

## LABSS INFORMATION PAPER INFOP20 - 2018 Version 1 – 21 June 2018

### **Building (Scotland) Regulations 2004 Explanatory Notes for replacement Conservatory Roofs including when associated with a Registered Detail**

Applicable to Works to replace existing Translucent Roofs with fully insulated Solid Roofs to Conservatories attached to dwellings

**THIS PAPER SHOULD BE READ WITH THE BSD PUBLICATION –  
Conservatories Guide 2nd edition Version 2.0 Revision 2.1  
published on 26 November 2015**

#### **BACKGROUND**

Refer to BSD PUBLICATION – Conservatories Guide 2nd edition Version 2.0 Revision 2.1  
published on 26 November 2015 – link <http://www.gov.scot/Resource/0048/00489870.pdf>

#### **STRUCTURE – SECTION 1**

**What are the structural implications associated with replacing a translucent roof with a solid roof?**

#### **REPLACEMENT ROOF STRUCTURE**

Mandatory Standard 1.1 –

When accompanied by a Registered Detail ALL elements of the roof structure, including the ring beam supporting the roof, but excluding the lower walls supporting structure (and foundations), will have been structurally certified and accepted for compliance under the published Registered Detail Certificate.

#### **FOUNDATION ARRANGEMENTS**

Mandatory Standard 1.1 –

Clarify the proposed base and/or foundation arrangements relative to the existing conservatory or stand-alone building showing full and detailed compliance with Standard 1.1 (site specific).

- In some instances, it may be necessary to carry out extensive remedial works to ensure adequate foundation support. (In real terms, such remedial works are unlikely to be necessary)

#### **EXTERNAL WALLING SUPPORT TO REPLACEMENT ROOF**

Mandatory Standard 1.1 –

- Clarify the proposed external walling arrangements relative to the existing conservatory or stand-alone building showing full and detailed compliance with Standard 1.1 to meet the loading conditions required by the replacement roof. (site specific).
- Cognisance should be taken of the suitability of any ring beam at wallhead level and its capability of taking a new solid roof structure.
- In some instances, it may be necessary to carry out extensive remedial works to ensure adequate external wall support.

**Applicants/developers should be aware that, confirmation of a holistic approach to the structural adequacy of the entire completed building provided by a registered engineer (SER) to the LOCAL**

**AUTHORITY within whose area the conservatory or stand-alone building is to be altered, will be required should the verifier request it.**

**Due cognisance must be taken of all loading factors, including the potential for increased snow loads where the new roof is fully insulated and snow build up conditions will change. This should be carefully checked against the design criteria adopted for any Registered Detail. Where there is any doubt, the verifier should request an SER Certificate for the entire completed building on any site-specific submission with or without a Registered Detail for the roof structure.**

## **FIRE – SECTION 2**

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**What checks are needed to confirm compliance with Section 2: Fire?**

### **INTERNAL LININGS / NEW SURFACES**

Mandatory Standard 2.5 – the internal surfaces of the roof element exposed within the room must restrict the development of fire and smoke. These are normal checks when any internal lining is being replaced.

### **EXTERNAL SURFACE FINISHES TO NEW ROOF FINISHES**

Mandatory Standard 2.8 – the vulnerability of the roof covering requires minimum distances from boundary. These are normal checks when any external roof surface is being replaced.

### **MEANS OF ESCAPE FROM INNER ROOM**

Mandatory Standard 2.9 – means of escape from inner room

This is essentially a no worsening situation in that the existing conservatory could have / will have already created an inner room. However, should the design require or the homeowner wish to alter the existing inner room by the provision of new windows (see Standard 3.16) then they should be designed to meet the requirements of Standard 2.9.

## **ENVIRONMENT – SECTION 3**

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**What checks are needed to confirm compliance with precipitation and interstitial condensation?**

### **PRECIPITATION**

Mandatory Standard 3.10 –

A floor, wall, roof or other [building](#) element exposed to precipitation, or wind driven moisture, should prevent penetration of moisture to the inner surface of any part of a [dwelling](#) so as to protect the occupants and to ensure that the [building](#) is not damaged.

The checks here extend only to the “new roof” elements. (unless of course, the applicant decides to change other existing elements when carrying out the replacement roof works).

**NOTE: When a Registered Detail is available for the replacement roof these compliance matters will have been assessed and accepted under the published Registered Detail.**

### **CONDENSATION**

Mandatory Standard 3.15 –

A floor, wall, roof or other [building](#) element should minimise the risk of interstitial condensation in any part of a [dwelling](#) that it could damage. Walls, roofs and floors should be assessed and/or [constructed](#) in accordance with Section 8 and Annex D of BS 5250:2002.

The checks here extend only to the “new roof” elements. (unless of course, the applicant decides to change other existing elements when carrying out the replacement roof works).

**NOTE: When a Registered Detail is available for the replacement roof these compliance matters will have been assessed and accepted under the published Registered Detail.**

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## ENVIRONMENT – SECTION 3

**What is the impact on ventilation to rooms covered by the conservatory with a solid roof?**

### VENTILATION OF INNER ROOM

The Local Authority verifier shall assess the effects on an inner room of any change in the conservatory or stand-alone building, viz-a-viz, the provision of a solid roof, and shall require compliance with ventilation standard specified under Standard 3.14, if, as a direct result of the alteration works the ventilation of the internal room is less effective than before. Any existing system disadvantaged by the work may require to be altered to ensure supply and extracted air is still to the outside air.

NOTE: This consideration is ALWAYS a site-specific matter and can only be assessed on a site by site basis. This is applicable even if a Registered Detail is in place for the replacement roof element.

Clause 3.14.7 requires that an extension, which a “solid roofed conservatory” would become, may be built over a window (or other ventilator – patio doors etc) to an inner room but when this happens a new ventilator must be provided to the inner room.

Where this is not practicable, e.g. where there is no external wall, the new extension should be treated as part of the existing internal room by removing the thermal divide separating the extension (the original “conservatory”) from the inner room. Since the extension will be more airtight than the original conservatory and, consequently, the rate of air change will be compromised.

The opening created between the 2 parts of the room should have an area of not less than 1/15th of the total combined area of the existing internal room and the extension.

**In this event, with the thermal divide removed the thermal impact is made much worse than from the existing “conservatory” structure (See Section 6 below)**

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## ENVIRONMENT – SECTION 3

**What is the impact on natural lighting to rooms covered by the conservatory with a solid roof?**

The Local Authority verifier shall assess the effects on an inner room of any change in the conservatory or stand-alone building, viz-a-viz, the provision of a solid roof, and if, as a direct result of the alteration works the natural lighting of the internal room is less effective than before, the verifier shall require compliance with natural lighting standards specified under Standard 3.16.

If a new window/glazed door can be provided (in another external wall – or one already exists) then the thermal divide can be retained which means that the thermal impact is equivalent or improved from the existing “conservatory” structure.

Where this is not practicable, e.g. where there is no external wall, the new extension should be treated as part of the existing internal room rather than the creation of a separate room and if the extension and inner room require to be made into one, a glazed door/screen should not be fitted in the opening between the two.

**With the thermal divide removed the thermal impact is made much worse than from the existing “conservatory” structure (See Section 6 below)**

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## **ENERGY – SECTION 6**

### **What is the minimum U-value for a replacement solid roof to the conservatory?**

The replacement solid roof should always be constructed with a U-value of 0.18 W/m<sup>2</sup>K which satisfies Guidance Clause 6.2.9, Table, Column (b) for insulation which is installed at rafter level. In meeting this criterion, compliance with Guidance Clauses 6.2.6, 6.2.7, 6.2.11, 6.2.12 and 6.2.13 will be achieved.

### **Is it ever necessary to consider and implement an upgrading of the existing floors and walls of the existing conservatory having a solid replacement roof installed?**

When the alterations comprise simply a change in the roof construction from translucent to solid and

- there is no change in the thermal divide between the stand-alone solid roof extension and the remaining house (i.e. the thermal divide is kept), and
- no need to create an opening to meet ventilation and natural light needs)

**then there is no need to upgrade the existing walls, floors or glazing.**

### **BUT**

When the alterations comprise a change in the roof construction from translucent to solid and

- there is a change in the thermal divide between the stand-alone solid roof extension and the remaining house (i.e. the thermal divide is removed), (this may be required to meet natural light or ventilation requirements to the inner room) and
- there is a need to create an opening to meet ventilation and natural light needs)

**then there is a need to seek full compliance for the existing walls, floors or glazing**

**NOTE: This consideration is ALWAYS a site-specific matter and can only be assessed on a site by site basis. This is applicable even if a Registered Detail is in place for the replacement roof element.**

**IN SUCH CASES YOU SHOULD SEEK ADVICE FROM YOUR LOCAL BUILDING STANDARDS SURVEYOR IN THE LOCAL AUTHORITY WHERE YOUR PROJECT IS LOCATED**

## ALTERNATIVE APPROACH TO MEETING THERMAL NEEDS CAUSED BY CHANGES TO THE BUILDING BY CHANGING OR LOSING THE THERMAL DIVIDE BETWEEN AN EXISTING CONSERVATORY AND THE MAIN HOUSE

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In this case when considering upgrading to achieve full compliance, an alternative approach would be to seek compensatory building fabric improvements, such as additional roof void insulation, cavity wall insulation, etc elsewhere in the property to offset the “deficiencies” in the altered conservatory. Cognisance should always be taken of the improvement in the thermal value of the solid roof.

### INTERPRETATION

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#### Clause 6.2.12

**Thermal division** - a [conservatory](#) should be thermally divided from a dwelling, being outwith the [insulation envelope](#) of the [dwelling](#). The dividing elements (e.g. wall, door, window) should have [U-values](#) equal or better than the corresponding exposed elements in the rest of the dwelling.

**U-values** - although [conservatories](#) are attached to [dwellings](#), they are [stand-alone buildings](#). Where not exempt, a [conservatory](#) (heated or unheated) should be built to the same maximum [U-values](#) as any other new work, as listed in columns (b) and (c) of the table in clause 6.2.9, with the exception that glazing and framing elements forming the walls or roof of a [conservatory](#) are unlimited in area and should have a maximum area-weighted average [U-value](#) of 2.0W/m<sup>2</sup>K and a maximum individual element [U-value](#) of 3.3W/m<sup>2</sup>K.

#### Clause 6.2.13

**For heated *stand-alone buildings of less than 50 m<sup>2</sup>***, the fabric values identified in columns b and c of the table to clause 6.2.9 and clause 6.2.10 should be followed. *U-value* recommendations should be met, though it should be noted that the area of *glazing* is not limited. This allows, for example, a *dwelling* to be extended to create a highly-glazed *stand-alone building* such as a sunroom, with glazing in excess of the limits identified in clause 6.2.9.

There is no limit on the amount of glazing to a stand-alone building and there is only a marginal difference in the U-value of the glazing in a stand-alone building (1.6W/m<sup>2</sup>K) (2.0W/m<sup>2</sup>K for conservatory). However, when the alteration results in an extension there are limits to the area of glazing – 25% of the floor area of the extension (plus the area of any removed glazing or openings) see Section 3 above