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Energy Companies Obligation (ECO): Supplementary Guidance on Hard-to-Treat Cavity Wall Insulation

Background to this Guidance

This document provides supplementary guidance in relation to specific categories of hard-to-treat cavity wall insulation under the Energy Companies Obligation (ECO) and should be read in conjunction with the *ECO Guidance for Suppliers (Version 1.1)*. ECO is an energy efficiency scheme that places obligations on larger energy companies to deliver energy efficiency measures to domestic households. Ofgem is responsible for the administration of the scheme; the Department of Energy and Climate Change is responsible for the policy.

On 27 August 2013 we published a consultation document seeking views on our proposed requirements under ECO for demonstrating the characteristics of a hard-to-treat cavity wall (HTTC) to which insulation has been installed.

The consultation put forward proposals to address concerns that a significant number of HTTC measures installed under ECO may have been installed to cavity walls that do not meet the statutory definition of 'hard to treat cavity'. The consultation closed at 1pm on 24 September 2013. A high number of responses were received. The key points raised by those responses and the changes made to our proposals as a result are detailed in the Response to Consultation document.

Additional requirements for demonstrating the characteristics of hard-to-treat cavity walls

The main requirements introduced by this supplementary guidance are outlined below.

Narrow cavities

A Narrow HTTC Declaration (Appendix 1, or an approved equivalent, see paragraph 2.17) must be completed for all narrow HTTCs. The declaration must show that:

a. The cavity width has been measured in accordance with the methodology in Chapter 2; and

b. The measurement of the cavity width and the completion of the declaration has been conducted in accordance with one of the options in Chapter 2.

Chartered surveyor report for HTTCs

All HTTC measures notified to Ofgem as remedial works, non-standard materials or techniques, or uneven stone, must be identified as such in a report by a chartered surveyor, using the template provided in Appendix 2 or an approved equivalent, see paragraph 3.4.

Chartered surveyor reports must be completed either through a site visit or through a desk-based exercise using a robust body of evidence. In a minimum of 20 percent of cases the report should be based on a site visit undertaken by the chartered surveyor.

Technical Monitoring

An additional 5 percent technical monitoring will apply to the following categories of HTTCs:

- narrow cavities;
- cavities requiring substantial remedial works;
- cavities requiring non-standard materials or techniques.

This technical monitoring should be conducted at the pre-installation or mid-installation stage. As an exception, for narrow cavities only, suppliers may choose to conduct a proportion of the additional technical monitoring at post-installation stage; this must include measurement of the cavity width.

Date of effect

The requirements in this document take effect for installations completed from 1 January 2014.

Contents

1. Treatment of Hard-to-Treat Cavities 4
Introduction 4
Hard-to-treat Cavities 4
Date of Effect 5
Audit 5
Documentation 5
Review 6
2. Verification of Narrow Hard-to-Treat Cavities 7
Introduction 7
Verification of narrow HTTC measures 7
What the verifier must complete 9
Methodology for measuring the width of narrow HTTCs 9
3. Hard-to-Treat Cavities which require a Chartered Surveyor Report 13
Introduction 13
Timing and content of the Chartered Surveyor Report 13
Expertise of the Chartered Surveyor 14
Requirement for chartered surveyor reports 14
4. Additional Technical Monitoring Requirements for Hard-to-Treat Cavities ... 16
Introduction 16
Sampling of relevant measures 16
Reporting of relevant measures 17

1. Treatment of Hard-to-Treat Cavities

Chapter Summary

Provides an introduction to hard-to-treat cavities under ECO and an overview of the objectives of this guidance.

Introduction

1.1. This document provides supplementary guidance on the treatment of hard-to-treat cavities (HTTC) under the Energy Companies Obligation (ECO). The information in this document is supplementary to and should be read alongside the *Energy Companies Obligation (ECO): Guidance for Suppliers (Version 1.1)*.

1.2. If a provision of this supplementary guidance conflicts with a provision of the *ECO: Guidance for Suppliers (Version 1.1)* then the provision of this supplementary guidance should be applied.

Hard-to-treat Cavities

1.3. As outlined in Chapter 5 of the ECO Guidance for Suppliers, a HTTC is a primary measure under the Carbon Emissions Reduction Obligation (CERO)[1].

1.4. There are six categories of hard-to-treat cavities under ECO, as listed in Chapter 5 of the ECO Guidance for Suppliers. These include:

a. A cavity wall in a building with **three or more storeys**, and where at least three storeys have cavity walls;

b. A cavity wall which a chartered surveyor reports is not suitable to insulate with **standard insulation materials or techniques** (for example properties with severe or very severe exposure to wind driven rain, or cavities which are already partially filled)[2] ('non-standard');

c. A cavity wall which a chartered surveyor reports is not suitable to insulate without **substantial remedial works** to the building ('remedial') (for example weather proofing of the building to prevent water penetration)[3];

d. A cavity which is **less than 50 millimetres** wide ('narrow')[4];

[1] Further information on CERO and primary measures can be found in Chapter 5 of the ECO Guidance for Suppliers.
[2] See paragraph 5.14(2) of the Guidance
[3] See paragraph 5.14(3) of the ECO Guidance for Suppliers
[4] See paragraph 5.14(4) of the ECO Guidance for Suppliers

e. A cavity found in homes of **prefabricated concrete construction or with metal frame cavity walls** and;

f. An uneven **cavity in natural stone walls,** or in walls made from natural stone outer leaf and block or brick inner leaf[5] ('uneven stone').

1.5. The above list is a summary of the six categories only. For a list of the full requirements of each category of hard-to-treat cavity, please refer to Chapter 5 of the ECO Guidance for Suppliers.

1.6. This supplementary guidance relates only to categories b, c, d and f. Each chapter specifies which category of hard-to-treat cavity it relates to.

1.7. In addition to this supplementary guidance we will publish further information to assist chartered surveyors completing work under ECO.

Date of Effect

1.8. The requirements in this document take effect for installations completed from 1 January 2014.

1.9. Suppliers can choose to implement the requirements outlined in this guidance earlier than 1 January 2014. Suppliers must inform us in advance if they intend to do this. A supplier should implement the requirements across all its installers at the same time. In certain circumstances we will consider a staggered approach to implementation although the supplier will need to discuss this with us beforehand.

Audit

1.10. We may conduct an audit of a qualifying action promoted by a supplier and that audit may relate to any of the requirements set out in the ECO Guidance for Suppliers or this supplementary guidance.

Documentation

1.11. Where a supplier has concerns that a relevant measure may not have been completed in accordance with these supplementary requirements, they should obtain and review copies of supporting documentation to verify that the information is correct.

[5] See paragraph 5.14(6) of the ECO Guidance for Suppliers

Review

1.12. We will review the requirements set out in this document periodically and make an assessment on whether any of the requirements should be altered.

1.13. In particular, the additional technical monitoring requirements will be reviewed and, if appropriate, reduced.

2. Verification of Narrow Hard-to-Treat Cavities

Chapter Summary

Sets out requirements relating to the verification of narrow hard-to-treat cavities.

Introduction

2.1. This chapter sets out requirements for 'narrow hard-to-treat cavities' (i.e. cavities which are less than 50mm wide). For information on when a cavity is considered a 'narrow hard-to-treat cavity' under ECO, refer to paragraph 5.14(4) of the ECO Guidance for Suppliers in conjunction with this chapter of the supplementary guidance.

2.2. We will review the requirements set out in this chapter periodically and make an assessment on whether the requirements should be reduced or altered.

Verification of narrow HTTC measures

2.3. A Narrow HTTC Declaration[6] (Appendix 1, or an approved equivalent, see paragraph 2.20) must be completed for all narrow HTTCs. The declaration must be completed in accordance with the requirements of this section, and in particular with the requirements for measuring the width of the cavity.

2.4. The person who completes the declaration (the verifier) must not be an employee of any party responsible for the installation of the measure[7] to which the declaration relates (see option 1 below). This provision does not prevent a party responsible for installation from engaging an independent contractor to complete the declaration. However the verifier may be an employee of a party responsible for installation of the measure if:

a. the verifier is a chartered surveyor (see option 2 below); and/or

b. the verifier is using certain technology (see option 3 below).

2.5. In addition, the verifier may not be the same person that undertakes technical monitoring of the measure, unless the technical monitoring is conducted post-installation and is not part of the additional 5 percent technical monitoring to verify the width of narrow cavities.

[6] We require this declaration under article 23(1)(b) of the ECO Order.
[7] The parties responsible for installation of a measure include the installer, and any party that has control or ownership of the property to which the measure is installed – but do not include the supplier who notifies the measure under ECO.

2.6. The verifier who completes the declaration must have personally visited and assessed the site that is the subject of the declaration.

Option 1: Independent verifier

2.7. An independent verifier is to measure, calculate and record the cavity width in accordance with the methodology explained in paragraph 2.19.

Option 2: Chartered surveyor

2.8. A chartered surveyor is to measure, calculate and record the cavity width in accordance with the methodology explained in paragraph 2.19.

2.9. In this case, the chartered surveyor may be an employee of the supplier or any party responsible for the installation of the measure, including the installer or housing provider.

Option 3: Technologies that measure cavity widths

2.10. A technology which accurately measures and/or records the width of a cavity may be used to provide the information required in the Narrow HTTC Declaration. The technology must also record the date and location of the property.

2.11. The technology must be assessed by us for the purposes of measuring narrow HTTC cavities. When assessing the technology we will take into account:

a. the accuracy of the technology in recording and, where relevant, measuring the width of the cavity; and

b. whether the record of the cavity width produced by the technology can be manipulated by the verifier.

2.12. During our assessment of the technology we will also consider whether the verifier requires certain skills or knowledge to use the technology for the purposes of measuring and/or recording the width of a cavity.

2.13. Suppliers wishing to use this solution should contact us before first use.

2.14. Where a technology is used, any person (including an employee of a supplier or any party responsible for the installation of the measure) may

a. carry out the measurement of the cavity width; and

b. complete the Narrow HTTC Declaration.

2.15. Copies of the evidence used to make this assessment must be retained (in addition to the Narrow HTTC Declaration) and made available to us upon request.

Payment by results

2.16. Regardless of which of the three options is selected, in all cases the contract with the verifier must not provide for 'payment by results'. In other words payment for the services of the verifier must not be dependent on whether the cavity is found to be 'narrow' or not.

What the verifier must complete

2.17. The assessment of the cavity width and completion of the Narrow HTTC Declaration should take place before the installation of the measure is complete.

2.18. A supplier can use an equivalent declaration as long as it contains all the information within the Narrow HTTC Declaration at Appendix 1. Suppliers who wish to use an equivalent declaration should contact us before implementing their own version.

Methodology for measuring the width of narrow HTTCs

2.19. The measurement of a cavity width to determine whether it meets the statutory definition of a narrow cavity under ECO must be conducted in accordance with the methodology outlined below[8].

2.20. Methodology:

a. Three inspection holes are required per elevation (see Diagram 3) in order to calculate the cavity width of that elevation. These must have the following characteristics:

1. they must each have a diameter of between 8 and 12mm;

2. they must be drilled through the mortar joints; and

3. they must be at least 500mm apart.

b. The inspection holes should be at ground level. Where a ground floor wall can be shown to be a narrow HTTC, higher floors are also deemed to be a narrow HTTC (including where the higher floor is a separate premises).

[8] If a technology is being used for measurement of the cavity width then, in some cases, this methodology may not apply. The appropriate measuring method will be confirmed following assessment of the technology by us, as outlined earlier in the chapter.

c. The drilling may be conducted either by the individual or company which completes the Narrow HTTC Declaration or by another individual or company. Where the drill holes are produced separate to the measurement of the cavity width, the holes should be temporarily sealed to prevent water ingress. This may be achieved using silicon mastic or other suitable alternative, which will enable the individual or company completing the Narrow HTTC Declaration to identify and access the drill holes for the measurement process[9].

d. The overall width ('B' in Diagram 1) is determined by using either a steel measuring rod or vernier gauge, which is inserted into the drill hole until it reaches the back wall or, in the case of cavities which are already *partially filled* (see below), until it reaches the face of the partial insulation (see Diagram 2). It should then be marked to the outer face of the outer leaf. The measurements should not be taken between mortar snots.

e. A *partially filled* cavity is a traditionally constructed cavity with insulation fixed to the inner leaf in the vertical plane. For the avoidance of doubt a cavity is not considered to be partially filled merely because it contains slumped insulation or insulation to less than the full height of the wall.

f. The width of the outer leaf ('A' in Diagram 1) is determined first by measuring from the internal face of the outer leaf to the outer face of the outer leaf.

g. If the vernier gauge cannot be used the measurement of the outer leaf will be taken at a window or door reveal.

h. The outer leaf width ('A') is deducted from the overall width ('B').

[9] Please note, the use of silicon mastic or other suitable alternative is not a permanent solution for sealing the injection holes.

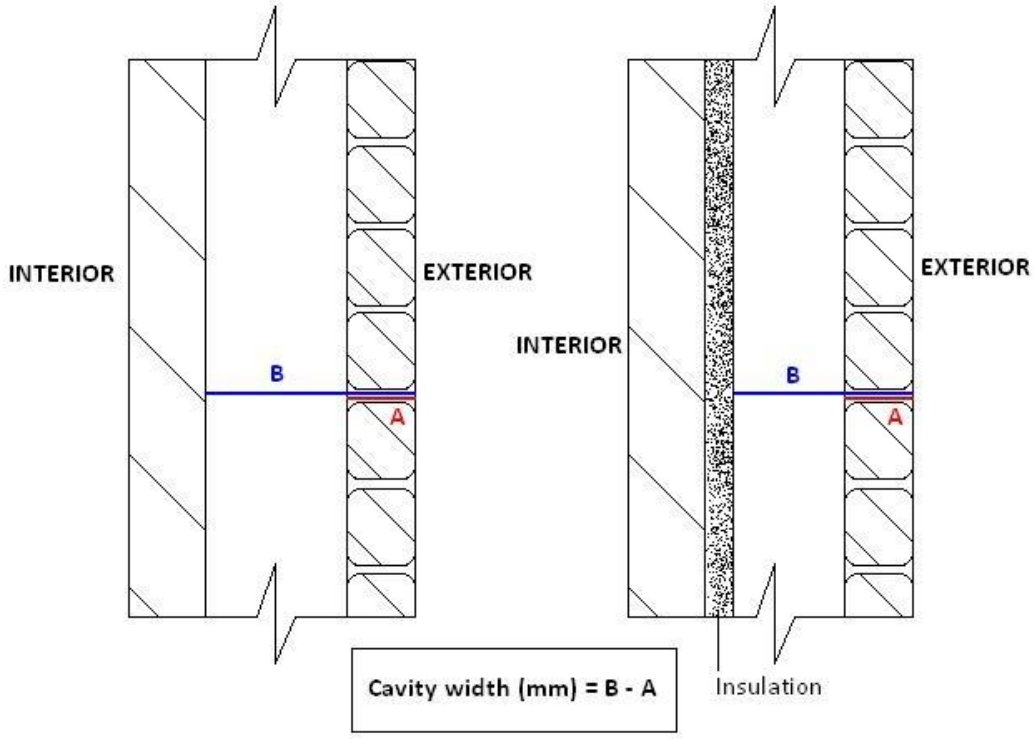

Diagram 1
Measurement of cavity width

Diagram 2
Measurement of cavity width with partial fill insulation

i. The final width of the cavity is determined by calculating the mean cavity width for each elevation from the three measurements. For example:

1. <u>Elevation A</u>

Inspection hole 1:	51mm
Inspection hole 2:	51mm
Inspection hole 3:	46mm
Average cavity width:	49mm
Outcome:	Narrow HTTC (<50mm)

2. <u>Elevation B</u>

Inspection hole 1:	51mm
Inspection hole 2:	54mm
Inspection hole 3:	46mm
Average cavity width:	50mm
Outcome:	Not a narrow HTTC (≥50mm)

This calculated mean must be recorded on the Narrow HTTC Declaration. Each measurement should be rounded to the nearest millimetre; however the calculated mean may be recorded to one decimal place on the Narrow HTTC Declaration.

j. Any elevation that does not have a mean cavity width of less than 50mm will not be deemed a HTTC under this category.

k. Diagram 3 below shows that properties will usually have up to four external wall elevations. Each part of a wall represented by a single colour in the diagram represents a single elevation.

l. A clear record must be made identifying the location of the inspection holes used to undertake this measurement. The record can be in the form of a photograph or a sketch.

m. If there is a period of time between the measurement of the cavity width and the installation of the measure, it is important to ensure that all drill holes are sealed to prevent water ingress.

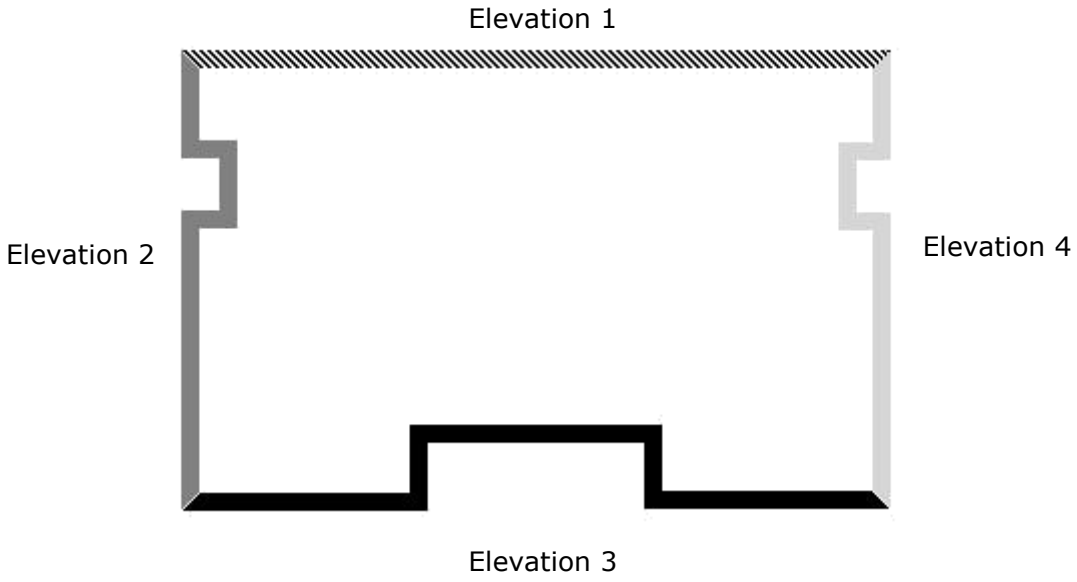

Diagram 3 Property with four elevations (plan view)

3. Hard-to-Treat Cavities which require a Chartered Surveyor Report

Chapter Summary

Sets out requirements for hard-to-treat cavities which require a chartered surveyor report to be completed.

Introduction

3.1. This relates to the following sub-categories of HTTC measure:

a. cavities which a chartered surveyor reports are not suitable to insulate with standard materials or techniques[10];

b. cavities which a chartered surveyor reports are not suitable to insulate without substantial remedial works[11]; and

c. uneven cavities in natural stone walls or in walls made from natural stone outer leaf and block or brick inner leaf[12].

3.2. With respect to each of these sub-categories, a chartered surveyor report is required stating the characteristics of the cavity wall. This supplementary guidance specifies further requirements around the timing of the report, the content of the report and the expertise of the chartered surveyor.

3.3. We will review the requirements set out in this chapter periodically and make an assessment on whether the requirements should be reduced or altered.

Timing and content of the Chartered Surveyor Report

3.4. The chartered surveyor report must be:

a. dated and completed before installation of the measure is complete; and

b. prepared using the revised Chartered Surveyor Report Template (Appendix 2). A supplier can use an equivalent form, provided:

i. it includes all of the content in the template in Appendix 2; and

[10] Refer to the Guidance paragraph 5.14(2).
[11] Refer to the Guidance paragraph 5.14(3).
[12] Refer to the Guidance paragraph 5.14(6).

ii. it is submitted to Ofgem for approval before first use.

Expertise of the Chartered Surveyor

3.5. The chartered surveyor who writes this report must be either:

a. a chartered building surveyor;

b. a chartered surveyor who has qualified through the residential survey or valuation pathway; or

c. a chartered surveyor who has either completed the RICS ECO Assessor training and is included on the RICS register of RICS ECO Assessors[13] or has completed equivalent training. If suppliers identify an equivalent training course for chartered surveyors, they should contact us for confirmation that it is an acceptable alternative to the RICS ECO Assessor training in advance of assessment of any associated measures.

3.6. The chartered surveyor who completes the report must have Professional Indemnity Insurance that covers them for completing the Chartered Surveyor Report (Appendix 2).

Requirement for chartered surveyor reports

3.7. A chartered surveyor report may be based either on evidence collected by the surveyor through a site visit or on a desk-based review by the surveyor using the documentary evidence relating to the property:

a. technical survey detailing the characteristics of the cavity wall and any associated works;

b. photographs that record the date of assessment, location of the property and cavity being assessed and characteristics of the cavity wall; and

c. details of the insulation that the installer proposes to use at the property and the installation technique/techniques.

3.8. Where this documentary evidence is not available to the surveyor, the report must be based on a site visit.

3.9. This evidence must be made available to Ofgem upon request.

[13] Available at: http://www.rics.org/Global/ECO%20Register%20010813.pdf

3.10. Surveyors should ensure that a minimum of 20 percent of reports are based on site visits undertaken by the chartered surveyor. The 20 percent minimum site visits include assessments where the chartered surveyor reports that a cavity is hard-to-treat and not hard-to-treat.

4. Additional Technical Monitoring Requirements for Hard-to-Treat Cavities

Chapter Summary

Sets out additional requirements relating to the monitoring of hard-to-treat cavities. This is supplementary to the technical monitoring requirements set out in Chapter 13 of the ECO Guidance for Suppliers.

Introduction

4.1. This chapter relates to the following categories of hard-to-treat cavities:

a. narrow cavity measures[14];

b. cavities requiring substantial remedial works[15]; and

c. cavities requiring non-standard materials or techniques[16].

4.2. Throughout this chapter these measures are referred to as 'relevant HTTC measures'.

4.3. This chapter should be read in conjunction with paragraphs 13.7 to 13.39 of the ECO Guidance for Suppliers and the Technical Monitoring Questions[17]. This chapter is a modification of the existing policy for relevant HTTC measures contained in those documents.

4.4. We will review the requirements set out in this chapter periodically and make an assessment on whether the requirements should be reduced or altered.

Sampling of relevant measures

4.5. As outlined in Chapter 13 of the ECO Guidance for Suppliers, all measures are subject to 5 percent technical monitoring. For each category of relevant HTTC measures installed under ECO an additional 5 percent technical monitoring must be conducted.

4.6. In relation to the additional 5 percent sample (i.e. over and above what is required for other installations under ECO), all inspections must be conducted at

[14] Refer to the Guidance paragraph 5.14(4).
[15] Refer to the Guidance paragraph 5.14(3).
[16] Refer to the Guidance paragraph 5.14(2).
[17] https://www.ofgem.gov.uk/publications-and-updates/energy-company-obligation-technical-monitoring-questions.

either the pre- or mid-installation stage. The precise proportion of measures assessed at either pre- or mid-installation stage is flexible.

4.7. As an exception to paragraph 4.6 above, for narrow cavities only, suppliers may choose to conduct a proportion of the additional technical monitoring at post-installation stage. Where the additional technical monitoring is conducted at post-installation stage, this must include measurement of the cavity width in accordance with the measurement methodology outlined in Chapter 2.

4.8. The original 5 percent technical monitoring requirements outlined in the ECO Guidance for Suppliers are not changed by this supplementary guidance; the ratio of pre:mid:post installation inspections should be maintained at 0:60:40.

Reporting of relevant measures

4.9. At present, suppliers provide us with a report on the result of technical monitoring on a quarterly basis using a template provided by us. The results of the additional 5 percent technical monitoring should be included in this quarterly report, and clearly set out the results of sampling of the relevant HTTC measures, including the number of passes and fails for each HTTC sub-category, as well as the results for any relevant HTTCs which were monitored but not notified to us.

4.10. In addition to this, suppliers must submit monthly interim reports on the technical monitoring undertaken in relation to relevant HTTC measures. These reports should be submitted by the end of each month. As with the quarterly reports, we will provide a template for the interim report, which will require the supplier to clearly set out the results for the relevant HTTC measures, including the number of passes and fails for each HTTC sub-category, as well as the results for any relevant HTTC measures which were monitored but not notified to us for approval.