that addendum 1 is selected. If there are multiple wall construction types within the heat loss perimeter of the dwelling being assessed follow convention 2.13 for alternative walls. If cavity construction is identified (and retro-fit cavity insulation is therefore recommended) where the dwelling is on the third storey or above select 'Access issues' from 'Hard to treat cavity wall' addenda.	August 2014 amended April 2015 amended 31 Dec 2017 amended 01 Sep 2019 amended 01 Jan 2024
3.15	Moved to 3.12b		amended 31 Dec 2017*
3.16	Deleted, but see 2.24.		amended 31 Dec 2017*
3.17	Basement walls	Basement walls are those that are adjacent to earth and can be either main or alternative walls (see convention 2.13) and are only included when the basement is heated . Where a basement wall is adjacent to a neighbouring property treat it as a heat loss wall unless there is evidence that the neighbouring basement is heated as it then becomes a party wall.	15 June 2025
4. Main heating			
4.01a	Heat emitters	Where one system is serving both radiators and underfloor, specify the same heat source as main heating 1 and main heating 2 following the rules in convention 4.09 (except for heat pumps). If Heat Pump serves both radiators and underfloor, enter radiators when they are serving 50% or more of the total floor area. Where the same [proportion] enter the emitters as underfloor. Where a cast iron range-style cooker boiler is present treat the cooker as a radiator.	Sept 2009 amended Jan 2012 amended April 2015 amended 31 Dec 2017 amended 01 Mar 2022 amended 01 Jan 2024
4.01b	Design	The design flow temperature for condensing boilers and heat pumps should be recorded as unknown	

	flow temperature for condensing boilers and heat-pumps	unless there is documentary evidence that the system has been designed and commissioned as a low temperature one	Added Dec 2017 amended 01 Sep 2019*

#	Topic	Convention	Issue date
4.02	Storage heaters on single tariff electricity.	If storage heaters are present as main heating but there is only a single rate meter – enter as panel heaters and include Addendum 6.	Sept 2009 amended Mar 2010 amended April 2015 amended 31 Dec 2017*
4.03	Heating system incomplete or not working.	Any fixed heating source and/or heat emitters fitted/installed but not working (or condemned) it should still be taken into account when deciding on the primary and secondary heating. If heating source or heat emitters not fitted/installed, enter no heating system or do another survey when the heating system is installed. If heating source or heat emitters are present but not accessible for inspection and no documentary evidence is made available, the assessment cannot be completed until access has been provided (excluding community heating).	Sept 2009 amended Aug 2016 amended 31 Dec 2017 amended 01 Sep 2019 amended 01 Mar 2022 amended 01 Jan 2024 amended 15 June 2025
4.04	Micro-CHP not listed in PCDB	If micro-CHP cannot be found in the database enter as a default condensing boiler and include Addendum 5.	Sept 2009 amended Mar 2011 amended 31 Dec 2017
4.05	Definition of community heating	A system in which a heat generator provides heat and/or hot water to more than one premises. Each dwelling to be assessed individually. If the heat generator is in the dwelling, it is the heating system for that dwelling. If the heat generator is not in the dwelling treat as community heating	Sept 2009 amended April 2015
4.06	Heat sources and fuel used by community heating	Where the community scheme can be identified in the community network database, it is to be selected. If there is more than one data record, only the current record can be used. Otherwise try to find out what the fuel is. If it cannot be ascertained select mains gas.	Sept 2009 amended April 2015
4.07	Boiler or heat pump not listed in PCDB	If a boiler or a heat pump is not in the PCDB, use default	01 Mar 2022

#	Topic	Convention	Issue date
4.09	Two main systems	RdSAP allows for two main heating systems. If second main heating system is used only for domestic hot water see 6.04. Main systems 1 and 2 cannot be room heaters except in the case of the dwelling's heating consisting solely of room heaters. When there are two main systems: a) system 1 always heats the living area; b) when both systems heat the living area, main system 1 is the one that heats the most habitable rooms; c) when both systems heat the same number of habitable rooms; main system 1 is the system that provides water heating; d) when neither or both main heating systems heat water, main system 1 is the system which is cheapest to run (fuel cost from RdSAP v10 Table 32 divided by the efficiency of heating system). Where two main systems serve different spaces, record the heating proportion based on floor area served by each system. Where two systems serve the same heating circuit the default assumption should be a 50/50 split. A different ratio can only be used if there is clear documentary evidence to back this up. When there are two main systems and a recommendation is made for heating system upgrade, include addendum 9. A second main system is not to be confused with a secondary heater. See section 5.01 to 5.03 for rules on secondary heaters. If there is more than one type of storage heater (old large-volume, fan-assisted, integrated storage/direct acting, high heat retention): treat as two main systems. Then if either main system 1 or main system 2 has more than one type, choose the most prevalent. A storage heater can be classified as high heat retention only if the **brand name** and model is located in the database. If there are more than two main heating systems, use the rules above for determining main systems 1 and 2 and disregard the third. If there are only room heaters in the dwelling and there is more than one type of room heater (e.g. gas fire and an electric fire) and they both heat habitable rooms, then see rules above for two main systems. If one of them heats a habitable room, and the other one in non-habitable room, treat as main and secondary heating respectively.	March 2011 amended Jan 2012 amended April 2015 amended Aug 2016 amended 31 Dec 2017 amended 01 Sep 2019* amended 15 June 2025

#	Topic	Convention	Issue date
4.09a	Single heating systems with multiple outputs	For single heating systems with multiple outputs such as warm air and radiators, treat as two main systems with the option that heats most floor area as main system 1. Any system that has a heat pumps, this must be main system 1	added 01 Jan 2024
4.10	Liquid biofuels	Deleted.	March 2011 amended 31 Dec 2017*
4.11	LPG at mains gas prices (e.g. special condition 18 or special condition 11F)	If documentary evidence (e.g. billing information) confirms that the property receives LPG at mains gas prices, enter fuel type “LPG subject to special condition 18”. Treat Liquefied Natural Gas (LNG) networks as mains gas.	March 2011 amended 01 Sep 2019
4.12	Straw bales and other biomass	For straw bales and other types of biomass fuel that are not available in RdSAP, select wood logs and include addendum 12.	December 2012
4.13	TRVs	Include when TRVs present on 50% or more of the radiators. For this purpose include **all** radiators including those not in a habitable room (e.g. in a hallway).	August 2014 amended April 2015 amended Aug 2016 amended 31 Dec 2017
4.14	Electric heating appliances	Treat electric underfloor heating mats and infra-red heaters as electric panel heaters	April 2015 amended Aug 2016
4.15	Electric CPSU	An electric CPSU uses 10-hour or 18-hour tariff. If on 7-hour tariff treat as water storage boiler. If on single tariff record as direct-acting electric boiler.	April 2015
4.16	Weather compensators	Deleted.	April 2015 amended 31 Dec 2017*

#	Topic	Convention	Issue date
4.17	Time and Temperature Zone Control (TTZC)	A system of controls that allows heating times of at least two zones to be programmed independently, as well as having independent temperature control. It includes wired or wireless remote or mobile control systems.	April 2015 amended 31 Dec 2017* amended 01 Febr 2022
4.18	Central heating pump age	In the case of a separate pump, not within boiler: Record age as unknown if cannot be seen. Age is 2013 or later if it has a label stating the EEI (energy efficiency index) or as indicated by date of manufacture from the ID plate; otherwise it is 2012 or earlier. In the case of an integral pump: If supporting information is available for the presence of an integral pump to the EEI standard treat as 2013 or later.	April 2015 amended 31 Dec 2017 amended 01 Mar 2022
4.19	Heating programmed by mobile app only	Heating control from a mobile application can only be included where a fixed receiver is present and there is evidence of the type of controls (time, temperature, zone).	June 2016 amended 31 Dec 2017 amended 01 Mar 2022
4.20	Storage heater in a non-habitable room (no other heating present in a dwelling)	Where the primary source of heat is a storage heater in a non-habitable room, include it as main heating, and count it as one heated habitable room.	01 Sep 2019

#	Topic	Convention	Issue date
4.21	Biogas and biodiesel boilers	In the case of: • Biogas specify mains bulk LPG and check Addenda 12. In the case of: • biodiesel from any biomass source • biodiesel from vegetable oil only • appliances able to use mineral oil or liquid biofuel specify OIL and check Addenda 12. Note - If the boiler model is in the boiler database with a fuel type of mains gas but not Bulk LPG, you must not use the database entry, you must specify the boiler using.	added 01 Jan 2024
		5. Secondary heating	
5.01	Secondary heating	Include if fixed emitter present regardless of whether main system(s) heat all rooms. If more than one secondary: select the device that heats greatest number of habitable rooms. If the same choose cheapest fuel – if same fuel select the device with the lowest efficiency. Electric focal point fires are included even if not wired by fixed spur. A fixed heater in non-habitable rooms are still counted as a secondary heater. Where a solid fuel or oil range cooker (no boiler) is present treat as a closed room heater.	Sept 2009 amended Mar 2011 amended 31 Dec 2017 amended 01 Sep 2019 amended 01 Jan 2024
5.02	Open fire as a heating source	An open **fire** is to be considered in the heating assessment if **a fire-place is** capable of supporting an open fire (that includes having a grate suitable for holding fuel), even if no fuel is present. The number of open **fire-places** is specified and used in the calculations as the number of open chimneys (for ventilation).	March 2010 amended Oct 2010 amended April 2015 amended 31 Dec 2017

#	Topic	Convention	Issue date
5.03	Fuels for solid fuel fires and room heaters	If it can burn only one fuel, specify that fuel (includes exempted appliances burning wood in Smoke Control Areas). Otherwise: Smoke control area: Open fire – smokeless fuel; closed heater – anthracite Not smoke control area: Open fire – dual fuel; closed heater – wood logs if capable otherwise anthracite.	Oct 2010
		6. Water heating	
6.03	Dual immersion hot water cylinder with single electricity tariff	Enter as a single immersion and include Addendum 6.	Oct 2010 amended Mar 2011 amended 31 Dec 2017
6.04	Separate boiler or heat pump for DHW	Sometimes there is a separate boiler or heat pump providing DHW only. Specify the two main heating systems as follows: - main system 1 is the one providing space heating (100% of heat is from main system 1); - main system 2 is the one providing DHW (0% of heat from main system 2); If both main heating systems supply space heating only, a generic DHW-only boiler can be selected from the water heating options.	March 2011 amended April 2015 amended 31 Dec 2017*
6.05	Enclosed hot water cylinders and insulation of hot water cylinders	For a modern unvented pressurised steel or plastic encased hot-water cylinder (e.g. Megaflo) or factory fitted jacket, treat insulation value as 50 mm factory-applied foam and assume “cylinderstat is present”. For Elson (wooden box)-type record the actual thickness as factory applied insulation and check for the presence of a cylinderstat (otherwise record as “no access”). If factory insulated plus a jacket, enter the thickness of foam insulation plus 1/3 the thickness of the jacket. If for some reason the thickness cannot be measured, assume 25mm for spray foam and 12mm for jacket.	August 2014 amended April 2015 amended 31 Dec 2017 amended 01 Sep 2019 amended 01 Jan 2024
6.06	Hot water thermal store	If physically separate, treat as a cylinder.	August 2014 amended 31 Dec 2017

#	Topic	Convention	Issue date
6.07	Hot water cylinderstat	Include only when mounted on the side of the cylinder and has an electric connection.	April 2015
6.08	Instantaneous water heater or water heated by electric combi boiler	Disregard a small water storage volume. A “small” volume means less than or equal to 55 litres; If the storage volume exceeds 55 litres, it is specified as an electric immersion or gas boiler for water heating only. If water is heated by electric combi, specify water heater as “instantaneous at point of use”	June 2016 amended 01 Mar 2022
6.09	Electric shower	If the only water heater is an electric shower, specify as “electric instant water heating”	June 2016
6.10	Water heated by PV	Deleted	Deleted 15 June 2025
		7. Lighting and Ventilation	
7.01	Lights	Consider all lamps (bulbs or tubes) in permanent fittings within the dwelling. Include fixed under-cupboard kitchen lights. The Number of lamps is counted (not the number of fittings). • Only LED lamps are recorded as LED • Any Fluorescent Tubes and Compact Fluorescent lamps are recorded as CFL • Tungsten and Halogen lamps are recorded as Incandescent (i.e. are not low energy). • LED strips are counted as one lamp per running meter (rounded to the nearest meter). • If an individual lamp is missing, or the lamp type cannot be identified, record as CFL. • If more than 50% of the lamps which are not Incandescent cannot be identified or are not present, record all non-incandescent lamps as LEL.	Sept 2009 amended Aug 2014 amended Aug 2016 amended 31 Dec 2017 amended 01 Mar 2022 amended 15 June 2025

7.03a	Mechanical Ventilation	Mechanical ventilation systems circulate fresh air via ducts and vents and use continually running fans when in operation. They can be input-only, extract-only or balanced (input and extract). Where make and models details are available the system should be entered via the PCDF. In circumstances where there is no evidence of the make and model the system must be entered using the defaults. If vents (excluding air bricks) are present within the property and the presence of mechanical ventilation cannot be confirmed enter the number of vents as passive stack..	15 June 2025
7.03b	Wet Rooms	Applicable when a balanced whole house system or a centralised system is chosen from the PCDF. The number of wet rooms needs to be set for the dwelling being assessed. Wet rooms are those in which significant amounts of moisture is likely to be introduced into the internal air. Wet rooms are defined as kitchens, utility rooms, rooms with one or more flush toilets or urinals, bathrooms and shower rooms. Bedrooms with hand basins are not included..	15 June 2025
7.03c	Duct Type	Applicable when a system is chosen from the PCDF. The duct type will need to be identified and entered for decentralised systems. The types of ducting are rigid or flexible; Rigid – Solid duct work made from a rigid material, likely plastic, no movement at all. Flexible – Typically made from flexible plastic over a metal wire coil to create a tube shape.	15 June 2025
7.03d	Duct Insulation	Applicable when a system is chosen from the PCDF. For balanced whole house mechanical ventilation the insulation level is required where the ducting is inside the heated envelope. Level 1 - For supply or extract (whichever is longer) duct lengths need to be established. • Where it is less than or equal to 2m, the duct system must be continuously insulated throughout to a minimum depth of 25mm with an insulated thermal conductivity of 0.04 W/m.K or less.	15 June 2025

		• Where it is greater than or equal to 2m, the duct system must be continuously insulated throughout to a minimum depth of 50mm with an insulated thermal conductivity of 0.04 W/m.K or less. Level 2 - Is where Level 1 is not satisfied or the insulation specification is not known. Where the duct placement is outside the heated envelope it will need to be established whether the duct is insulated or uninsulated. See convention 3.07 (Insulation thickness) for insulation types and equivalent thermal conductivity values.	

#	Topic	Convention	Issue date
		8. Recommendations	
8.01	Suppression of recommendations	Recommendations should be removed only if there is documentary evidence showing that a specific recommendation is not appropriate. A listed building or a property in a conservation area is not sufficient grounds in its own right to suppress a recommendation. If a recommendation is removed this must be recorded in site notes. Further guidance on specific recommendations can be sought from an appropriate professional organisation, for example heating engineers, building control officers, product manufacturers, trade associations, etc.	Sept 2009 amended Dec 2012 amended 01 Sep 2019 amended 15 June 2025
8.02	Mains gas available	Include only if a mains gas meter is present, or a mains gas burning appliance is fixed within the property.	Sept 2009 amended Mar 2010 amended 01 Jan 2024

#	Topic	Convention	Issue date
		9. Miscellaneous	
9.01	Open chimney/fireplace count (for ventilation)	An open chimney is defined as a vertical duct for combustion gases of diameter 200mm or more, or a rectangular duct of equivalent area (125,000 mm2). Include all open chimneys/fireplaces in the count (both downstairs and upstairs) only when they are unrestricted and suitable for use. Specific cases which should be treated as open chimneys: • chimney attached to a decorative gas fire, • chimney fitted with a damper • temporarily blocked using cardboard, newspaper bungs, chimney balloons and similar, and, • decommissioned chimney that is provided with a ventilation area greater than 30,000mm2, otherwise it is treated as a blocked chimney. A vertical duct with a diameter less than 200mm should be counted as a flue. This includes the case where a flexible gas flue liner is sealed into the chimney as this reduces the diameter to less than 200mm. The following cases are considered in SAP: • Open flue gas fire with flue products outlet sealed to the chimney including radiant gas fires and ILFE (Insert Live Fuel Effect or Insert Living Flame Effect) • Chimney or open flue attached to wood or solid fuel boiler • Chimney or open flue attached to wood or solid fuel stove/appliance with controlled air supply. Note that this relates only to the number of open fireplaces (it affects the ventilation rate assumed for the calculation). Other rules apply when considering the choice of main or secondary heating system. See also 5.02. (for heating)	March 2010 amended 31 Dec 2017 amended 15 June 2025

#	Topic	Convention	Issue date
9.02	Documentary evidence Applicable to **England, Wales and Northern Ireland**	Acceptable documentary evidence includes, but is not limited to, official correspondence from the applicable Registered Social Landlord (RSL) or certificates, warranties or guarantees or any documents verifying that work has been carried out. The assessor must be confident, and able to demonstrate, that any documentation relates to the actual property being assessed, and/or the work has been carried out, and that there is no physical or other documentary evidence to the contrary. Evidence of intent to install does not **on its own** qualify as acceptable documentary evidence. Evidence of intent to install, supported by evidence of subsequent Building Control oversight, or visual evidence that such an upgrade has been undertaken does qualify as acceptable documentary evidence. a) If it can be demonstrated that there was both an intention to upgrade the element (in planning documents for example) and Building Control oversight of the work, the element can be treated as having been upgraded as indicated in the planning documents. b) If it can only be demonstrated that **either** there was **an intention to upgrade** the element (in planning documents for example) **or** that **there was Building Control oversight** but it can **also** be seen that an upgrade has occurred, the element can be treated as upgraded using the minimum selectable upgrade of the relevant type defined in RdSAP. (If upgraded from 'as-built' to 'insulated' using the lowest selectable insulation thickness***** that is better than the as-built assumption). **For roof insulation between joists use 100 mm as the lowest selectable insulation thickness.*	March 2010 amended Aug 2014 amended Aug 2016 amended 01 June 2021
	Documentary evidence Applicable to **SCOTLAND ONLY**	Acceptable documentary evidence includes, but is not limited to, official correspondence from the applicable Registered Social Landlord (RSL) or certificates, warranties, guarantees. The assessor must be confident, and able to demonstrate, that any documentation relates to the actual property being assessed and that there is no physical evidence to the contrary. Evidence of intent to install does not qualify as acceptable documentary evidence.	
9.03	Lodgement of incorrect EPC	If you lodge an EPC in error and lodge a corrected EPC, inform your accreditation scheme so that the erroneous one can be marked "not for issue".	March 2010
9.04	Cooling system present	Include fixed systems only. Do not include reversible heat pumps.	March 2011

#	Topic	Convention	Issue date
9.05	Photovoltaics	When photovoltaics are present the peak power (kWp) of the PV array is required. Potential sources include the system specification documents or the schematic wiring diagram (possibly adjacent to the electricity meter or the consumer unit). If the peak power (kWp) cannot be found, the declared net capacity (DNC) stated on the MCS certificate may be used instead. If the kWp or DNC cannot be ascertained, do not allocate the PV, except where it is connected to a meter serving a single dwelling. Where the meter is serving a single dwelling, record the percentage of the total roof area occupied by PVs. The total roof area includes main dwelling and all extensions where present. If there are PV panels on different planes of the roof, enter as separate systems. If only a total kWp or DNC value is provided, estimate the relative area of each and apportion the value accordingly. PV connection to the dwelling's meter must be verified by the presence of a PV generation meter or documentary evidence. In all cases, the PV-generated electricity is included in the assessment of a dwelling only if the dwelling has a PV generation meter serving it. Where it cannot be determined that the PV supply is feeding into a meter serving the dwelling being assessed, the PV panels are still allocated to the dwelling but should not be specified as being connected. Where the PV supply is serving more than one building, or multiple dwellings within the building, the total capacity of the PV is allocated between the buildings on an area weighted basis based on an estimate of the total floor area of all of the buildings or dwellings served by the PV. This applies in all scenarios where the PV supplies more than one building, or multiple dwellings within the building, including where the other buildings are either all dwellings, a mix of dwellings and non-domestic buildings or all non-domestic buildings. For PV batteries, photographic or written evidence of manufacturer and model of battery unit used, and usable capacity (kWh) is required. If this cannot be obtained, use a default of 5kWh per battery. For PV diverters, written evidence of manufacturer and model of diverter system installed is required. If this cannot be obtained, then the diverter cannot be entered.	March 2011 amended Jan 2012 amended April 2015 amended Aug 2016 amended 31 Dec 2017* amended 01 Sep 2019 amended 01 Mar 2022 amended 15 June 2025
9.06	Flue gas heat recovery	Include only if found in PCDB, identified in same way as for heating systems. When the model cannot be found in the PCDB, there is no default option available and the device is not included in the assessment, but its presence should be recorded in site notes.	January 2012 amended 31 Dec 2017

9.07a	Wind turbine	Documentary evidence is required to overwrite default values.	January 2012
9.07b	Small-scale hydro	Hydro systems can be recorded as a simple yes/no, along with basic documentary evidence confirming its presence. No usage information is required."	15 June 2025

#	Topic	Convention	Issue date
9.08	Waste water heat recovery	Include only if brand name and model found in the PCDB. When the model cannot be found there is no default option available and the device is not included in the assessment, but its presence should be recorded in site notes. For instantaneous types: - The number of rooms with bath and/or shower includes rooms with only an electric shower. If two showers are found in a single room, count as one. - Only mixer showers count for instantaneous waste water heat recovery. Mixer shower means a shower where the hot water is provided by a boiler (combi or regular), heat pump or immersion heater. - The shower must be permanent i.e. not temporarily attached to bath taps when in use. - In the case of a shower that is integral with bath taps, i.e. designed as part of a unit switchable between shower and taps, it is counted as a mixer shower only if there is a shower bracket at least 1.5 m above the plughole and there is a shower curtain or screen present. For storage types: - Record the total number of baths and showers of any type. - Record the total number of baths and showers connected to the waste water heat recovery system.	January 2012 amended Dec 2012 amended April 2015 amended Aug 2015 amended 31 Dec 2017
9.09	Solar water heating	Documentary evidence is required to overwrite collector or solar store values. Orientation, tilt and overshading can be overwritten. If the panel/collector details are available but the solar store information is not, the default values can be used for the solar store. If the solar store is combined and details are being recorded the volume of the combined cylinder must also be recorded. Shower type is required when solar water heating details are known. In this context “electric shower” means a shower where the water is heated by electricity as the shower runs. If the shower is supplied from a hot-water cylinder it is classified as non-electric.	January 2012 amended April 2015 amended 31 Dec 2017*

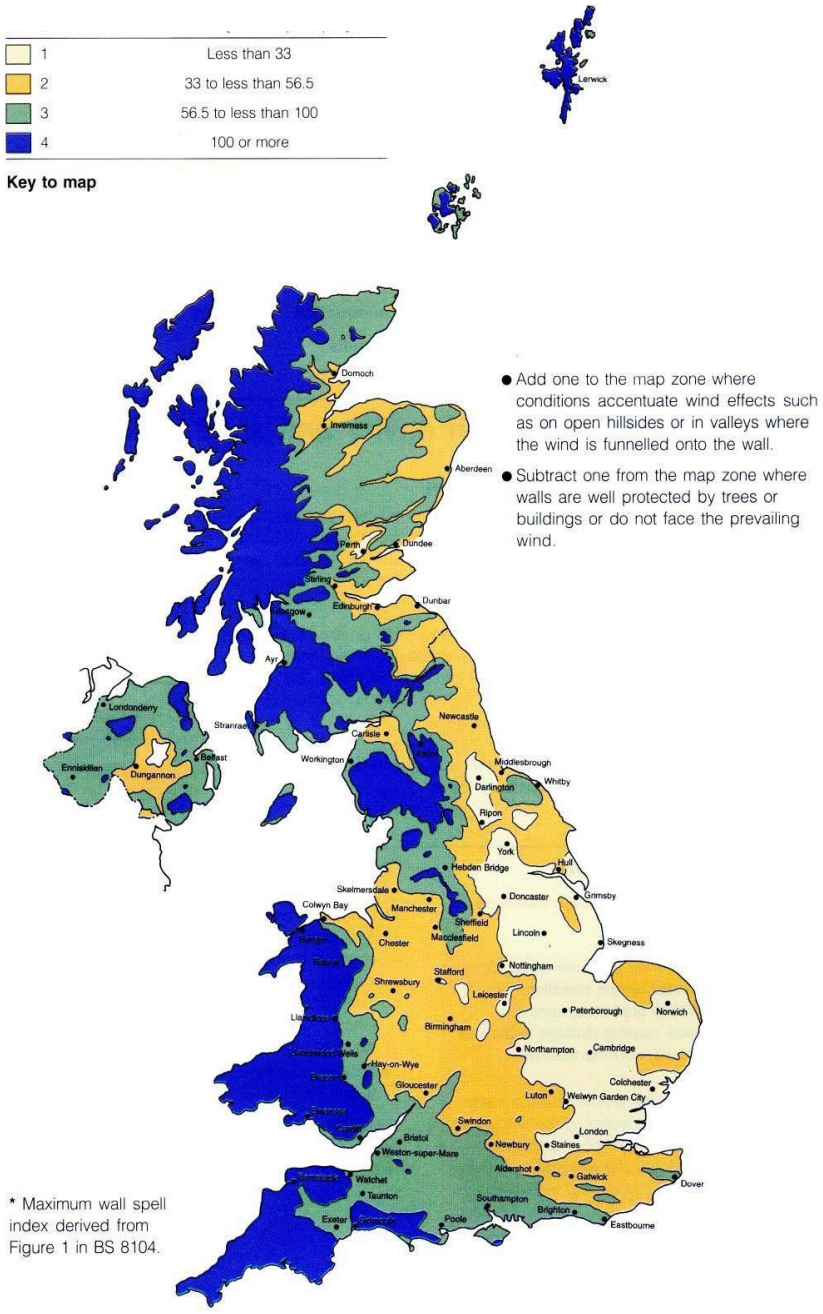
#	Topic	Convention	Issue date
9.10	Hard to treat cavity walls	An access issue is recorded if there is any façade where it is not possible to pitch a 5 metre ladder considering health and safety requirements. This includes e.g. a narrow passageway, a busy thoroughfare next to a building of more than 2 storeys, a conservatory or large outhouse attached to the property, etc. A narrow cavity is indicated by a stretcher bond brick pattern with wall thickness 220 to 250 mm. Possible high exposure should be recorded for any dwelling in exposure zones 3 or 4 (see map at end of these conventions). If in doubt record as possible high exposure.	January 2012
9.11	Transaction type	If more than one transaction type is applicable, seek clarification from the client and in case of doubt select the one nearest the top of the list. “None of the above” should be avoided where possible; the case below should be treated as follows: “Right to Buy” transactions should be recorded as “Non-marketed sale”	December 2012 amended Aug 2016
9.12	Tenure	When transaction type is rental, tenure must be rented (social) or rented (private). When transaction type is marketed or non-marketed sale, the tenure will usually be owner-occupied (although there can be exceptions, such as the sale of a property with a sitting tenant). If the property is vacant on the inspection date, try to find out the last tenure and select this e.g. owner occupied, rented (social) or rented (private).	December 2012
9.13	Electricity & gas meters	Usually the dwelling uses either single-reading meter or a multiple-reading meter arrangement. Older properties may have two single-reading meters to record on-peak and off-peak readings (record as dual meter). If choosing a particular tariff, additional information should be gathered such as recent electricity bill. Otherwise, if tele-switch is present -treat as single, if a time-switch is present – treat as dual. Smart meters are meters that communicate wirelessly with the meter network which may have a variable tariff. They do not have to be functioning at the time of the visit (e.g. 1st generation meters) but	December 2012 amended 31 Dec 2017* amended 15 June 2025

		the evidence must be either a smart meter unit or a portable display that shows meter readings.	

#	Topic	Convention	Issue date
9.14	Park homes	For the purposes of RdSAP a park home is a pre-fabricated dwelling of modular lightweight construction without its own foundations (although it may sit upon a concrete base) and which is capable of being moved from one place to another. For U-values of existing park homes, documentation obtained from the manufacturer can be used. Park homes have their own set of age bands (Table 1), and default U-values, i.e. wall U-values (Table 11), Roof U-values (Table 18) and floor U-values (Table 19) in RdSAP10 specification. Also see section 2.19.1 for the assessment of improvement measures for park homes	August 2014 amended April 2015 amended 31 Dec 2017 amended 01 Mar 2022 amended 15 June 2025
9.15	New technologies	Refer to Appendix 5	01 Sep 2019
9.16	**BRE** Technical Notes	Technical Notes are produced by BRE to enable the recognition of certain technologies in SAP and/or RdSAP assessments. These are normally required due to complexities related to the technology's assessment that cannot easily be handled by SAP/RdSAP specifications. By their nature, Technical Notes are normally temporary (on the basis that future versions of SAP can incorporate recognition) and may therefore incorporate validity terms. Each Technical Note incorporates a technical justification section, followed by instructions for SAP/RdSAP assessors. The list of Technical Notes indicates whether a particular Technical Note is applicable to SAP or RdSAP. If a technology which might be a subject to a Technical Note is found in a dwelling, assessors must check the list of Technical Notes from the link given below to determine whether the technology is included and whether it is applicable to the type of assessment. If applicable, they must download a copy of the appropriate Technical Note from the link given in the list for each technical note and follow the instructions contained within it. The list of Technical Notes applicable to SAP and RdSAP, and the documents themselves, are published at the following BRE Website: https://www.bregroup.com/sap/bre-technical-notes/	01 Sep 2019

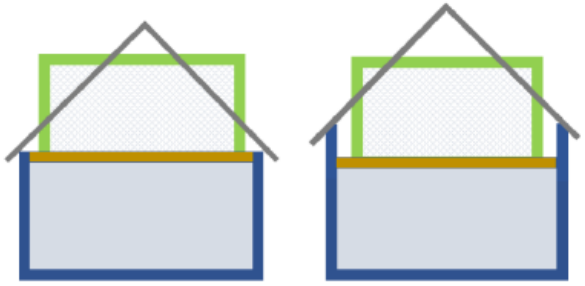
10. New items in RdSAP10			
New 10.01	Air tightness	The pressure test result must be RdSAP default values and must not be overwritten unless specific documentary evidence is available. This is the measured air permeability figure (m3/m2/hr) from either a blower door (50Pa) test or a low-pressure pulse (4Pa) test. Documentary evidence will be via a pressure test certificate that has been produced by a person with suitable expertise and experience. Evidence of suitable expertise and experience can be demonstrated by membership of a recognised air tightness Competent Persons Scheme (EAS or ATTMA), that is approved by Government. Results from background ventilation tests are not included in the assessment.	15 June 2025

Appendix 1. Exposure zones (see convention 9.10)



Appendix 2. Illustrations of roof rooms (see convention 2.06)

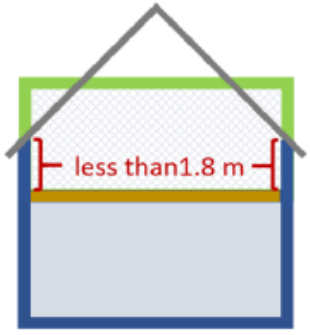
RR Type 1 - Room in Roof IS fully within roof (true Room in Roof)



RR Type 1 includes:
- No common walls. (Left)
- Room in Roof built into a roof space where RR stud walls are bult inside the common walls, leaving the common walls outside the boundary of accessible floor areas. (Right)

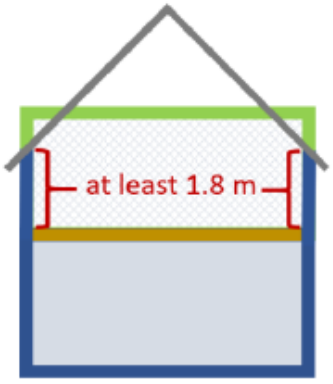
RR type 1 is always treated as “Room in Roof” regardless of the height of the stud walls.
There is no explicit allowance for dormer windows except to include in the floor area of the roof rooms.
The 1.8 m rule does NOT apply to RR Type 1.

RR Type 2 - Room in Roof NOT fully within the roof where an accessible common wall is part of the Room in Roof



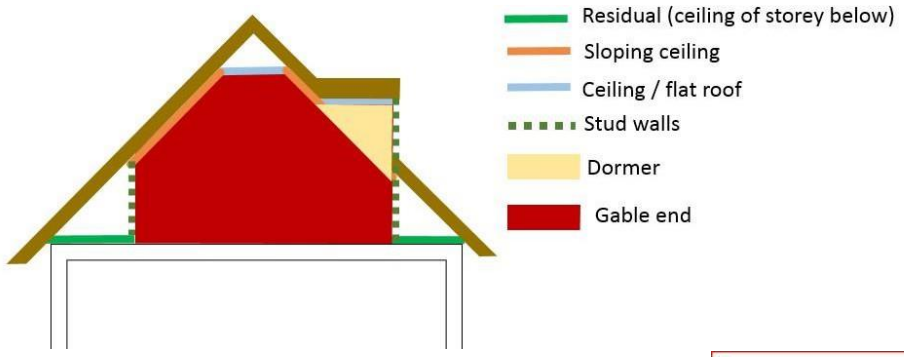
RR Type 2 has an accessible vertical continuation of the external wall of the storey below which is **less than 1.8 m** for at least 50% of the common wall (excluding gable ends or party walls).
This is measured from the floor to the point where the roof plane intersects with the head of the common wall.

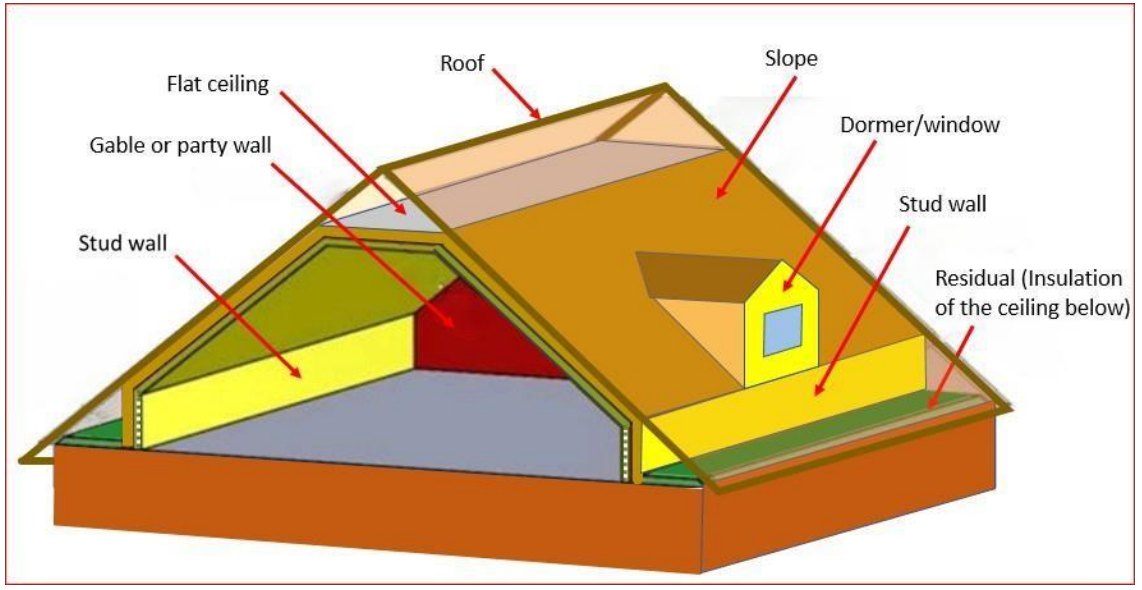
Upper storey with low eaves



Similar to RR Type 2 but where the accessible vertical continuation of the external wall of the storey below is **1.8 m or more** for at least 50% of the common wall (excluding gable ends or party walls).
This is NOT a Room in Roof and must simply be treated as a separate storey.

Appendix 3. Illustration of the different parts of roof rooms when detailed measurements are made (convention 2.06)





Appendix 4. Rooms in Roof – U-values applicable to room in roof insulation

The values should be used only in relation to Room in Roof when the "U-value" option is chosen in the extended data entry.

Insulation thickness at joists (mm)	Slope U-value		Flat ceiling U-value		Stud wall U-value	
	Mineral wool or EPS slab	PUR or PIR	Mineral wool or EPS slab	PUR or PIR	Mineral wool or EPS slab	PUR or PIR
none	If "none", use values from RdSAP10, Table 18					
12	1.91	1.23	1.18	1.04	1.79	0.71
25	1.24	0.82	0.9	0.75	1.23	0.56
50	0.77	0.52	0.62	0.51	0.78	0.41
75	0.56	0.39	0.5	0.39	0.59	0.34
100	0.45	0.31	0.41	0.32	0.48	0.29
150	0.33	0.24	0.33	0.26	0.29	0.24
200	0.23	0.16	0.23	0.16	0.21	0.16
250	0.18	0.12	0.18	0.12	0.17	0.12
270	0.16	0.11	0.17	0.11	0.16	0.11
300	0.15	0.1	0.15	0.1	0.14	0.1
350	0.13	0.08	0.13	0.09	0.12	0.08
>400	0.11	0.07	0.11	0.07	0.11	0.07

Key:
EPS – expanded polystyrene slab
PUR – polyurethane rigid insulation
PIR – polyisocyanurate rigid foam

Assumptions used for calculating U-values:
Up to 150 mm, the insulation is between timber (rafters or studs)
Timber fraction is 12%
After 150mm, the next layer of insulation is continuous
0.04 W/mK – thermal conductivity of mineral wool slab or EPS slab
0.025 W/mK – thermal conductivity of PUR or PIR slab

Notes:

1. U-values from this table can be used for elements of rooms in roof only when the type of insulation and its thickness are known (evidence required)
2. Use the actual thickness of insulation (**do not** double insulation thickness if thermal conductivity is 0.025 W/mK)

Appendix 5. New technologies

A mechanism for recognising technologies not included in the published SAP and RdSAP methodology is provided in Appendix Q of the SAP specification document.

If small-scale hydro is specified via Appendix Q, the following would not apply. Instead, refer to technical note 08 (see link to technical notes).

To include technologies that are recognised via the SAP Appendix Q mechanism within RdSAP assessments, the following instructions must be followed.

Technologies recognised by this mechanism can be found at the webpage: http://www.ncm-pcdb.org.uk/sap/page.jsp?id=18 under the **RdSAP 2012 heading.** The webpage contains Excel spreadsheets that enable the calculation of energy savings and consumption for recognised technologies when installed in dwellings. Note that the spreadsheets under the SAP 2012 heading are not suitable for RdSAP; use only the spreadsheets under the RdSAP-2012 heading (subject to adding RdSAP2012 spreadsheets by BRE in the future).

During the new technology recognition process, manufacturers must devise a process for enabling assessors identification by displaying an NCM (SAP) identifier label.

During assessments of existing dwellings, where the assessor determines that a new technology recognised via RdSAP 2012 heading in SAP Appendix Q is present, they must follow these steps:

- Photograph the NCM (SAP) Identifier label for the installed technology (temporary note: this is currently being developed)
- If the label and, where applicable, a commissioning Certificate cannot be found, disregard the technology
- Download the Appendix Q calculation spreadsheet for the appropriate technology from: http://www.ncm-pcdb.org.uk/sap/page.jsp?id=18
- If Appendix Q RdSAP Spreadsheet for the technology is not available, disregard the technology
- Provisionally complete the RdSAP assessment as normal
- Follow the data entry instructions contained within Appendix Q calculation spreadsheet, proceed with the calculation by entering the NCM (SAP) Identifier and, if necessary, data from the RdSAP worksheet
- Enter calculated energy savings and energy consumption (if applicable), calculated by the Appendix Q calculation spreadsheet and enter into RdSAP software.
- Within RdSAP software, suppress Energy Performance Certificate (EPC) recommendations when instructed to do so by the RdSAP Appendix Q calculation spreadsheet
- The Appendix Q calculation spreadsheet containing the calculation of savings must be saved and retained.

Revision history

September 2009	First issue Conventions: 1.01, 2.01, 2.02, 2.03, 2.04, 2.05, 2.09, 4.01, 4.02, 4.03, 4.04, 4.05, 4.06, 5.01, 6.01, 6.02, 7.01, 8.01, 8.02
March 2010	Second issue Amended: 4.02, 8.02 Added: 1.02, 2.06, 2.07, 2.08, 2.10, 2.11, 2.12, 2.13. 2.14, 2.15, 2.16, 3.01,3.02, 3.03, 3.04, 3.05, 4.07, 5.02, 9.01, 9.02, 9.03
October 2010	Third issue Amended: 2.03, 2.10, 5.02 Added: 2.17, 2.18, 2.19, 2.20, 4.08, 5.03, 5.04, 5.05, 6.03
March 2011	Fourth issue Amended 1.02, 2.11, 2.12, 2.15, 2.16, 3.04, 4.04, 5.01, 5.04, 6.03, Deleted: 4.07, 4.08, 5.05, 6.01, 6.02 Added: 2.21, 4.09, 4.10, 4.11, 6.04, 9.04, 9.05
January 2012	Fifth issue Amended: 1.01, 2.06, 2.13, 3.02, 3.04, 4.01, 4.09, 9.05 Added: 2.22, 3.06, 3.07, 3.08, 3.09, 3.10, 3.11, 9.06, 9.07, 9.08, 9.09, 9.10 Deleted: 5.04
December 2012	Sixth issue: Amended 1.01, 2.08, 2.11, 2.13, 2.14, 2.17, 2.22, 3.05, 3.09, 3.11, 8.01, 9.08, Added: 4.12, 9.11, 9.12, 9.13
August 2014	Seventh issue: Amended 2.01, 2.06, 2.22, 3.02, 3.04, 3.05, 3.08, 7.01, 9.02 Added 2.23, 3.12, 3.13, 3.14, 6.05, 6.06, 9.14, Appendix 1
April 2015	Eighth issue: Amended 1.01, 2.03, 2.04, 2.05, 2.13, 2.14, 2.15, 2.21, 3.03a, 3.04, 3.06, 3.08, 3.09, 3.12, 3.14, 4.01, 4.02, 4.05, 4.06, 4.09, 4.13, 5.02, 6.04, 6.05, 9.02, 9.05, 9.08, 9.09, 9.14 Added 1.03, 1.04, 2.24, 3.02, 3.03b, 3.15, 3.16, 4.14, 4.15, 4.16, 4.17, 4.18, 6.07
August 2016	Ninth issue: Amended 1.04a, 2.03, 2.04a, 2.13, 3.03b, 3.04, 3.06, 3.07, 3.08, 3.12, 3.13, 3.15, 4.03, 4.09, 4.13, 4.14, 7.01, 9.02. 9.05, 9.11 Added 1.04b, 2.04b, 3.03c, 4.19, 6.08, 6.09

31 December 2017	Tenth issue: Amended 1.01; 1.04a; 2.01; 2.02; 2.03; 2.04a; 2.04b; 2.06; 2.13; 2.14; 2.15; 2.18; 2.22; 2.24; 2.25; 3.02; 3.03a; 3.03b; 3.03c; 3.04; 3.05; 3.06; 3.07; 3.08; 3.09; 3.10; 3.11; 3.12a; 3.12b; 3.14; 4.01a; 4.01b; 4.02; 4.03; 4.04; 4.09; 4.13; 4.17; 4.18; 4.19; 5.01; 5.02; 6.03; 6.04; 6.05; 6.06; 7.01; 9.01; 9.05; 9.06; 9.08; 9.09; 9.13; 9.14; Appendix 2; Appendix 3 Added: 2.25; 4.01b Moved: 3.15 moved to 3.12b. Deleted: 3.16; 4.10; 4.16
01 September 2019	Eleventh issue: Amended 1.01, 1.04a, 2.01, 2.04a, 2.06, 2.08, 2.12, 2.14, 2.15, 2.25, 2.26, 3.03b, 3.04, 3.05, 3.06, 3.07, 3.09, 3.12a, 3.14, 4.03, 4.11, 8.01, 9.05, Appendix 2, Appendix 3, Added: 1.02b, 3.02a, 4.20, 6.10, 9.15, 9.16, Appendix 4, Appendix 5. Deleted paragraph or part of a paragraph: 3.03c, 4.01b, 4.09, 9.01.
01 November 2020	Amended: 3.05 amended and split into 3.05a and 3.05b (ad-hoc amendment made on request of Accreditation Schemes)
01 June 2021	Added: 3.05a (SCOTLAND only); for England, Wales and NI convention 3.05 remains as in version 11.1) Amended 9.02 (Scotland-only version remains as the original 9.02 in version 11.1, but it is amended for England, Wales and NI).
01 March 2022	11.3 version: Amended: 2.15, 2.21, 4.01a, 4.03, 4.17, 4.18, 4.19, 6.08, 7.01, 9.05, 9.14, Appendix 4, Appendix 5. Added: 4.07
01 January 2024	11.4 version: Amended: 1.01, 2.05, 2.21, 3.09, 3.14, 4.01a, 4.03, 5.01, 6.05, 8.02 Added: 2.24a, 4.09a, 4.21
15 June 2025	12 version: Amended: 2.03, 2.06, 2.11, 2.12, 2.13, 2.15, 2.16, 2.17, 2.21, 3.07, 3.12a, 3.12b, 4.03, 4.09, 7.01, 8.01, 9.01, 9.05, 9.13, 9.14, Appendix 4 Added: 2.09b, 2.27, 3.11b, 7.03a, 7.03b, 7.03c, 7.03d, 9.07b, 10.01 Deleted 6.10