Stroma Certification

Major changes in RdSAP 9.92 CPD

Updated – Feb 13th 2015

Presented by Andy Parkin

- An overview of methodology and conventions changes to RdSAP 9.92 release
- What these changes are and what they mean
- What you need to look for in the property
- Information to be captured in site notes
- How changes affect RdSAP software
The CPD is split into two sections:

- RdSAP
- Software demonstrations and future updates

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Introduction

What is RdSAP 9.92?
Introduction

A short history

- RdSAP methodology has been updated several times since its inception in 2007
- New data points added to increase accuracy and changes to technology and the industry
- Evidence requirements have changed and expanded
- RdSAP 9.91 was released in April 2012
- It brought about major changes to the EPC survey
- A top up exam was required in order to continue practicing as a DEA
- Extra data points were added and new evidence requirements introduced
- Upgrade was necessary to be ready for Green Deal and ECO
Introduction

RdSAP 9.92

• RdSAP 9.92 will be introduced on the 7th December 2014
• All lodgement software must be updated to the new methodology on this date
• RSAP+ and GWSAP (iPad) software will be upgraded
• No exam required
• Stroma Certification requires all members to grasp the new methodology
• Most of the changes in 9.92 are relevant to new OA recommendations OR allow properties to be assessed more accurately for ECO
• Most changes are minor but do require extra photos and inspection points
• Extra time on site will be minimal depending on the property and survey methods
Introduction

Key Reference Documents

RdSAP
- RdSAP Methodology Manual (re-released in December)
- RdSAP Conventions (v.7) already released – version 8 is to be released in the coming months.
- Appendix S (released in December)
- Appendix T (released in December)
- SAP 2012 (for detailed reference)

Occupancy Assessment
- Appendix V (released in December)

All documents will be available via the Stroma Members Area
Conventions Detail

- Whilst RdSAP Conventions (v.7) is already released, this only covers a number of the new conventions relevant to 9.92.

- Version 8 is to be released in the coming months. This will include all conventions covered in this presentation.

- Please note, conventions may change until v.8 release.

- Stroma will keep you informed of when the latest conventions are released.

- Stroma will continue to audit to Conventions v.7 standards, but the new 9.92 data will be audited to the specific conventions set in this presentation.
Introduction

List of changes:

- Sheltered Walls (c)
- Sloping Sites (c)
- Party Wall Lengths (c)
- Unknown Insulation can be now set as ‘As built’ for lofts and rooms in roof (c)
- High Rise Properties (c)
- Glazing Gap (c)
- Party Wall Construction (c)
- Biofuels
- Dry lining for Cavity Walls

- Community Heating/use of the Community Network Database (c)
- Time and Temperature Zone Control (c)
- Weather Compensators (c)
- Central Heating Pump (c)
- Park Homes (c)
- Age Bands
- Heating Flow Temperature (c)
- High Heat Retention Storage Heaters (HHRSH) (c)

(c) Denotes a new or amended convention
Major Changes

How will they affect the survey?
## Transaction Types

### Extra Transaction Types

- FIT application (Feed In Tariff)
- RHI application (Renewable Heat Incentive)
- ECO Assessment (Energy Company Obligation)

The DEA must choose the most appropriate transaction type for the EPC being lodged.
Party Walls
Party Wall Lengths

What is the change?

All party walls need to be measured on release of RdSAP 9.92.

- Convention 2.24 states that party wall lengths must be recorded in all cases (excl. detached properties).

What it means:

- For the first time, RdSAP 9.92 requires the DEA to enter in the total length of the party walls for each building part.

- This improves the EPC’s accuracy and takes into account the length of cavity party walls that are unfilled which create a bypass (defined in coming slides) of air from the outside environment.
Party Wall Lengths

What to look for at the property:

- External and internal assessment will allow the DEA to ascertain the location of each party wall which will then be measured and noted on the site plan/floor plan.

What to capture on site notes:

- External photos of all elevations are required and detail of party walls and their lengths must be shown on the site plan/floor plan.
Party Wall Lengths

Floor 0

Area = 3.00 x 3.30 = 42.27 m²

Height = 2.53 m

HLP = 7.80 + 4.50 + 3.00 + 3.30 + 1.20

= 19.60 m

Party Wall = 4.15 + 6.15 = 10.30 m
Party Wall Lengths: RdSAP software

- ‘Main Building and Extensions’ found on the ‘Age and Dimensions’ tab.

- New column for Party Wall length.
Party Wall Construction

What is the change?

- Party wall type must be assessed via head and shoulders inspection at the loft hatch and looking at the construction extending into the loft area.

<table>
<thead>
<tr>
<th>3.16</th>
<th>Party wall construction in loft space</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The essential property to identify is masonry construction with a cavity which could be filled. Solid masonry and other constructional types are classified as &quot;solid masonry or timber frame or system built&quot;.</td>
</tr>
<tr>
<td></td>
<td>The primary method of identification is from a view of the party wall within the loft space. With brickwork, solely stretcher bonds indicate cavity construction while stretchers and headers indicate solid wall construction. A solid blockwork wall has blocks laid flat; the pattern looks like stretcher bond but the unit size is much larger. Note that it is only the construction in the loft space that is relevant; a cavity wall can separate the dwellings themselves but change to solid in the loft space.</td>
</tr>
<tr>
<td></td>
<td>Where identification is not possible the construction is indicated as “unable to determine”.</td>
</tr>
<tr>
<td></td>
<td>The party wall should be indicated as filled cavity only where it is known to have been filled.</td>
</tr>
<tr>
<td></td>
<td>Where a property is divided into two or more building parts the party wall is assessed for each building part bounded by a party wall.</td>
</tr>
</tbody>
</table>

highlighted text added following meeting on 20 May 2014

To be reviewed on 2 Sept 2014
The convention states:

- It is important to correctly identify if the party wall is of masonry construction with a cavity which could be filled.

There are two scenarios:

1. A continuous cavity wall that is unbroken from the ground floor to top of the loft. **This is considered a bypass** - it creates heat loss through the movement of air through the cavity.

2. Solid masonry and other construction types are classified as “**solid masonry or timber frame or system built.**”

N.B. A cavity wall can separate one dwelling from the next, however this can change to solid in the loft space and **NOT** considered a bypass.
Party Wall Construction

What it means: Introducing the bypass

- Party wall identification considers potential heat loss if it is an un-insulated and continuous cavity wall.

- An open cavity allowing air to pass from below ground floor to top of the loft without interruption (an unfilled, uncapped cavity wall) is called a bypass. This will result in a higher u-value as heat can be lost more readily.

- This type of party wall acts like a chimney - cold air from below ground floor will move inside the cavity and exit at the top of the loft.

- An insulated wall will reduce this effect – therefore the u-value will be lower than an un-insulated party cavity wall.
Party Wall Construction

The below table suggests the majority of properties containing a full cavity ‘bypass’ will be found in the 1950 – 1975 period.

It is therefore important to use the age of the property as part of your thought process.

### Bypass constructions found (build date)

<table>
<thead>
<tr>
<th>Build Date</th>
<th>Bypass (cavity)</th>
<th>No Bypass (solid)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre 1900</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>1900-1929</td>
<td>34</td>
<td>56</td>
</tr>
<tr>
<td>1930-1949</td>
<td>24</td>
<td>52</td>
</tr>
<tr>
<td>1950-1965</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>1966-1975</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>1976-1982</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>1983-1990</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>1991-1995</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>1996-2002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-2006</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Party Wall Construction

Wall Type is not identifiable

- Where identification is not possible, construction should be indicated as “unable to determine”.

Reasons should be evidenced in site notes and supported by a photograph.

Examples include:

- No access to loft
- Access to loft but brick/block pattern is not conclusive or inconsistent
- Loft is converted and gable wall not visible
- Room in roof present
- Stored items cover the loft party wall
Flats and Maisonettes

- In the case of flats and maisonettes it is assumed that the construction avoids a thermal bypass.
- It is unlikely that flats and maisonettes have a continuous, unbroken cavity party wall.
- Ground and mid-floor flats have no loft inspect.
- It would be unfair to impose a u-value penalty where inspection isn't possible on these properties.

Likely impact on the EPC

- Different types of party wall will have an effect on the EER rating and heat demand figure on the EPC.

However:

- An unfilled cavity party wall will not promote a recommendation to fill the cavity, but will be selectable as a recommendation on the OA.
Table S8B: U-values of party walls for each type of party wall are below - taken from appendix S5.3.

<table>
<thead>
<tr>
<th>Party wall type</th>
<th>Party wall U-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid masonry / timber frame system built</td>
<td>0.0</td>
</tr>
<tr>
<td>Cavity masonry unfilled</td>
<td>0.5</td>
</tr>
<tr>
<td>Cavity masonry filled</td>
<td>0.2</td>
</tr>
<tr>
<td>Unable to determine, house or bungalow</td>
<td>0.25</td>
</tr>
<tr>
<td>Unable to determine, flat or maisonette</td>
<td>0.0</td>
</tr>
</tbody>
</table>
Filled Cavity Party Wall

- The party wall should be indicated as filled cavity only where it is known to have been filled.

- Evidence is required:
  - Certificate or similar documentary evidence required
  - This should be documented in site notes with a photo

- A filled cavity still has higher u-value than solid walls since air can still move in the cavity and create heat loss.

- It is highly unlikely that you find filled cavity party walls until these walls are filled via ECO or Green Deal installations.
Guidance on inspection

- All existing party walls in the main building and each extension should be inspected where possible and appropriate data entered into RdSAP (not required for detached properties).

- In this respect, this type of inspection is no different from identifying the contraction type of the external walls of the property.

- Where a property is divided into two or more building parts the party wall is assessed for each building part bounded by a party wall.

- This could promote the use of extensions in the unlikely event of different types of party wall in the same building part.
General Guidance

If the property construction is anything other than Cavity Construction, the DEA can reasonably assume that the party wall is the same as the other walls in the dwelling.

Some solid brick, stone, timber and system build properties can have cavity cross walls – so the loft party wall MUST still be assessed.

The DEA will need to determine the party wall type via loft inspection and by assessing the party wall(s) located at the gables end(s).

We will now look at examples of party walls, as seen in the loft space.
Identification

Header bond in standard brickwork (Garden wall bond); seen at 4 courses from top of image.

Mis-identification

None.

Description

Garden wall solid band was popular in older properties for both separating and external brickwork; headers are introduced at regular intervals to bond two leaves of stretchers.
Party Wall Construction: Examples of loft walls

Example of solid party wall

No bypass
Identification
A step may be visible immediately above roof joist level or at mid-way in the wall height where the construction changes.

Mis-identification
Even if the step is not visible (too low), the header courses will correctly identify this as a solid wall construction.
Party Wall Construction: Examples of loft walls

Example of cavity wall with solid wall transition

No bypass
Identification: Stretcher bond in standard brickwork.

Mis-identification: None.

Description: Two brickwork leaves are constructed adjacent to each other in stretcher bond forming a cavity.
Party Wall Construction: Examples of loft walls

Example of continuous party wall

Bypass present
### Party Wall Construction: Examples of loft walls

<table>
<thead>
<tr>
<th>Description</th>
<th>Standard concrete block is laid flat to form a solid party wall.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification</td>
<td>Block laid flat in ‘elongated’ stretcher bond; contrast proportions with standard block stretcher.</td>
</tr>
<tr>
<td>Mis-identification</td>
<td>None.</td>
</tr>
</tbody>
</table>
Party Wall Construction: Examples of loft walls

Example of solid party wall – blocks laid flat

No bypass
### Party Wall Construction: Examples of loft walls

**Description**
Two blockwork leafs are constructed adjacent to each other in stretcher bond forming a cavity.

**Identification**
Stretcher bond in standard blockwork.

**Mis-identification**
Collar-jointed blockwork; non standard 440x215x215mm blockwork.
Example of cavity party wall – blocks laid in standard formation

Bypass present
Identification
A step is usually visible 300mm above roof joist level where the construction changes.

Mis-identification
None, provided wall is examined both high and low for transition.

Description
Blocks laid flat technique for the separating wall to the storey heights. A transition to standard blockwork stretcher bond at no less than 300mm above roof joist level (permitted reduction in mass allowed).
Party Wall Construction: Decision Flow Chart

Is the brick/block bond visible in the loft space?

- Yes
  - Solid bond visible? (Type 1 wall)
    - Yes: No bypass
    - No: Record as ‘Cavity wall bypass’

- No: Enter as ‘unable to identify’
A well-lit photo of the party wall is required.

- Where required a torch should be used to increase lighting

- A photo should be taken regardless of wall type, lighting or visual issues

- Evidence must be submitted when using ‘Unable to Determine’

OR

- To prove the type of party wall present
Party Wall Construction: Site notes

Blockwork suggests cavity party wall

Solid wall (system build) party wall

Solid brick party wall
Party Wall Construction: In RdSAP

Wall Construction

Main Building

Wall Construction: Cavity

Wall Thickness Known: Yes

Wall Thickness: 310 mm

Wall Insulation: As Built

Wall Insulation Thickness: 

Dry Lining/lath and plaster: No

U-Value Known: No

U-Value: 1 W/m²K

Party Wall Construction

Alternative Wall

Solid Masonry, Timber Frame or System Built

Masonry Filled

Masonry Unfilled

Not Applicable

Unable to determine
Glazing Gap
Glazing Gap

What is it:

- The gap between the two pains of glass on a double glazed window
- Usually seen as a silver, gold or black strip

It is **not** the total thickness of the glass plus the gap between the glass (this would be the frame gap).

Glass varies in thickness making identification more difficult.
Glazing Gap

What is the change?

DEAs are required to assess and record the glazing gap for the windows in the property. This is only applicable in the following circumstances:

- Windows are Double Glazed – Pre 2002 and have PVC Window Frames

OR

- Windows are of ‘Unknown Date’ and have PVC Window Frames

Exemptions:

- Post 2002 PVC framed double glazing
- non-PVC framed windows
- Single glazed, secondary glazed or triple glazed windows, if selected will not require the DEA to enter the glazing gap thickness
**Glazing Gap**

**Convention guidance:**

| 3.15 | Glazing gap | Required for windows with PVC frames pre 2002 or unknown. Select the nearest value to 6, 12 or 16 mm. With mixed double glazing types where the most prevalent type is PVC, all windows should be measured allowing the type and glazing gap for PVC windows to be recorded for each window. |

- Convention 3.15 states that glazing gap assessment is required for windows with PVC frames pre 2002 or unknown. You should select the nearest value to 6, 12 or 16 mm.

- With mixed double glazing types where the most prevalent type is PVC, all windows should be measured allowing the type and glazing gap for PVC windows to be recorded for each window i.e. extended data.
By assessing and recording the glazing gap it will be possible to recommend replacement glazing in the associated OA (where applicable) for windows with a **12mm** glazing gap.

- If the gap is less than 12mm, replacement glazing will not fit into the gap
- Replacement glazing will only appear on an OA
- Auditors will examine photos to ascertain whether the DEA has selected the correct glazing gap thickness - the photo should be clear enough to demonstrate this
Glazing Gap: What to look for in the property and what to capture for site notes

- Carry out an estimated assessment of the window glazing gap for the windows in the property
- There is a noticeable difference between the 3 measurement types. If the gap size in the property isn’t one of the 3 types available, chose the nearest available option
- Photo evidence of at least two windows – at an angle that allows the gap to be seen
- If there is a mixture of glazing types use the ‘Extended Window Data’ fields
- Draft proofing % will then be entered as normal
Glazing Gap: What to look for in the property and what to capture for site notes

There is currently no requirement to show the measurement or buy any specialist equipment (laser or callipers). Stroma will not insist that members purchase such equipment.

There is no requirement to open windows and show measurements of the gap.
Glazing Gap: Sufficient photographic evidence

- Examples of good photography, looking down the pain of glass
- **No change to current photo requirement!**
Glazing Gap: Insufficient photographic evidence

- Examples of insufficient photography – cannot estimate gap
Glazing Gap: In RdSAP

Tick the PVC Window Frames box and then select the Glazing Gap.
There are now 4 Glazing recommendations. Two feature on the EPC;

- Measure O – Double Glazed Windows which replace single glazed windows, which is triggered when there is less than 80% multiple glazing

- Measure O2 – Triple Glazed windows (OA ONLY) – As above.

- Measure O3 – Glazing Replacement (New Measure) – this is triggered when the is at least 80% of windows are Double Glazed, with PVC frames, 12mm gap and installed before 2002 (E&W), 2003 (Scot) and 2006 (NI). This extends further on the OA as this measure can be selected when an ‘Unknown’ is selected in the EPC data.

- Measure P – Secondary Glazing – this is triggered when suppressing measure O

All are available on the EPC and OA except for O2.
Heating System Pump
What is the change?

Where a boiler (any fuel type) is connected to radiators or underfloor emitter types, the DEA needs to assess the central pump type.

These tend to be located inside the boiler (not able to inspect) or in its vicinity and can be inspected unless it cannot be located.

Software options:

- Earlier than 2012
- Later than 2013
- Unknown
Central Heating Pump: Convention

The convention states that you should include the central heating pump age as a separate pump only, and not within boiler itself.

| Central heating pump age | Separate pump only, not within boiler. Record age as unknown if cannot be seen (including pumps within the boiler). Age is 2013 or later if it has a label stating the EEI (energy efficiency index); otherwise it is 2012 or earlier. |

Record the age as ‘unknown’ if it cannot be seen (including pumps within the boiler).

The age of the pump is 2013 or later if it has a label stating the EEI (energy efficiency index), otherwise it is 2012 or earlier.
Central Heating Pump: Convention

What does it mean?

• By adding the heating system pump, RdSAP 9.92 will be more accurate

AND

• Allow an OA recommendation to upgrade the pump which will improve the efficiency of the heating system and create savings
Central Heating Pump: What to look for and what to include in site notes

Look for the pump. This is normally located near the boiler, but could be elsewhere.

A pump that is aged as 2013 or later will have a label stating the EEI – which should be visible in your photo.

A pump that is aged Pre 2012 will not have an EEI label on it – the photo should show this.

If you cannot locate the pump (it is in the boiler or cannot be located):

• Select ‘Unknown’ and reference the reason in site notes
Central Heating Pump: Photographic evidence

These do not have an EEI label and should be entered as ‘Pre 2012’
Central Heating Pump: Photographic evidence

The above are examples of ‘Post 2013’ pumps – they show the EEI rating (A-G rating)
# Central Heating Pump: In RdSAP

## Heating Systems

<table>
<thead>
<tr>
<th>Main System</th>
<th>Additional System</th>
<th>Secondary System</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heating Source</strong></td>
<td>SAP Tables</td>
<td></td>
</tr>
<tr>
<td><strong>Primary Selection</strong></td>
<td>BOILER SYSTEMS WITH RADIATORS OR UNDERFLOOR</td>
<td></td>
</tr>
<tr>
<td><strong>Secondary Selection</strong></td>
<td>Gas boilers (including LPG) 1998 or later</td>
<td></td>
</tr>
<tr>
<td><strong>Product Selection</strong></td>
<td>Condensing combi with automatic ignition</td>
<td></td>
</tr>
<tr>
<td><strong>Fuel</strong></td>
<td>Mains gas</td>
<td></td>
</tr>
<tr>
<td><strong>Flue Type</strong></td>
<td>Balanced Flue</td>
<td></td>
</tr>
<tr>
<td><strong>Emitter Type</strong></td>
<td>Radiators</td>
<td></td>
</tr>
<tr>
<td><strong>Fan-flued</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pump Age</strong></td>
<td>Unknown</td>
<td>Earlier than 2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Later than 2013</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unknown</td>
</tr>
</tbody>
</table>
Park Homes
Park Homes

What is the change?

RdSAP 9.92 removes the need to use the park homes workaround and use of Addendum 13. Specific assumptions for park homes are incorporated into the update.

For example, age bands for park homes differ from those available for other construction types.

<table>
<thead>
<tr>
<th>9.14</th>
<th>Park homes</th>
<th>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. Convention 3.08 applies to U-values. For U-values of existing park homes, documentation obtained from the manufacturer can be used. Park homes have their own set of age bands.</th>
<th>August 2014</th>
</tr>
</thead>
</table>

Park Homes

What is the change?

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.

- A park home is always detached
- There are specific age bands
- The floor is always a ground floor
- There are no insulation thickness options – elements are ‘As Built’/’Unknown’, or U-value entered
- A conservatory is possible
- The DEA will no longer need to use, nor will they be able to select, Addenda 13 – park homes
Park Homes: In RdSAP

A normal assessment should take place – The DEA should note the extra data required for windows and differences in age bands.
When selecting ‘Park Home’ the software will guide the DEA down a structured route for correct park home data entry.

- The property type is set as detached.
• Appropriate park home construction dates are available, linked to specific u-values
The DEA can still state that the walls are ‘As Built,’ or have external or internal insulation, but will not be able to select the thickness of such insulation.

When selecting ‘As built’ will then apply the u-value for the walls of the park home based on the age selected.
U-values can be overwritten, for external and internal insulation, but only if the DEA has the relevant manufactures literature as evidence or SAP u-value produced.

Floor type will be set to ‘Ground Floor’ as a park home cannot be above another property or an unheated/patricianly heated space.
Park Homes: In RdSAP

- Extended window data required
Park Homes: In RdSAP

• The DEA will must enter in the windows of the park home via the ‘Extended Windows’ data entry fields. This is because the software will preselect the ‘Much More Than Typical’ option since park homes generally have larger window to wall area.

• Windows are also inconsistently sized compared to standard properties.

• Roof data entry is then the same as a conventional property. It is likely to have a flat roof, but could have a pitched or sloping roof with insulation on the slope (rafters) or at the joist level.

• Insulation should be entered if known and can be evidenced.
Park Homes: Examples
Additional Databases

What’s in the PCDF?
Additional database: Community Heating Network

What is the change?

• An improved convention description for 4.05 introducing the phrase ‘heat generator’ (or ‘heat network’ in 9.92). An extended convention covering the use of the Community Network Database which is contained in the PCDF

• A DEA will need to ascertain whether the community system is in the database. If the community scheme system is present, it should be entered into the software via this method. If not, the DEA should describe the community heating system as per RdSAP 9.91

• The database will grow in size over time just as the PCDF boiler database continuously expands. A DEA should check the database for each survey
Additional database: Community Heating Network

What to look for:

- Usual tell-tale signs of a community system/network e.g. there is a wet system present and often heating controls, but no boiler can be located
- Pipe runs terminate outside the property

What to capture:

- Evidence of the presence of a community system/network – normally by locating the community boiler. Larger schemes are more difficult to evidence, but there may be a meter of some kind present in the property
- The charging method that the occupier pays for the heating. If they are billed then copies are sufficient evidence for both the charging method and presence of a system
- Further research may be required, the outcome of which should be provided if the EPC is called for audit
Additional database: Community Heating Network

What to do in RdSAP:

This shows the data entered for a known community network. It is selected from the product selection drop down and then by entering the Community Heat Network (CHN) database highlighted. The database currently contains test data, but real data will be added over time.
Additional database: Time & Temperature Zone Control

What is the change?

DEAs can now apply TTZC to programmable TRVs and/or TRVs that are capable of communication to a central time and temperature controller.

| TTZC (Time and Temperature Zone Control) | a. separate plumbing circuits, either with their own programmer, or separate channels in the same programmer, or  
b. programmable TRVs or communicating TRVs that are able to provide time and temperature zone control (conventional TRVs without a timing function provide only independent temperature control). In this case the device must be located in the database  
In both cases subject to conditions in SAP 94.14  
In the case of direct-acting electric systems, including underfloor heating, it can be achieved by providing separate temperature and time controls for different rooms. |
Additional database: Time & Temperature Zone Control

What it means:

- The DEA can include applicable TTZC TRVs in the EPC if they are located within the heating controls database.

- If they cannot be included, they must be ignored as TTZC and considered as normal TRVs only.

- The 50% convention for TRVs still applies.

Stroma recommends where there is a combination of regular TRVs and TTZC TRVs, that the DEA should only enter normal TRVs.
Additional database: Time & Temperature Control Zone

You need to look for:

Programmable TRVs such as those shown on the next slide. They are either:

- Capable of Time and Temperature control themselves
- Programmable and controlled by a central control system

Either way, they must be listed in the controls database to be considered as TTZC.

What to capture:

Relevant photographic evidence of TRVs that are capable of TTZC. They must also show the make and model so that the entry selected in the controls database can be quantified at auditor. If make and model cannot be photographed, suitable evidence of a user manual would suffice; however photographs of the devices themselves are still necessary.
Programmable TRVs with time and temperature control can be considered as TTZC if found in the controls database.
Additional database: TTZC examples

Non programmable TRVs – Not considered as TTZC as these only provide independent temperature control
Additional database: TTZC in RdSAP

<table>
<thead>
<tr>
<th>Main System</th>
<th>Additional System</th>
<th>Secondary System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating Source</td>
<td>SAP Tables</td>
<td></td>
</tr>
<tr>
<td>Primary Selection</td>
<td>BOILER SYSTEMS WITH RADIATORS OR UNDERFLOOR HEATING</td>
<td></td>
</tr>
<tr>
<td>Secondary Selection</td>
<td>Gas boilers (including LPG) 1998 or later</td>
<td></td>
</tr>
<tr>
<td>Product Selection</td>
<td>Condensing combi with automatic ignition</td>
<td></td>
</tr>
<tr>
<td>Fuel</td>
<td>Mains gas</td>
<td></td>
</tr>
<tr>
<td>Flue Type</td>
<td>Balanced Flue</td>
<td></td>
</tr>
<tr>
<td>Emitter Type</td>
<td>Radiators</td>
<td></td>
</tr>
<tr>
<td>Fan-flued</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump Age</td>
<td>Later than 2013</td>
<td></td>
</tr>
<tr>
<td>Control Type</td>
<td>Time and temperature zone control by device in database</td>
<td>Controls</td>
</tr>
</tbody>
</table>
A DEA should interrogate the controls database to locate the type of TTZC. The database currently contains only test data, but this will be added to over time as per the boiler database.
Additional database: Weather Compensators

What is the change?

| Weather compensators | Included only if located in database. |

- Weather Compensators can now be included in a survey
- You should only include compensators if they are located in the PDCF heating controls database, otherwise they should be excluded
- Database will grow over time
- Currently only available when linked to a TTZC control system
Additional database: Weather Compensators

What to look for:

- Look for a node on the external face of an exposed wall
- You should also find a control box inside the property. This will usually be connected to the time and temperature zone control or boiler energy manager
Additional database: Weather Compensators

<table>
<thead>
<tr>
<th>Heating Source</th>
<th>PCDF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating Type</td>
<td>Heat Pumps</td>
</tr>
<tr>
<td>Heating Fuel</td>
<td>Electricity</td>
</tr>
<tr>
<td>Brand Name</td>
<td>Mitsubishi</td>
</tr>
<tr>
<td>Model Name</td>
<td>ECODAN 8.5kW</td>
</tr>
<tr>
<td>Model Qualifier</td>
<td>PUHZ-W85VHA(2)-BS - Underfloor</td>
</tr>
</tbody>
</table>

- Weather Compensator
- Select
Additional database: Weather Compensators

You need to record appropriate photographic evidence (make and model shown) and reference in site notes. If it doesn’t appear in the database state in site notes.
Additional database: High Heat Retention Storage Heaters

What is the change?

High Heat Retention Storage Heaters can be included in an EPC with relevant controls. RdSAP 9.92 recognises 'high heat retention' storage heaters with not less than 45% heat retention according to BS EN 60531.

| 4.02 | Storage heaters | If storage heaters are present as main heating but single meter – enter as panel heaters and include addendum 6. If the storage heaters are fan-assisted or high heat retention suppress the recommendation for high heat retention storage heaters. A storage heater can be classified as high heat retention only if located in the database. If there are both high heat retention storage heaters and other types, treat as two main heating systems. |

They also include 'smart' controls such as monitoring, external and room temperatures to estimate the next day’s heat demand periods. These controls are said to make them much more responsive than traditional storage heaters.

These systems/devices can be included in the EPC if located in the Storage Heater Database.
Additional database: High Heat Retention Storage Heaters

You will need to look for examples of HHRSH and their controls. These are photos of the Dimplex Quantum Storage Heater. These are used as an example ONLY – they are not in the database yet.

Capture photo evidence of make and model. They must match the device selected in the database.
Additional database: HHRSH in RdSAP

Heating Systems

<table>
<thead>
<tr>
<th>Main System</th>
<th>Additional System</th>
<th>Secondary System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating Source</td>
<td>SAP Tables</td>
<td></td>
</tr>
<tr>
<td>Primary Selection</td>
<td>ELECTRIC STORAGE SYSTEMS</td>
<td></td>
</tr>
<tr>
<td>Secondary Selection</td>
<td>Off-peak tariffs</td>
<td></td>
</tr>
<tr>
<td>Product Selection</td>
<td>High heat retention storage heaters</td>
<td></td>
</tr>
<tr>
<td>Fuel</td>
<td>Electricity</td>
<td></td>
</tr>
</tbody>
</table>

Storage Heat
The spec for RdSAP allows up to four different types of heater to be added – using the ‘Add’ button.
Additional database: HHRSH in RdSAP

HHRSH can be selected in the ‘Product selection’ dropdown (as can their controls - see below). Select the appropriate make and model from the storage heater database via the highlighted button.

- Once located, a DEA can add as many as required using the ‘Add’ button
- Multiple devices can also be added (up to 4 types)
- Specific controls for HHRSHs can also be added
Minor Changes

These changes won’t occur on every survey - but you should know when to implement them
Other minor changes: Sloping Sites

What is the Change?

The ability to enter data into the software, taking into account that an elevation may not be entirely a heat loss wall for its full height across its full length.

| 2.23 | Sloping sites | Where an individual wall (elevation) is not heat loss 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 3c.

The “effective heat loss perimeter” of the individual wall is then included in the heat loss perimeter of the building part. | August 2014 |
Other minor changes: Sloping Sites

• Any property featuring a sloping site will need to be more accurately modelled by applying one of the four routes outlined in convention 2.23

• It is likely that the DEA will have to use route 3 or 4 depending on the availability of documentary evidence or an easy method of measurement
Other minor changes: Sloping Sites

What to look for in the property:

- This should be evident from external inspection of the property, though it may not always be the case.

- Sloping sites need to be accurately shown on site plan and site notes – an auditor should be able to calculate this from your notes.

- Providing photos that show the slope would also be helpful.
Other minor changes: Sloping Sites

There is no specific data entry section for this change however a sloping site will impact the Heat Loss Perimeter and Party Wall Length

In the example the party wall is marked with the red line
Other minor changes: Sloping Sites

Working example of how to estimate a sloping site. This represents the PARTY WALL on the GROUND FLOOR.
Other minor changes: Sloping Sites

Example of more than 75% exposed
Other minor changes: Sloping Sites

Example of more than 75% exposed
Other minor changes: Sloping Sites

Example of more than 25% exposed but less than 75% exposed.

Input as 50% exposed
Other minor changes: Unknown insulation set to ‘As Built’

This convention alteration allows a DEA to enter the loft insulation as ‘As Built’ in line with the wall insulation. This change has been made to prevent the use of unknown data where the loft insulation (loft and room in roof) is actually unchanged from the property’s as-built state.

| 3.03 | “Unknown” insulation (walls, floors, roofs) | This convention refers unknown insulation not unknown insulation thickness. Do not use the “unknown” option for insulation inappropriately as this automatically suppresses any insulation recommendation; assume as-built where available if no evidence of retro-fitted insulation, including:

1. a pitched roof with sloping ceiling insulation or a flat roof where there is no documentary evidence.
2. a roof with rafter insulation where the insulation thickness cannot be measured
3. roof rooms where there is no access and no documentary evidence.

“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 loft unless 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 and no doc evidence
- where there is evidence of insulation (visual or documentary), but the thickness cannot be determined

In these cases clarification must be provided in site notes. | March 2010 |
Other minor changes: Unknown insulation set to ‘As Built’

This is particularly relevant to ECO and Green Deal surveys.

Currently, entering an ‘Unknown’ value for insulation in the loft space will suppress any relevant loft insulation recommendation which would otherwise be of benefit to the homeowner/occupant.

Using as built appropriately will allow insulation to be recommended.

N.B. Loft inspections should still take place where ever possible.

N.B. Photographic evidence is still required of limitation, insulation and party walls.
Other minor changes: Unknown insulation set to ‘As Built’

Use of ‘Unknown’

As with other areas of the property, an ‘unknown’ should only be used;

- when there is conflicting evidence (inspection and/or documentary) of added insulation whose presence cannot be ascertained conclusively

- for a fully boarded loft unless 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 and no documentary evidence

- where there is evidence of insulation (visual or documentary), but the thickness cannot be determined
Other minor changes: Unknown insulation set to ‘As Built’

Use of ‘Unknown’

- The loft is more than 50% boarded, some insulation can be seen, but it is impossible to inspect under boarded areas
  - In this instance, the property can be split into a main and extension. The main has known insulation and the extension is boarded with ‘unknown’ insulation.
Other minor changes: Unknown insulation set to ‘As Built’

Appropriate use of ‘As Built’

As built loft insulation can be applied when there is no evidence of retro-fitted insulation, including:

- a pitched roof with sloping ceiling insulation or a flat roof where there is no documentary evidence.
- a roof with rafter insulation where the insulation thickness cannot be measured
- roof rooms where there is no access and no documentary evidence.
  - Remember, a room roof age can only be used if supporting evidence is available

The above must backed up with suitable photographic evidence.
Other minor changes

If you can record loft insulation:

- Evidence the correct level of insulation observed
- Insulation levels above 300mm can now be added
  - 300mm
  - 350mm
  - 400mm +

Please remember:

- Photographic evidence of the thickness is still required
- In all instances (using unknown, as built or a known thickness, suitable site notes must be made, backed up with suitable photographic evidence.
Other minor changes: High Rise Properties

This isn’t a change in 9.92 specifically, but a new convention change allowing DEAs to take wall type (rather than the superstructure of the building) into account in relation to heat loss.

This is a requirement for ECO surveys.

In instances of HTT Cavity, it will result in more £’s per tonne of carbon for GDIs.
Other minor changes: High Rise Properties

It is likely that a high rise block of flats will be made of steel and concrete – however the curtain wall - between the steel frame and concrete - will be the parts mostly involved in heat loss processes.

Look for large areas of stretcher brick bond covering the whole building or significant areas of cavity construction.

Provide suitable photographic evidence to support your data entry. Normal data entry applies – there are no new parameters. Ensure you include Addenda 1.

<table>
<thead>
<tr>
<th>AddendumNo</th>
<th>Circumstances</th>
<th>Addenda Text (Shown on the EPC)</th>
<th>Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wall type does not correspond to options available in RdSAP</td>
<td>The dwelling has a type of wall that is not included in the available options. The nearest equivalent type was used for the assessment.</td>
<td></td>
</tr>
</tbody>
</table>
Other minor changes: High Rise Properties

Examples of high rise buildings with cavity walls
Other minor changes: Sheltered Walls

What is the change?

Where a sheltered wall is present, DEAs must enter as an alternative wall and mark as ‘sheltered’.

It also provides the DEA with the ability to have more than one sheltered wall within a property, useful when the wall type changes across a corridor’s length.

- Normal processes are applicable
- There may be a difference in the wall construction type between main wall and the sheltered corridor wall. This should be adequately covered in your site notes along with photographic evidence.
### Other minor changes: Sheltered Walls

**What is the change?**

| 2.03 | Sheltered wall length (unheated corridors) | Include in the heat loss perimeter. When a dwelling (flat or maisonette) has a sheltered wall to an unheated corridor on more than one storey 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).** |
| 2.13 | Alternative wall | In determining whether an alternative wall is applicable the significant features are construction type, dry lining, age band, insulation and whether sheltered by unheated corridor.

**A sheltered wall between the dwelling and an unheated corridor or stairwell is always an alternative wall.**
Other minor changes: Sheltered Walls – site note and software

- You will need to take a photo of the unheated corridor and mark it on your site plan.

Wall area greyed out for sheltered alternative walls - the software does the calculation.
Other minor changes: Age Bands

A new date band has been added to reflect changes in building regulations since 2012.

Normal dating guidance applies – justification for making the choice is required.

This really is included to assist ECO and GD.
Other minor changes: Heating Flow Temperature

An option to select the flow temperature of the heating system if known and can be evidenced.

Convention 4.01 in RdSAP 9.91 forces the DEA to ignore underfloor heating if radiators are present usually the radiators are upstairs and of a high surface area/highly efficient variety.

The convention also now allows the DEA to enter the flow temperature and include the underfloor heating IF the system has been designed and commissioned as such.

This applies in properties where the main heating is provided by a condensing boiler or a heat pump (ASHP or GSHP).

Inclusion relates to ECO and RHI schemes where this information could be pertinent.
Other minor changes: Heating Flow Temperature

What to capture:

- The flow temperature MUST be known and evidenced.

- Documentary evidence of the design of the system must be obtained - in this scenario, a DEA is able to select ‘Underfloor Heating Emitters’ rather than being forced to select radiators.

- It is likely that these details will not be known OR the DEA will not be able to gather sufficient evidence to prove the flow temperature. In this scenario, the DEA must enter ‘Unknown’.

- Temperature outputs on a combi boiler are not sufficient evidence for recording the Heating Flow Temperature.
Other minor changes: Heating Flow Temperature
Other minor changes: Sloping Ceiling

RdSAP 9.92 allows the DEA to choose ‘Pitched Roof - Sloping Ceiling’ in addition to other roof types

- This will be used for vaulted ceilings or warm roofs
- Select the option in the drop down
- Select the level of insulation – if known and can be measured and photographed or if documentary evidence is available
- Use ‘As Built’ if no evidence is available
Other minor changes: Sloping Roof
Minor data input changes
Other data input changes

- **Electric Meter Types** - An extra option is available for properties where an 18 Hour Tariff meter is present. Billing evidence may be required.
Other data input changes

- **MCS Installed Heat Pump** (via PCDF choice) - Where a DEA is able to input a Heat Pump via the PCDF there is a tick box to state whether this was done via an MCS installer.

If this is the case, then the DEA should remember to tick the MCS box highlighted in red.

This is for RHI purposes.
Other data input changes

- **Photovoltaics extra data**

If the details are known on a present PV system, the DEA should select whether the PV system is connected to the main (via the meter) or not.

Stroma recommends that the DEA takes photos where the PV input cable enters the meter, or the wiring diagram adjacent to the inverter, consumer unit or meter. Most PV arrays are connected to the meter.

The tick box below the PV data entry section is key to this new data. Do not forget to tick it if the PV array is connected to the mains meter. **It is likely to be the case.**

This data is related to FIT.
Other data input changes

A photo of the main electric meter would still be sufficient for this evidence requirement
Other data input changes

- **Solar Hot Water** – Extra data, where known

Where details for a Solar Hot Water system are known, the DEA can now add the shower type(s) in the property:

- Electric
- Non-Electric
- Both – electric and non-electric
- None

The DEA should also enter in the Collector 2\textsuperscript{nd} Order Heat Loss Coefficient – if the collector details are known.

Data entry remains tick box only if no other details are known.
### Other data input changes

**Water Heating & Cylinder Details**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collector Zero Loss Efficiency</td>
<td>0.9</td>
<td>%</td>
</tr>
<tr>
<td>Collector Linear Heat Loss Coefficient</td>
<td>0.6</td>
<td>W/m²K</td>
</tr>
<tr>
<td><strong>Collector 2nd Order Heat Loss Coefficient</strong></td>
<td>0.01</td>
<td>W/m²K</td>
</tr>
<tr>
<td>Tilt</td>
<td>45 Degrees</td>
<td></td>
</tr>
<tr>
<td>Orientation</td>
<td>South</td>
<td></td>
</tr>
<tr>
<td>Overshading</td>
<td>None or Very Little</td>
<td></td>
</tr>
<tr>
<td>Solar Water Pump</td>
<td>Electrically Powered</td>
<td></td>
</tr>
<tr>
<td><strong>Shower Type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non Electric</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Shower</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Other data input changes

Cavity Walls can now have dry lining applied

• This is the same process as solid walls
  • Tapping on inner wall lining
  • This has an effect on the u-value as it now includes the air gap between the plaster and inner brick
### Other data input changes

There is a new fuel type available for heating systems;

- **Biogas**
- This can be chosen when selecting an applicable heating system (community heating etc.)
- This is likely to be from sewage or landfill sources

#### Heating Systems

<table>
<thead>
<tr>
<th>Main System</th>
<th>Additional System</th>
<th>Secondary System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating Source</td>
<td>SAP Tables</td>
<td></td>
</tr>
<tr>
<td>Primary Selection</td>
<td>COMMUNITY HEATING SCHEMES</td>
<td></td>
</tr>
<tr>
<td>Secondary Selection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Selection</td>
<td>Community boilers only</td>
<td></td>
</tr>
<tr>
<td>Fuel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>heat from boilers – mains gas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>heat from boilers – LPG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>heat from boilers – oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>heat from boilers – B30D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>heat from boilers – coal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>heat from electric heat pump</td>
<td></td>
<td></td>
</tr>
<tr>
<td>heat from boilers – waste combustion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>heat from boilers – biomass</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>heat from boilers – biogas (landfill or sewage gas)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>waste heat from power station</td>
<td></td>
<td></td>
</tr>
<tr>
<td>heat from CHP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>From Heat Network Data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>heat from boilers – biomass (any source)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>heat from biodiesel (vegetable only)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Changes to Occupancy Assessment
The major changes come in the back end which is designed to allow a GDP to manipulate the recommendations included on the final GDAR (specifically the OA report).

- **The GDA will no longer be able to specify the thickness or extent of the recommendations included**

For example if including external SWI added to an OA, the GDA will no longer be able to specify the percentage of wall area that is insulated and to what thickness.

This information will be added by the GDP when setting the work specification and creating a Green Deal Plan.

Appendix V contains a number of new recommendations available on the OA – if applicable to the property.

- The main changes are detailed in the Guide to RdSAP Changes 9.92
- Each DEA should ensure that they have read Appendix V
Changes to Occupancy Assessment

<table>
<thead>
<tr>
<th>Item</th>
<th>Measure</th>
<th>To be offered when existing dwelling has:</th>
<th>Improvement for OA Assessment (GDAR)</th>
<th>Improvement options for GDIP</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>B4</td>
<td>Party wall insulation</td>
<td>Unfilled party walls</td>
<td>U-value of party walls 0.2</td>
<td>none</td>
<td>Not if party wall construction is unknown</td>
</tr>
<tr>
<td>E2</td>
<td>Energy efficient luminaires</td>
<td>Suitable fittings identified by Green Deal Advisor</td>
<td>- number of fittings to be removed</td>
<td>none</td>
<td>Usage per day (to nearest quarter hour) and days per year as indicated by the household. Improvement not applicable to an unoccupied property</td>
</tr>
<tr>
<td>L2</td>
<td>Fan-assisted storage heaters (high heat retention)</td>
<td>GDIP only</td>
<td>High heat retention storage heaters (409, controls 2434), secondary heating in living room (691) if no existing secondary heating. Otherwise as L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EP</td>
<td>Circulation pump</td>
<td>Existing pump is 2012 or earlier (or either system if there are two) and heating system as a w:u system</td>
<td>New pump, 2013 or later</td>
<td>none</td>
<td>Not if existing pump is of unknown age</td>
</tr>
<tr>
<td>Y</td>
<td>Instantaneous waste water heat recovery</td>
<td>Dwelling has a mixer shower (or mixer shower is indicated in the OA data) and no WWHRs</td>
<td>Add instantaneous WWHRs for each shower.</td>
<td>none</td>
<td>If mixer shower is indicated in the OA data but not in the RdSAP data, set GHb&amp;FH in equation (9) equal to 1</td>
</tr>
<tr>
<td>Y2</td>
<td>Storage waste water heat recovery</td>
<td>Any property without WWHRs</td>
<td>If water heating is any of: combi boiler - CHPU - heat pump - micro-CHP with integral DHW vessel - instantaneous water heater - community heating add storage WWHRs with separate store. In other cases add storage WWHRs with combined store. Dedicated storage volume is: - if separate, 30 litres - if combined, one third of the total cylinder size rounded to the nearest litre</td>
<td>none</td>
<td></td>
</tr>
<tr>
<td>O3</td>
<td>Glazing replacement</td>
<td>At least 80% of windows are double glazed with PVC frames and 12 mm gap installed before 2002 (E6&amp;W) or 2003 (Scotland)</td>
<td>Replace double glazed units with new units giving whole-window values of U = 1.0 and g = 0.74</td>
<td>none</td>
<td>Improvement is applied to all eligible windows</td>
</tr>
</tbody>
</table>

New recommendations available on the OA

All relate to changes in RdSAP data entry

Please note that L2 (storage heaters with high heat retention) are available on the EPC, but are converted to measure L on the OA.

L2 is then only available on the GDIP.
## Changes to Occupancy Assessment

<table>
<thead>
<tr>
<th>E2</th>
<th>Energy efficient luminaires</th>
<th>Suitable fittings identified by Green Deal Advisor</th>
<th>Usage per day (to nearest quarter hour) and days per year as indicated by the householder.</th>
</tr>
</thead>
</table>
|    |                               | ▪ number of fittings to be removed  
▪ number of new fittings  
▪ average wattage of existing fittings (in watts, nearest whole number)  
▪ average wattage of new fittings (in watts, nearest whole number)  
▪ usage per day  
▪ number of days per year  
See note 5.  | Improvement not applicable to an unoccupied property. |

The major change above requires the GDA to enter extra data if E2 is to be recommended and the **Occupancy is known**.

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Changes to Occupancy Assessment

The GDA will need to enter:

- The number of fittings to be removed
- The number of new fittings to be added
- The average wattage of the existing fittings (total wattage/the number of fittings)
- The average wattage of the new fittings (total wattage/the number of fittings)
- Usage (hours) per day – this may be very difficult to ascertain
- Days per year - Number of days the lights are used per year

Note 5 in the updated OA document covers this calculation

Note 5: Improvement E2 (energy efficient luminaires)
## Changes to Occupancy Assessment

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- **E2**
- **Fittings to be removed**
- **New fittings being added**
- **Average wattage of existing fittings (W)**
- **Average wattage of new fittings (W)**
- **Usage per day**
- **Days per year**
Changes to Occupancy Assessment

For standard occupancy

The saving is the difference in total cost as a result of amending the light fittings.

For actual occupancy:

1. \( W_1 = \text{number of fittings to be removed} \times \text{average wattage of existing fittings} \)
2. \( W_2 = \text{number of new fittings} \times \text{average wattage of new fittings} \)
3. Saving in kWh/year = 0.001 \( \times 0.8 \times (w_1 - w_2) \times \text{hours per day} \times \text{days per year} \)
4. Instead of the result from SAP Appendix L, the annual lighting energy is that calculated before application of improvement E2 less the saving calculated at step 3
5. The value obtained at step 4 is used for the annual lighting energy when calculating all subsequent improvements. This is for actual occupancy only
RdSAP Conversion
9.91 to 9.92
Converting RdSAP 9.91 data for 9.92

Assessments prior to the release of v9.92 should be lodged on v9.91.

When the RdSAP data is retrieved from the Landmark register it will treated as RdSAP 9.92 data.

When the RdSAP data is retrieved from the Scottish register it is returned in its original form.

The items highlighted should be modified as indicated to allow lodgment under 9.92.

1. Party wall construction. Not applicable if a detached property, otherwise “pre-9.92 survey.” Set all party wall lengths to 0. See note on further slide.

2. Dry lining for cavity walls is "no."

3. If Roof Insulation Thickness is 300mm+, change to 300mm.

4. If there is a room-in-roof with insulation set to none/no insulation, set the insulation to ‘As Built’. 
5. PVC window frames. **Set to not PVC if applicable i.e. multiple glazing before 2002 or unknown install date.** This applies both to the dwelling as a whole when all windows were not measured and to individual windows when all windows were measured.

6. **Central heating pump age:** Unknown.

7. **MCS installed heat pump:** Yes.

8. **Design flow temperature of heat generator (where relevant):** Unknown.

9. Solar collector details (where recorded in the incoming data set). Set the collector linear heat loss coefficient \( (a_1) \) equal to the collector heat loss coefficient in the incoming data and **set the 2nd order coefficient \( (a_2) \) equal to 0.01.**
10. **Shower type** (needed when solar collector details are known) is "both shower types."

11. **Waste water heat recovery**, if present, is the instantaneous type. If it has two systems and the second system is not System B, delete the second system.

12. **PV** - if present, taken as connected to dwelling's electricity meter.
Converting RdSAP 9.91 data for 9.92

Party walls

The party wall type "pre 9.92 survey" applies to data read when the original data was collected using RdSAP 9.91.

It does not appear as an option for party wall construction in RdSAP 9.92 i.e. DEA cannot select it. Only one of the other party wall options can be selected.

Note: Zero length (summed over all building parts) should cause a UI error except:

- When the party wall construction is not applicable for all building parts (meaning there is no party wall)
- When the party wall construction is pre-9.92 survey

In calculations by RdSAP 9.92, no party wall loss is included if the RdSAP data was collected using 9.91.
Conclusions

• Not all changes apply to all property's

Some of the changes will have an impact on your survey routine on all properties:

- Party wall length and identification *
- Glazing Gap
- Heating System Pump *
- Transaction type
- Heating flow temperature (mostly unknown) *
- Changes to loft insulation conventions *

Extra documentary evidence will be required on the above marked with *
Conclusions

Stroma requires all of its domestic members to adhere to the new methodology and convention changes. Members must ensure that they capture enough evidence to comply with audit requirements.

Remember, remember the 7th of December - RdSAP v9.92 is released!
Questions

We will also compile a FAQ from these sessions and will share these with all members VIA the members area on www.stromamembers.net

If you prefer, please send any questions to domestic@stroma.com
Contacts / Helpful Links

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