



EXCELLENCE
IN ENERGY
ASSESSMENT

Mastering Room in the Roof in RdSAP 10

By Joanne Bailey

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Agenda



- Types of room in the roof (RR)
Covers type 1 and type 2 and the differences between them.
- Simplified or detailed
Covering the 2 data entry options and how to deal with the different scenarios
- Gable Ends
Covering the different types and how to deal with more complex scenarios.
- Other Considerations
Covering split room in the roof and age bandings

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Introduction and Objectives

Room in the roof (RR)

- Understand RR definitions in RdSAP 10.
- Learn how to assess and enter RR data correctly.
- Avoid audit fails.
- The details shared here may be revised in accordance with future convention updates, as conventions continue to evolve.



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Summary of RR changes in RdSAP 10



- Split into type 1 and 2
With or without common wall
- Entry options of simplified or detailed
Detailed measurements can be applied and insulation types can be specified.
- Gable end options
Options include party wall, exposed to outside.

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RR definition



RR may be original to the dwelling, or it may have been added
Evidence is required to date it newer than the building part it sits over



Must have a staircase you can walk down facing forward
If common walls exceed 1.8 then it is a normal storey

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TYPE OF ROOM IN THE ROOF

Type 1 or 2

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Convention

Definition

- 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



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Fully in the Roof

Type 1

No common wall in the heated space, will be studs and/or slopes

There may be a common wall in the cold loft space behind the studs (very rare)

The height of the dormers/stud walls are irrelevant when deciding on the type



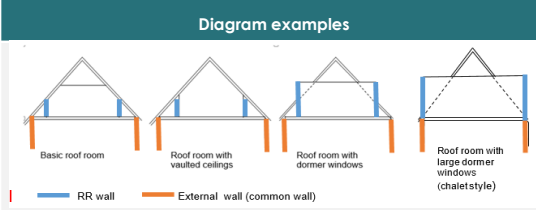
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Without common walls

Diagram examples



Note: the Orange common wall is not present 'inside' the roof

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Examples of type 1



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Not fully within the roof

Type 2

A common wall is a vertical continuation of the external wall of the storey below

An accessible common wall is part of an RR

The height of the common wall must be less than 1.8 m for at least 50% of the common wall (excluding gable ends or party walls)

The common wall will be assumed to be the same as the main walls



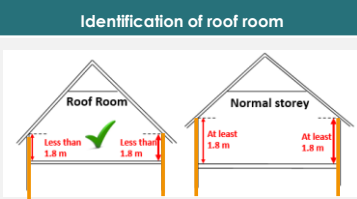
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With common walls

Identification of roof room



Note: the orange line indicates a wall that continues from the storey below (usually going all the way down to the foundations of a property)

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Not room in the roof

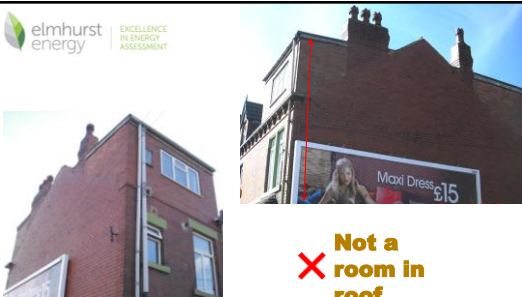


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Not a room in roof



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Not room in the roof



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Examples of common walls

Example 1



Example 2



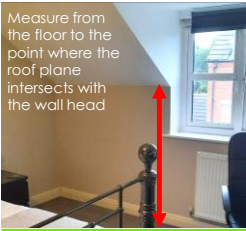
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The Common wall

Measure from the floor to the point where the roof plane intersects with the wall head





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Common Wall

- Measure the length and height of the common wall.
- Enter as common wall 1 and common wall 2
- Include any windows within this measurement.

Common Wall 1

Length [m]

5.00

Height [m]

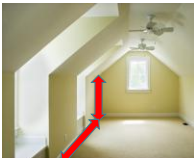
2.00

Default U-value

2.99

U-value Known

☐



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Type 1 or type 2?

Dormers are not classed as 'common wall' the common wall is a vertical continuation of the external wall of the storey below therefore this would be type 1.

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Type 1 and 2?

- This would have to be entered as **type 2**
- Then split the one common wall into 2 data entries (so if 10 long and 1.3 high, enter as 5m each with a height of 1.3)
- Type 2 will not offer any stud entry, so the slopes and stud should be merged together for this scenario



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SIMPLIFIED OR DETAILED ENTRY

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The options



Simplified
If no access to assess any insulation



Detailed
If any insulation visible in the ceiling/slope/stud/gable/common wall

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Simplified

- This option does not require any measurements of any of the elements (other than the gable end length).
- If it is similar to the 'unknown' option, no recommendation will be generated if this option is chosen.

8.1 Room in Roof

Assessment:

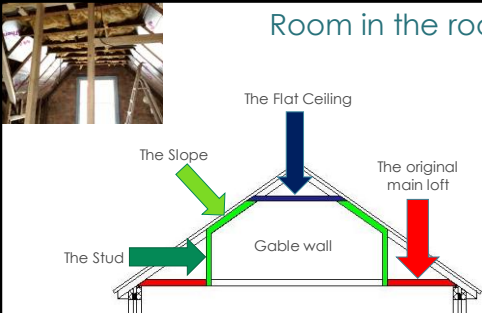
Type:

	Length	Height	U-value
Gable Wall 1	5.00	2.45	0.25
Gable Wall 2	12.00	2.45	0.25

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Room in the roof parts



The Flat Ceiling

The Slope

The Stud

The original main loft

Gable wall

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Residual / Main Roof insulation?

Where a RR is present, the eaves are your 'main roof'!

You should have access into the majority of the eaves to make an observation on depth.

The diagram shows a cross-section of a roof with red arrows indicating access points at the eaves. Below it, a photo shows the interior of a roof space with a red arrow pointing towards the eaves.

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Stud

Two photos are shown. The left one shows a dark, cluttered roof space with a red arrow pointing to a hatch in the stud wall. The right one shows a bright, clean roof space with a red arrow pointing to a wall.

Stud – this would usually be accessed via a hatch within the stud wall itself

If any insulation is visible, it could be recorded along with the size. If some areas are not accessible, then they can be recorded as 'as built' along with the size of those parts

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Measure dormers as stud wall

Two photos are shown. The left one shows a room with a dormer window and a red arrow indicating the height of the dormer. The right one shows a room with a dormer window and a red arrow indicating the height of the dormer.

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Ensure you include dormer cheeks in the stud areas

A photo of a house with a dormer window. A red arrow points to the dormer cheeks, indicating they should be included in the stud areas.

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Dormers

- Dormers covering less than 20% of the floor area of the roof room (i.e. the areas shown under the **red lines** in the diagram), should be ignored, i.e. assume the sloping ceiling is continuous (the **black dashed lines**).
- Where the dormer(s) cover 20% or more of the floor area, total the vertical elements (**green lines and shaded areas**) of all dormers (including windows) and enter as stud wall area and the flat ceiling elements as flat ceiling area (**red lines and blue line**).

The diagram shows a cross-section of a roof with a dormer. Red lines indicate the vertical elements of the dormer, and a blue line indicates the flat ceiling area. A black dashed line shows the continuous sloping ceiling.

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Example

- The floor area of the RR is **29.12m²**
- The dormer flat ceilings total **6.66m²**
- 20% of 29.12 = 5.82
- Therefore - the dormers are more than 20% of the floor area so they should be included.

Two photos of a house with a dormer window. The left one shows the exterior, and the right one shows the interior of the dormer.

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Slopes only

- Enter measurements for slopes and/or stud. The software will not force you to enter a flat ceiling



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Measure width and length of flat ceiling





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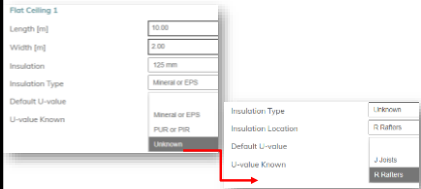
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Insulation at rafters in flat ceiling

- If there is insulation at the rafters of the flat ceiling area of the room in the roof





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Detailed

- Requirement to measure the length and width/height of each stud, flat ceiling and slope.
- Option to enter up to 2 of each
- If there are more than 2 parts then merge some together and enter the total area in the length and '1' as the height.
- Appropriate recommendations will be generated

8.1 Room in Roof

Assessment

Type

	Length	Height
Flat Ceiling 1	2.00	5.00
Flat Ceiling 2	10.00	1.00
Stud Wall 1	5.00	2.00
Stud Wall 2	10.00	2.00
Slope 1	5.00	2.00
Slope 2	0.00	0.00
Gable Wall 1	5.00	2.45
Gable Wall 2	12.00	2.45

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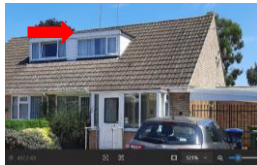
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Flat Ceiling Example





Rear Dormer
Rear $1.73 \times 1.76 = 3.04$
Added together = 6.66 entered as flat ceiling number 1
Flat ceiling 2 was an accessible loft space measuring $5.68 \times 1.90 = 10.79$

Front dormer
 $1.57 \times 2.31 = 3.62$

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Software entry

Flat Ceiling 1

	Length	Height	U-value
Flat Ceiling 1	5.68	1.90	0.21
Flat Ceiling 2	6.66	1.00	1.50
Stud Wall 1	4.58	2.28	1.50
Stud Wall 2	3.30	1.40	1.50
Slope 1	2.08	3.23	1.50
Slope 2	1.39	3.07	1.50

The 2 flat roof dormer areas have been added together and entered in the length, then the height is entered as 1

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Insulation

Enter insulation levels as seen (12mm, 25mm etc)

There is an 'as built' option if that element cannot be seen. (avoid unknown)

Options for insulation

- Mineral or EPS (Expanded Polystyrene)
- PUR or PIR

Flat Ceiling 1

Length (m)

5.68

Width (m)

1.90

Insulation

270 mm

Insulation Type

Mineral or EPS

Default U-value

0.21

U-value Known

☐

Insulation

100 mm

Insulation Type

Mineral or EPS

Default U-value

Mineral or EPS

U-value Known

PUR or PIR

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Mineral or EPS

Also choose this option for extruded polystyrene

Insulation boards Polystyrene & chipboard

Loose or cellulose

Polystyrene boards or balls

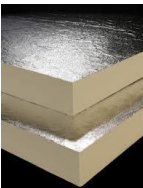
Space blankets

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Multifoil insulation



Compressed insulation boards

PUR or PIR

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GABLE ENDS

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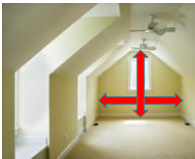


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Gable end

Assessors are required to collect the **Length and Height** (to the highest point) in most cases

Except for type 1 - where a simplified assessment is used, only the length will be required.



Field	Length	Height	Gable Type	Default U-value
Gable wall (1)	2.50	2.20	Exposed	0.45
Gable wall (2)	2.50	2.20	Party	0.25

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Gable end options

Exposed Gable

The gable end is completely exposed to the outside with no shelter



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Gable end options

Party Gable

Adjacent to heated space, which is adjacent to a neighbouring property where:

- that space appears to be either original room in the roof
- a verified loft conversion
- or dormers are visually present from the outside.



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Gable end options

Sheltered Gable

The gable is adjoining an unheated space, for example:

- A neighbouring properties loft space,
- The cold loft space of an extension



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Gable End options

Connected

If other parts of the same dwelling are connected to the room in the roof (on the same storey)



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More than 2 gables?

- In this photo there is a 'party' gable, then there is a gable at the front and one to the rear.
- Merged the closest types together.



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Example

- **Gable 1** – would be the height as shown in red, then length of the front to back wall.
- **Gable 2** – would be the width of the front gable x 2 (to account for the rear one) then the height would be the same as gable 1.



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What if there are no gable ends?

- 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



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What if there are 3 or 4 gable ends?

- We added all the gable lengths together



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Part of a gable end is sheltered?

- We have a convention for sloping sites which suggests we ignore anything that is less than 25%. Both gables would be exposed



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Unusual



Front
Common wall at the front does continue higher than 1.8

Rear
A normal RR from the rear with slopes and studs.

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OTHER CONSIDERATIONS

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Age band for roof room

Age band is same as the building part unless evidence proves otherwise. Evidence includes:

- Building Control sign-off document (e.g. certificate, letter, e-mail, online screenshot)
- Planning permission documentation/screenshot
- Online records from the local planning portal
- Architects' (dated) plans





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On paperwork we are looking for a date of application/planning permission. The property address and a description of what works were approved, ideally needs to state 'loft conversion' or similar.

Particulars and location of development :

Loft conversion with single storey rear extension and replacement of existing flat roof to single storey outbuilding



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Age band for roof room

Evidence may also include:

- 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 photograph)

Google street view has a time line



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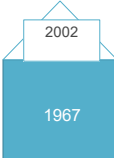
Age Band of Room in Roof

For Example:
If a House was built in 1967

Then a room in the roof is added in 2002

Homeowner has no paperwork proving that the loft was converted in 2002

The dates entered into RdSAP should be 1967 for both the main house and the room in roof.



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Single storey rooms in the roof

- RR with no dwelling space below (dwelling space belonging to your dwelling) cannot be entered as an RR, enter as:
- Timber frame construction
- include area and perimeter measurements as a normal storey (HLP includes where stud walls meet outside walls or cold roof space)
- Ceiling height 2.2m
- enter roof as pitched roof.
- Enter any gable ends as alt walls



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Over garages



RR over garage



Whole dwelling RR over a garage

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Mixed upper floor

- If the top storey has mixed roof rooms and non roof rooms, treat as a normal storey if over 50% of the floor area is normal (otherwise split into extensions).
- It is acceptable to split the RR if you feel it is the more accurate approach for your survey.



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50/50 split



From the rear



From the front

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50/50 room in the roof and normal

- We would advise to split this property in half



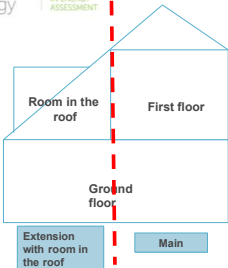
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Example



Remember one gable is 'connected to another building part'

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Windows in RR

- Window type options:
 - Window – choose for RR
 - Roof Window
- Location options:

External wall

Roof of Room in Roof

Gable wall 1

Gable wall 2

Common wall 1 for RR Type 2

Common wall 2 for RR Type 2



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Recommendations

- As stated earlier choosing the 'simplified' option will no bring up any recommendation
- Choosing 'detailed' will allow recommendations to come through.

Step 2: Room-in-roof insulation

Typical installation cost

£900 - £1,200

Typical yearly saving

£136

Potential rating after completing steps 1 and 2

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The Descriptions

- The descriptions are based on an average U value of the elements of the room in the roof (flat, sloping, stud, common walls and gable)
- Very good <0.20
- Good 0.20 - 0.50
- Average 0.51 - 1.00
- Poor 1.01 – 1.5
- Very Poor >1.5

Feature	Description	Rating
Wall	Cavity wall, filled cavity	Good
Roof	Pitched, 200 mm loft insulation	Good
Roof	Roof room(s), ceiling insulated	Average
Window	Fully double glazed	Poor
Main heating	Boiler and radiators, mains gas	Good

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Example

If you have a 3 storey property with a small overhang over the entry with a rnr above, you would need to split the part over the entry as an extension with a small rnr above.

This would then average the large gable wall with the small rnr, which potentially lead to a poor/very poor description if the gable end is exposed or sheltered.

Features in this property

Features get a rating from very good to very poor, based on how energy efficient they are. Ratings are not based on how well features work or their condition.

Assumed ratings are based on the property's age and type. They are used for features the assessor could not inspect.

Feature	Description	Rating
Wall	Solid brick, as built, no insulation (assumed)	Very poor
Roof	Roof room(s), no insulation (assumed)	Very poor
Roof	Roof room(s), limited insulation (assumed)	Poor
Window	Some double glazing	Very poor
Main heating	Boiler and radiators, mains gas	Good

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Webinar complete

Q&A time

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