

Technical Extra

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NHBC STANDARDS

Chapter 7.2 'Pitched roofs' and the importance of correct detailing and specification



Who should read this: Technical and construction directors and managers, architects, designers and site managers.

INTRODUCTION

To address a significant number of failures in roof coverings, the guidance contained in Chapter 7.2 'Pitched roofs' was recently reviewed and updated, with the changes fully explained in Technical Extra 05 (November 2011). The revised guidance represents good practice and sets a benchmark for roofing works on NHBC registered sites.

Early indications suggest that the revised Chapter has been well received and the rationale behind the new guidance is clear; however, there are a couple of problem areas that require a little more clarification.

We also touch on the use of slates and the need to ensure that these comply with BS EN 12326 'Slate and stone products for discontinuous roofing and cladding'.

STANDARDS CHAPTER

Chapter 7.2 'Pitched roofs'.

REQUIREMENTS

The revised Chapter 7.2 'Pitched roofs' was introduced on 1 January 2012, and early feedback suggests that the changes to the guidance have been well received by both the roofing industry and NHBC registered builders. Together with initiatives such as NHBC's provision of free training seminars and a change in the inspection regime, there is now a more widespread appreciation of the importance of correct detailing of this critical part of the building envelope.

Most of the changes made to the guidance are in line with current good site practice and follow a practical, problem-solving thought process. However, the reasoning behind some of the changes may not be so obvious and some parts of the new guidance may introduce additional technical challenges. Now that the guidance is in extensive use, it is a good opportunity to address these issues.

Tile battens

Previous editions of Chapter 7.2 have contained guidance asking for timber roof battens to be in

accordance with BS 5534 'Code of practice for slating and tiling'. To comply with this British Standard, battens should be fully graded to take into account permissible tolerances for knot size, wane, fissures and splits, slope of grain, rate of growth and distortion. The British Standard also asks for each batten to be marked with the name of the supplier, origin of the timber, BS 5534 and the size of the battens.

Realising the difficulties involved with on-site grading and the importance of using the correct material for the job, the revised Chapter 7.2 now highlights the requirement for marking. Battens marked in accordance with BS 5534 offer reassurance that they have been correctly graded and are compliant with the British Standard; they should therefore provide suitable durability and performance, not only for securely fixing and supporting the finished roof covering, but also for when the battens are being used as a foothold. The importance of reliable battens in this situation is recognised in the HSE guide 'Health and safety in roof work'.



REQUIREMENTS (CONTINUED)

Small cut tiles

One of the aims of the revised guidance is to discourage the use of small sections of cut tile, as these are difficult to fix and can be vulnerable to slipping or being dislodged by wind. Although the difficulty in completely avoiding small sections of tile is appreciated, particularly at abutments and valleys, there are a number of measures that designers, builders and roofers can take to ensure that the complete roof covering is secure. Careful setting out of the roof covering will avoid many situations where small cut tiles are needed. Using double, tile-and-a-half and half tiles, where they are available, will also reduce the use of small cut tiles.

When using interlocking concrete tiles, careful consideration is required in detailing the verge. Currently, Chapter 7.2 prohibits the use of cut tiles in this location; however, we appreciate that interlocking tiles are often cut to form the verge and, providing that the cut section is suitably fixed and large enough to avoid wind uplift, there will generally be no adverse effect on performance.

To support the revised guidance aimed at avoiding the use of small sections of cut tiles, which are notoriously difficult to fix, the 2013 edition of the NHBC Standards Chapter 7.2 will include the following guidelines.

At verges:

- cut plain tiles are not acceptable and purpose-made plain tile-and-a-half should be used
- small sections (less than a half tile width) of cut single-lapped interlocking tiles should not be used
- natural slate verges should be formed with full slates and either slate-and-a-half or half slates that are a minimum 150mm wide
- all tiles and slates should be mechanically fixed at the verge in accordance with Appendix 7.2-A.

Slates

NHBC Standards Chapter 7.2 Appendix F sets out the characteristics that natural roofing slates should achieve when tested in accordance with BS EN 12326 'Slate and stone products for discontinuous roofing and cladding'. BS EN 12326-1 covers natural slates from rocks which have undergone a change in physical structure due to pressure and heat during their formation, i.e. metamorphism. BS EN 12326 does not cover products from sedimentary rocks, which **have not** undergone metamorphism, as these **are not** suitable when used as natural slates.

NHBC has also become aware of certain slates, including from Brazil, that are not of the same quality as those which meet the requirements of BS EN 12326-1. There has been much debate within the European slate committee as to whether the characteristics of these 'slates' can be classified as meeting BS EN 12326. Work is continuing within the committee to resolve this issue but it is not yet complete. Some products from Brazil are being marketed that appear to fall outside of the scope of BS EN 12326. Currently, there appears to be no alternative test that would provide confidence in the likely performance of such products, and these are therefore not accepted by NHBC.

To discuss NHBC requirements in relation to any aspect of Chapter 7.2, please contact the NHBC Technical Helpline on 01908 747384, or email technical@nhbc.co.uk.

YOU NEED TO...

- Ensure that tile battens are fully graded and marked in accordance with BS 5534.
- Take care to avoid small cut tiles when setting out roofs.
- Ensure that you and your subcontractors fully understand and apply the revised guidance.
- Ensure that slates proposed for use on homes covered by NHBC Warranty can demonstrate compliance with all the requirements of the BS EN 12326 standard, including the scope which defines which stones are covered. NHBC will not accept slates that are outside the scope of the existing BS EN 12326 until an acceptable alternative test standard becomes available.

NHBC STANDARDS

Use of aircrete blocks below ground



Who should read this: Technical and construction directors and managers, architects, designers and site managers.

INTRODUCTION

This article clarifies the use of aircrete blocks in below ground situations.

STANDARDS CHAPTER

Chapter 5.1 'Substructure and ground bearing floors'.

REQUIREMENTS

In structural applications, aircrete is one of the lightest forms of concrete, yet it is fully load bearing, with a range of block strengths available. Aircrete blocks are resistant to frost damage and can be fully certified by the British Board of Agrément (BBA) for use in solid foundation walls in sulfate bearing soils and groundwater classes DS-1, 2, 3 and 4.

However, there have been instances where the use of aircrete foundation blocks has been brought into question, due to strength or density issues.

NHBC Standards Chapter 5.1 - D6 'Walls below DPC' states:

Concrete blocks for use below dpc should comply with BS EN 771 and have a:

- density exceeding 1500kg/m³, or
- compressive strength not less than 7.3N/mm².

All aircrete manufacturers in the UK currently manufacture to BS EN 771-4, which covers the first requirement. However, as aircrete has inherently low density, typically below 820kg/m³, confusion has arisen regarding the minimum 1500kg/m³ requirement. In addition, although available in 7.3N/mm² or higher strengths, 3.6N/mm² strength aircrete foundation blocks are the most commonly used in housing.

Notwithstanding Chapter 5.1 - D6, aircrete foundation blocks are acceptable under NHBC Technical Requirement R3 'Materials requirement' (from Part 1 - General Information) which states:

Materials, products and building systems will normally be acceptable if they comply with the following:

(iv) satisfactory assessment by an appropriate independent technical approvals authority accepted by NHBC, including: British Board of Agrément (BBA), Building Research Establishment (BRE), or a body authorised under Annex 4 to the Construction Products Directive

(v) use of materials and products in accordance with well-established satisfactory custom and practice, provided that such custom and practice is acceptable to NHBC.

All UK manufacturers of aircrete have BBA certification covering the use of their products below ground. Consequently, and subject to vertical loading requirements, aircrete blocks with a compressive strength of less than 7.3N/mm² and a density under 1500kg/m³ are acceptable by NHBC for use below dpc.

YOU NEED TO...

Subject to vertical loading requirements, aircrete blocks with a compressive strength of less than 7.3N/mm² and a density less than 1500kg/m³ are acceptable to NHBC for use below dpc.

For technical advice and support, call 01908 747384 or visit www.nhbc.co.uk



Who should read this: Technical and construction directors and managers, architects, designers and site managers.

INTRODUCTION

Multipoint locks need to achieve British Standards for performance and meet the lock functions described in NHBC Standards. New standards prepared by British Standards Institution (BSI) assist with this.

STANDARDS CHAPTER

Chapter 6.7 'Doors, windows and glazing'.

REQUIREMENTS

External doors require locks that need to perform different functions depending on whether the property is a house or flat/apartment. NHBC Standards clause 6.7 - D4 describes the various lock functions for both main and secondary doors (where appropriate), together with the correct British Standards lock(s) to meet the requirements.

NHBC is frequently asked how the quoted British Standards (BS 3621, BS 8621 and BS 10621) for single point locks relate to multipoint locks. Where multipoint locks are used, they still need to meet the lock functions described in NHBC Standards.

Without a British Standard, the performance of multipoint locks can vary according to the manufacturer. To address this issue, a set of standards

has now been prepared by BSI, the Door & Hardware Federation and Secured by Design. These standards are available as PAS 3621, PAS 8621 and PAS 10621 and mirror the lock functions described in single point lock standards BS 3621, BS 8621 and BS 10621 respectively.

This new family of standards offers the same level of security performance as the single point lock standards, with the same resistance to methods of cylinder attack such as bumping, snapping, picking and drilling.

It is therefore now possible to specify multipoint locks to a recognised standard that is on a par with the security aspect covered by single point lock standards.

YOU NEED TO...

If you are currently specifying multipoint locks, you should check with your supplier that their locks meet with the new PAS standards.

REGULATION AND COMPLIANCE

Updated statutory guidance for contaminated land - April 2012



Who should read this: Technical and construction directors, architects, designers, consultants, specialist remediation companies, contaminated land professionals and land buyers.

INTRODUCTION

On 6 April 2012, revised statutory guidance for Part 2A of the Environmental Protection Act 1990 came into force in England and Wales. The guidance updates the regime for the regulation of contaminated land first introduced in April 2000. The purpose of the guidance is to provide greater clarity for regulators on the identification and determination of land posing an unacceptable risk to human health and/or the environment, and to help in the selection of remediation technologies where contamination cannot be controlled by other means.

REQUIREMENTS

Although the statutory guidance is primarily aimed at regulators when making determinations on whether land is 'contaminated' under the Act, it will impact on the approach to assessing and remediating contaminated land under the planning regime and for the purposes of demonstrating compliance with NHBC Standards Chapter 4.1 - 'Land quality - managing ground conditions'.

The definition of contaminated land remains unchanged by the new statutory guidance:

"... any land which appears to the local authority to be in such a condition, by reason of substances in, on or under the land, that significant harm is being caused or there is a significant possibility of such harm being caused "

In addition, the duty of local authorities to inspect their areas from time to time for the purposes of identifying contaminated land has not changed. The statutory guidance does not set out timescales for inspections, but it requires local authorities to adopt a strategic approach to their inspection obligations by developing a written strategy with a published timescale.



One of the major changes to the statutory guidance is the introduction of four categories of land to be considered by regulators when making a determination on whether there is potential for significant possibility of significant harm to human health and whether the land is 'contaminated' and requires intervention under Part 2A of the Environmental Protection Act 1990.



REQUIREMENTS (CONTINUED)

The changes

1. The four categories of land introduced by the statutory guidance are:

- Category 1 - Land where it is clear that there is a significant possibility of significant harm to human health, and intervention under Part 2A is required
- Category 2 - Land where there is a considerable concern that there may be a significant possibility of significant harm to human health, and there is a strong case for precautionary action or intervention being taken under Part 2A
- Category 3 - Land where there may be a possibility of harm to human health but this is not significant, and regulatory intervention under Part 2A is not warranted, but those affected could consider civil action
- Category 4 - Land which should not pose a measurable risk to human health.

2. The introduction of new screening values for Category 4 sites.

3. Clarification of 'normal' levels of background contamination.

4. The significance of pollution of 'controlled waters' posed by contaminated land has been included, requiring regulators to consider four potential categories:

- Category 1 - significant pollution of controlled waters
- Category 2 - a significant possibility of significant pollution of controlled waters
- Category 3 - a low likelihood of less serious types of significant pollution
- Category 4 - low level or no risk.

5. Radioactivity has been removed from Part 2A and is now covered under separate legislation.

6. Consideration of benefits, including social and environmental costs, is required before determination can take place.

7. Risk summaries are required to be completed by local authorities before the land is determined as 'contaminated' under Part 2A. These must be understandable by the non-expert and are used to make the decision process more transparent.

8. Local authorities can now reverse a previous determination that land is 'contaminated'.

The four new categories for contaminated land are shown in Figure 1. The statutory guidance advises that new health-based screening tools and guidance will need to be developed by government bodies, regulators and the remediation industry to assist with the classification of land as being in Category 4 (no measurable risk to human health).

NHBC understands that Defra anticipates letting a contract for the development of new Category 4

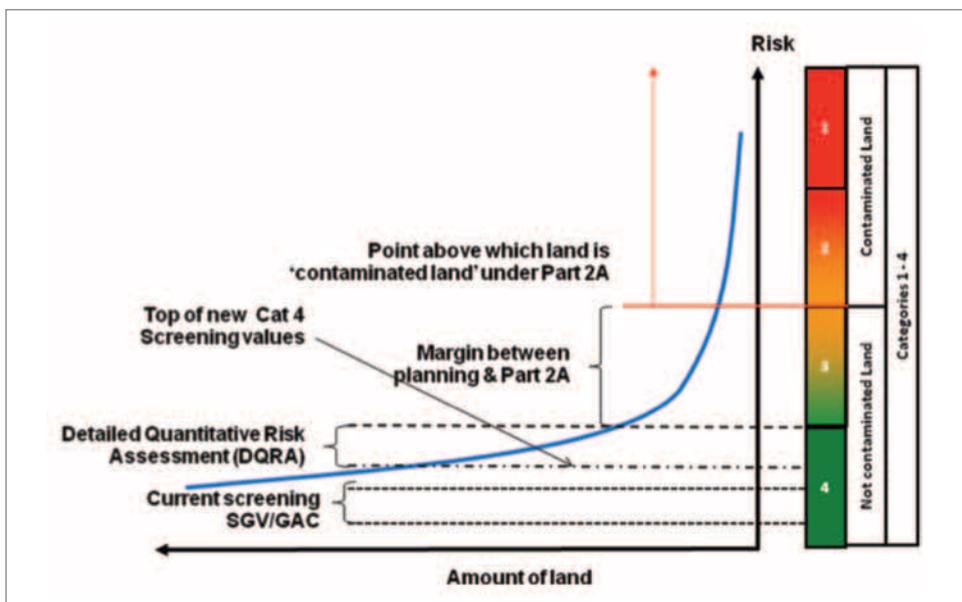


Figure 1:
New contaminated
land categories (by
permission of HCA)

REGULATION AND COMPLIANCE

Updated statutory guidance for contaminated land - April 2012



REQUIREMENTS (CONTINUED)

screening values during 2012. There is an expectation across the contaminated land sector that any new screening values will be at a higher level than the currently used Soil Guideline Values (SGVs)/Generic Assessment Criteria (GAC).

On sites where any screening values adopted were exceeded, Detailed Quantitative Risk Assessment (DQRA) would need to be undertaken to substantiate that the land can be classified as Category 4 (no measurable risk to human health) or Category 3 (not significant risk to human health).

The new statutory guidance clarifies that 'normal' background levels of contaminants in soils should not generally be considered as a sufficient cause to determine land as 'contaminated', unless there is a particular reason to consider otherwise.

Guidance to assist in determining 'normal' background levels of contaminants is being prepared by the British Geological Survey (BGS) to assist local authorities in their Part 2A duties. The guidance will consist of a series of data sheets summarising the background levels of some of the significant contaminants found in England and Wales.

YOU NEED TO...

- Ensure that you are aware of the changes to the statutory guidance on contaminated land and the basis that regulators will now use for determining whether land is 'contaminated' and if intervention under Part 2A is required.
- Ensure that suitable consultants or specialists are appointed for site investigations, risk assessments, remediation and validation to ensure that the land is appropriately assessed and/or remediated.
- Ensure that remediation risk assessments or clean-up targets are adopted that place land in Category 4 (no measurable risk to human health).
- Be aware that risk assessment or remediation clean-up targets that place the land in Category 3 may be acceptable to local authorities under planning, but could still pose a liability as a result of civil action.
- Be aware that the new National Planning Policy Framework states that it is the developer's responsibility to ensure that the site is 'safe' for the intended development.



Who should read this: Technical and construction directors and managers, architects, designers and site managers.

INTRODUCTION

Previous editions of *Technical Extra* (01 and 04) have outlined The Flood and Water Management Act 2010, and how this might affect the industry. This article is an update on the current situation.

REQUIREMENTS

Flood and water management

NHBC has responded to the Welsh Government and Defra consultations on the adoption arrangements and National Build Standards for new foul sewers and lateral drains, and to the Defra consultation on SuDS and is awaiting the outcome of those consultations.

The commencement of Section 42 of the Flood and Water Management Act 2010, which will facilitate a supplementary transfer of new private foul sewers and lateral drains connected to the public system after 1 July 2011, did not occur on 1 April 2012 as had been planned. Defra has yet to provide a revised date, although the Welsh Government has set a proposed date of 1 October 2012 for drains in Wales.

The reasons for the delay have been given by the Welsh Government as the need for more time:

- to address technical issues in the standards
- for adequate communication of the changes
- for issues between the developers and sewerage undertakers to be addressed
- for publication of the Welsh Ministers' Mandatory Build Standards and accompanying guidance prior to the commencement of Section 42.

When the outcome of all the consultations is known, we will consider any necessary revisions to NHBC Standards.

Sewerage Infrastructure Registration Scheme (SIRS)

NHBC continues to work with Lloyds Register to develop and market test an insurance-backed accredited contractor scheme, the Sewerage Infrastructure Registration Scheme (SIRS).

It is designed as an alternative to the high levels of bonding that will be required by Water and Sewerage Companies (WaSCs) after Section 42 of the Act is implemented.

SIRS is structured to ensure quality and process compliance against industry best practice in terms of competency, methodology and safety. It is intended to also provide a 12-month defects liability period, during which WaSCs are indemnified against the cost of putting right defects (non-compliances with the Mandatory Build Standards).

The insurance element of the scheme will be finalised shortly and will be presented to insurers. Those that are prepared to underwrite the scheme will provide proposed premiums. That information will inform the communications strategy and the full final specification, including the accreditation, insurance cover and costings. The final specification will be presented to WaSCs, contractors, builders and developers to determine whether it is a viable proposition.

News and updates in connection with the legislation and SIRS will be available via NHBC's website.

YOU NEED TO...

NHBC will update the industry as further details become known.

GUIDANCE AND GOOD PRACTICE

Verification of ground gas protection measures – robust design and good-quality workmanship will always be the key to success



Who should read this: Technical and construction directors, architects, designers, consultants and site managers.

INTRODUCTION

The most widely known UK tragedies where ground gas produced explosive or asphyxiating conditions occurred at Loscoe in Derbyshire (1986) and Abbeystead, Lancashire (1984). Publicity surrounding these incidents heightened regulatory and public expectations for managing ground gas risks and, to assist the industry in addressing ground gas-related hazards, NHBC produced a detailed technical publication entitled 'Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present.'

The NHBC guidance document was well received by regulators and industry alike; however, comprehensive advice relating to specific design concepts, expectations for construction and verification approaches remains less prescriptive. This article sets out to clarify these aspects.

Loscoe incident in 1986 (photograph from Derby Evening Telegraph)



GUIDANCE

Robust design and verification evidence for gas protection is necessary for new homes registered for NHBC Buildmark cover and NHBC requirements are outlined under Chapter 4.1 - 'Land quality - managing ground conditions', Clauses D6 and D7.

However, although there is a vast array of design and verification approaches available to demonstrate compliance of gas protection measures, it is important to select an approach which best suits the needs of an individual scheme.

Key design concepts - what's involved?

To design gas protection measures, a robust site characterisation is essential to enable determination of the site gas regime. While a designer of gas measures should be conversant with the risk assessment findings, an understanding of building-related influences is just as important, as these can significantly govern design and construction choices. With considered design and careful detailing, the risk of the gas protection failing should be significantly minimised.

For technical advice and support, call 01908 747384 or visit www.nhbc.co.uk

Verification of ground gas protection measures - robust design and good-quality workmanship will always be the key to success



GUIDANCE (CONTINUED)



Membrane products

In this example, the contractor found detailing for internal corner edging more difficult than first envisaged, due to the rigidity of the membrane. Use of preformed proprietary products would have reduced the risk of inadequate installation. The services of a specialist installer is also advised.



Influence of slab design

Ground bearing slabs require construction details that enable sub-slab ventilation. Void formers, geocomposite blanket or strip products, or granular venting layers are possible solutions. Durable membranes are essential and use of a specialist installer is advised.



Part M requirements

Requiring level access can often influence the positioning of air bricks. Air ventilators are essential to enable dissipation of ground gases from the sub-floor void. In this example, the designer positioned the access ramp perpendicular to the building frontage, enabling ventilator spacing to be achieved.

What constitutes a 'specialist membrane installer'?

The ConstructionSkills Council provides National Occupational Standards (VR612 and 613) for gas membrane installation and, whilst specialist installers work to these standards, a nationally recognised qualification offers necessary reassurance to the house-building industry that the commissioned installer is able to offer the quality and competency of

service and standards required. The ConstructionSkills Council now offers assessment against these national standards. It is envisaged that, by 2013, only operatives holding an NVQ level 2 Diploma in Sub-structure Work Occupations (Construction) - Installation of Gas Membranes, should be commissioned by builders to install on high gas risk sites and, as a minimum, a Basic Installer's Card should be requested by builders for other sites. **Please note** that automatic renewals for a Basic Card ceased in January 2012 and these will only remain valid until 2017.

Verification of in-construction gas measures - what approach should be used?

Where verification reports for higher gas risk regimes are required (i.e. Amber 2/CS3 gas regime sites), NHBC will need a copy prior to the issue of Buildmark cover on a new home. There is a vast array of verification approaches available to demonstrate compliance. It is therefore important to select an approach which best suits the needs of an individual scheme. Typical NHBC expectations are detailed in Table 1 and discussed overleaf:

GUIDANCE AND GOOD PRACTICE

Verification of ground gas protection measures
– robust design and good-quality workmanship will
always be the key to success



GUIDANCE (CONTINUED)

Table 1: Typical NHBC verification requirements

Gas regime	NHBC verification requirements
CS1/Green	No action required
CS2/Amber 1	Membrane specification and construction details required. Quality assurance measures to be applied ('watchpoints' detailed in BRE publication BRE 414 - Protective measures for housing on gas-contaminated land). Photographic evidence should be available on request.
CS3/Amber 2	Specialist contractor 'Certificate of Conformity' and/or Independent Inspection Record. Integrity tests may be requested but dependent on certainty of gas regime and nature of construction. Normally requested for gas regimes in the upper range of Amber 2 or within CS3 classification.
CS3 or above /Red	Regime not generally suitable for private housing. Remedial work likely to be required to lower the gas regime and verification requirements would be dependent on stated objectives. For managed units, positive pressurisation technology may be required. Dwell time monitoring, design criteria and conformity test results would be expected.

Verification approach – visual inspections

Installed gas protection measures should be visually checked by an independent verifier, commissioned by the builder. Construction drawings should be checked prior to installation to ensure the design is fit for purpose and to agree key stage inspections. The verifier should check adherence to the agreed specifications and visually inspect key areas, such as membrane integrity, seals at pipe penetrations, stanchion flashings and corner details. Defects must be corrected and works rechecked before final 'sign-off' reporting. All reports should include the verifier's signature and photographs as supporting evidence.

Integrity testing tools

Testing may be required to verify the integrity of installed measures, because holes or gaps in seals are not always apparent to the naked eye. There are a number of integrity tools available, so it is important to ensure that the selected method is suitable for the actual measures installed and are able to test the weakest or critical components of the gas protection solution. In all circumstances, the membrane should be protected as soon as possible after testing to prevent future damage.



Tracer tests

Tracer gas or smoke is applied under pressure beneath installed membrane, with detectors used to screen for leaks above. Most specialist installers provide this service as part of their installation procedures, which offers confidence in installation standards. However, it can be difficult to apply robustly to large span cast in situ slabs, and there is currently no recognised UK standard for this method.

Verification of ground gas protection measures - robust design and good-quality workmanship will always be the key to success



GUIDANCE (CONTINUED)



Air lance tests

Air lance tests are mainly used to test the quality of seams along membrane joints. Pressurised air is applied to test the strength of joints and presence of leaks. The test is based on an American standard (ASTM D4437), which provides certainty of test performance. However, it is primarily suited to welded products so may not always be suitable to verify taped seams.



Dielectric porosity tests

Commonly used where large span footprints are adopted, the test uses electron beams and electronic instrumentation to detect holes in membranes or other material anomalies, such as blisters and bubbles. One specific advantage over tracer tests is the ability to test membrane integrity even after a screed has been placed, and has been used successfully to verify integrity under rafts.

If you have any doubts as to whether NHBC requires additional information, talk to your NHBC Engineering contact and/or Standards and Technical on **01908 747384**.

YOU NEED TO...

- Robust site characterisation is required to design gas protection measures; designers must have an understanding of building-related influences, as these significantly govern design and construction options for gas protection measures.
- Installation of gas protection measures must be executed to National Occupational Standards (VR612 and 613) and installers should ideally hold a level 2 NVQ diploma in Sub-structure Work Occupations (Construction) - Installation of Gas Membranes.
- Where gas protection measures are required, verification evidence should be considered at the design stage and will be requested by NHBC for Amber 2 or CS3 gas regime sites.
- In all circumstances, the membrane should be protected as soon as possible after verification to prevent future damage.

For technical advice and support, call **01908 747384** or visit www.nhbc.co.uk

GUIDANCE AND GOOD PRACTICE

Construction Glassfibre Manufacturers Association



Who should read this: Technical and construction directors and managers, architects, designers and site managers.

INTRODUCTION

Glass-reinforced plastic (GRP) products have become increasingly common. To maintain standards, a new trade association has been formed - the Construction Glassfibre Manufacturers Association (CGMA).

GUIDANCE

Standards Extra 44 (April 2009) included an article on the selection and use of GRP dormers and chimneys. The article highlighted some of the problems that can occur with these products through poor quality of design and manufacture or inappropriate site handling and installation. The recommended action was, wherever possible, to purchase dormers and chimneys from a manufacturer who had a third-party assessment for their product or use reputable manufacturers who had products that addressed the issues highlighted in the article.

Discussions have taken place with individual GRP manufacturers about how best to meet NHBC Standards and, in November 2010, NHBC held a meeting with manufacturers of GRP dormers and chimneys to discuss the need for third-party assessments and agree a collective way forward.

As a result of that meeting, GRP manufacturers have formed a trade association, the Construction Glassfibre Manufacturers Association (CGMA). The Association was officially launched on 1 March 2012 and is open to any manufacturer of GRP products, including dormers and chimneys.

CGMA members are required to have their products tested for performance and quality of manufacture.

The manufacturing of the product is also regularly audited to ensure quality is maintained.

Part of the assessment will check that installation instructions for those on site are adequate. Once a product has successfully passed the required testing, the manufacturer is issued with CGMA certification for that product.

GRP products that have a third-party assessment or CGMA certification are acceptable to NHBC and, from January 2013, GRP dormers and chimneys should have either a third-party assessment or CGMA certification. NHBC inspection staff will be checking for this.



YOU NEED TO...

From January 2013, ensure that GRP dormers and chimneys have a third-party assessment or CGMA certification. If you currently use GRP dormers or chimneys, check with your suppliers to see if they have third-party assessment or are CGMA members who are putting their products through the testing regime.

For technical advice and support, call 01908 747384 or visit www.nhbc.co.uk



Who should read this: Everyone.

INTRODUCTION

Supporting the industry with high-quality research and practical guidance, all NHBC Foundation reports are available to download free of charge at www.nhbcfoundation.org. The Construction Products Association (CPA) supports construction product manufacturers and suppliers, visit the website at www.constructionproducts.org.uk.

GUIDANCE

The impact of occupant behaviour and use of controls on domestic energy use (NF38)

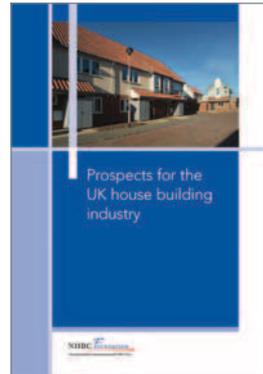


The impact of occupant behaviour on the energy efficiency of a home cannot be underestimated. How people use their home and its heating and ventilation systems can profoundly influence their energy consumption in either a positive or negative way, and therefore impact on the running costs of a home.

This new research review examines how energy is used in the home and how the way occupants behave affects their energy consumption. It explores the factors that affect energy use in the home and looks at the ways in which consumption can be reduced, examining the differences between energy efficiency and energy conservation - asking if measures go far enough to tackle energy reduction.

The review also examines the importance of providing guidance, feedback and information to occupants, and the role of in-home displays such as smart meters. The subject of how behaviour can affect a home's energy consumption is a vital part of the zero carbon homes agenda, and the findings suggest that there is still work to be done in both refining systems and educating users to aid effective usage of the technologies.

Prospects for the UK house-building industry (NF39)



Reading University and NHBC Foundation have recently collaborated on a primary research project to produce 'Prospects for the UK house-building industry'. Taking into account such factors as the current state of the industry, barriers to house-building growth, and the impact of government policy developments, this research canvassed opinions of senior house-building managers, social housing providers and industry experts to report views on housing supply.

The findings of the survey highlight that recovery from the downturn is slow and will remain so, and output will fall in 2012, anticipated to remain 30% less in 2016 than the previous 2007 peak.

The research concludes that housing supply remains in crisis. It reports that there is a widespread feeling that more could be done to stimulate demand and to create conditions whereby the house-building industry could get on with its job of providing new homes at affordable prices.

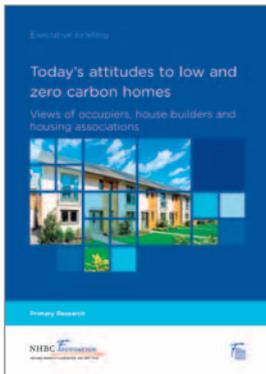
GUIDANCE AND GOOD PRACTICE

NHBC Foundation and Construction Products Association (CPA) publications



GUIDANCE (CONTINUED)

Today's attitudes to low and zero carbon homes (NF40)



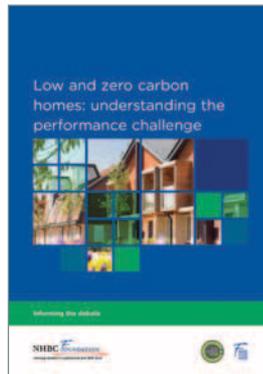
Announced at NHBC Foundation's 5th anniversary event in January 2011, this research was commissioned to investigate whether attitudes to zero carbon housing and technologies have changed in the four years since publication of 'Zero carbon: what does it mean to homeowners and house builders?'

'Today's attitudes to low and zero carbon homes: views of occupiers, house builders and housing associations' summarises current thoughts, awareness and understanding with regard to climate change, the Code for Sustainable Homes, the 2016 zero carbon new homes definition, airtightness and renewable technologies.

Improving on the 2008 study, views from Housing Associations and tenants are an important addition to the current research. The findings indicate a positive shift in attitude and engagement by consumers since the 2008 research, and are presented as a series of key findings and recommendations for house builders, manufacturers, valuers, lenders and Government to act upon.

Launched to an audience of industry representatives, the research shows that consumers are highly satisfied with energy-efficient new homes but wider-scale engagement could be held back by the confusion around zero carbon homes. There are a number of positive messages for the house-building industry, the strongest of these being that many of the occupiers who have experienced the benefits of a highly energy-efficient new home would never want to move into an older home again.

Low and zero carbon homes: understanding the performance challenge (NF41)



As the house-building industry continues to make progress towards the 2016 zero carbon homes standard, evidence is emerging of a gap in energy performance and CO₂ emissions between what is predicted during design and what is achieved by homes when complete.

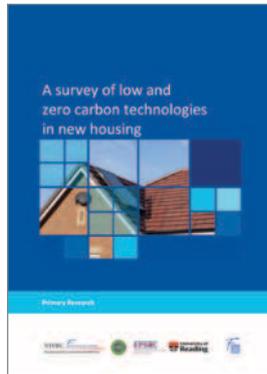
If the energy consumption of an occupied home is greater than its designer predicted, its carbon dioxide emissions will also be higher than predicted - this is the CO₂ performance gap. There appears to be a growing body of research evidence that new housing is failing to deliver the anticipated levels of CO₂ emissions, although there is relatively little understanding within the wider industry of what might be causing this.

This report reviews the evidence that supports the existence of a CO₂ performance gap and explores its potential causes. It establishes that, contrary to some of the views expressed on the topic to date, there is no single cause. Instead, the report identifies a multitude of possible causes and issues that may contribute, from the earliest stages of design through to post-construction checking. All of these issues need to be understood and dealt with if the CO₂ performance gap is to be minimised.



GUIDANCE (CONTINUED)

A survey of low and zero carbon technologies in new housing (NF42)

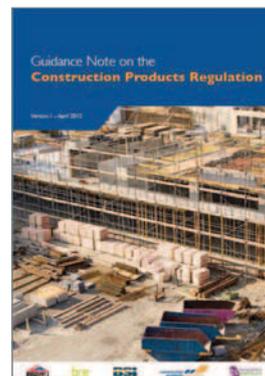


The recent NHBC Foundation research report 'Today's attitudes to low and zero carbon homes: views of occupiers, house builders and housing associations' (NF40) highlighted the need for low and zero carbon (LZC) technologies that are reliable, perform to expectations and are capable of being used by home occupiers to achieve their design potential.

To provide further guidance on these issues, this new report investigates LZC technologies currently being used and likely to become dominant in the market. Through in-depth interviews with homeowners, carried out by the School of Construction Management and Engineering at the University of Reading, this research reports on their day-to-day use and attitudes towards these technologies.

The results support and expand on those published in NF40 and provide valuable information to assist the industry in developing and producing the LZC products that will be installed and used to meet the zero carbon target.

Construction Products Association (CPA) publication - Guidance Note on the Construction Products Regulations



From 1 July 2013, the Construction Products Regulations 2011 (CPR) will introduce significant changes in the way in which construction products are sold in Europe.

The CPA publication provides a guide on the implications of CE marking under the CPR for manufacturers, importers, distributors, specifiers,

certification and test bodies, and regulatory/enforcement authorities.

The guidance note has been prepared by the Construction Products Association (CPA), the British Board of Agrément (BBA), British Standards Institution (BSI) and FBE Management Limited in consultation with the Trading Standards Institute (TSI).

A copy of the latest version of the guidance is available from the CPA website:

www.constructionproducts.org.uk/publications/

YOU NEED TO...

This article is for general interest. There are no actionable requirements, although readers are advised to note the findings of the reports.

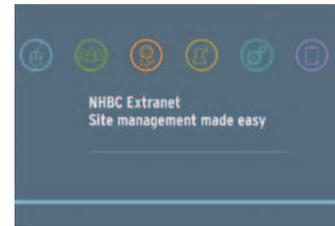


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SUSTAINABILITY AND ENERGY

If you need advice on complying with sustainability or energy targets, NHBC's expert consultants can help you achieve your targets cost-effectively, with solutions tailored to your site-specific needs.

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Save time and money by using NHBC SAPs and EPCs plus air leakage testing and building control for the best Part L solution.

To speak to one of our consultants, call **0844 633 1000** and ask for 'Sustainability'.



LAND QUALITY ENDORSEMENT

Land Quality Endorsement (LQE) from NHBC assesses brownfield and contaminated sites when they are being redeveloped for housing, against the requirements of NHBC Standards, for the purposes of determining suitability for Buildmark cover.

In the past, there has been no formal process for non-NHBC registered companies to submit proposals for contamination investigation and remediation to NHBC for assessment. The LQE service now provides this facility. LQE has been shown to:

- reduce uncertainty in land negotiations; major risks will be identified, risk assessed and quantified
- minimise the potential for delays in the sale of new homes on remediated land
- provide confidence that the foundation solutions suit the remediation techniques used on site
- reassure prospective purchasers that the site is acceptable for NHBC warranty
- provide guidance on meeting NHBC's Technical Standards.

LQE is suitable for sites that are remediated prior to sale for residential development. NHBC liaises and works with the promoter of the project and the appointed consultants to ensure that, following remediation, the site will be considered suitable for the provision of NHBC Buildmark cover. NHBC is already working on some of the largest remediation schemes in the UK and could help you too.

For more information on LQE, please contact **0844 633 1000** and ask for 'LQE' or email lqe@nhbc.co.uk.



UPCOMING TECHNICAL EVENTS

NHBC/CITB Site Management Safety Training Scheme

The Site Management Safety Training Scheme (SMSTS) is one of the construction industry's most highly regarded qualifications and is considered by the HSE to be the exemplar health and safety qualification for site managers. This NHBC course is specifically tailored to the needs of home builders. This course is designed for contracts managers and site managers, as well as the proprietors of small to medium-sized builders, to help equip them with the knowledge they need to manage site safety. The course includes a written exam, on successful completion of which the CITB qualification can be awarded.

The SMSTS open course is spread over two or three weeks, so there is no need for your site managers to be off site for a whole week. The qualification lasts for five years, and can be renewed on successful completion of the two-day SMSTS requalification course. NHBC is the industry's leading supplier of health and safety training, and has a pass rate of over 97% on this course.

Manchester	10, 11, 18, 19, 20 September 2012
London	18, 19, 20, 25, 26 September 2012

NHBC runs technical training events throughout the year

Available dates and venues for current courses may be viewed on our website: www.nhbc.co.uk/training

For further details, including in-company training, call **0844 633 1000** and ask for 'Training' or email training@nhbc.co.uk.

For more information on training from NHBC, visit www.nhbc.co.uk/training

For early notification of future training courses, sign up to NHBC's free e-newsletter at www.nhbc.co.uk/newsandcomment/registerfore-news/



Useful contacts for technical information and advice

NHBC technical advice and support

Tel: 01908 747384
Email: technical@nhbc.co.uk
Web: www.nhbc.co.uk/builders/technicaladviceandsupport

NHBC Standards

Buy online at:
www.nhbc.co.uk/nhbcshop/technicalstandards

Building Regulations

For guidance on issues relating to Building Regulations, please visit NHBC's TechZone at www.nhbc.co.uk/techzone

Building Control

For Building Control queries, please call 0844 633 1000 and ask for 'Building Control', or email buildingcontroladmin@nhbc.co.uk.

Engineering queries

For Engineering queries, please call 0844 633 1000 and ask for 'Engineering'.

NHBC Foundation research

The NHBC Foundation facilitates research and shares relevant guidance and good practice with the house-building industry.

www.nhbcfoundation.org

Zero Carbon Hub

The UK Government has set out an ambitious plan for all new homes to be zero carbon from 2016. The Zero Carbon Hub helps you understand the challenges, issues and opportunities involved in developing, building and marketing your low and zero carbon homes.
www.zerocarbonhub.org

NHBC Clicks & Mortar e-newsletter

NHBC regularly distributes information on a range of industry topics, including new products and services, the building industry market, house-building news and house-building statistics. To receive this industry information, please register at:

www.nhbc.co.uk/newsandcomment/registerfore-news

NHBC Housing Developments e-newsletter

Housing Developments is a new, free resource, developed specifically for the affordable housing sector and designed to report on current industry developments and issues, with expert insights into affordable and social housing.

To receive this e-newsletter, please register at:

www.nhbc.co.uk/housingassociations/affordablehousingnewsletter

General enquiries

For all other enquiries, including ordering products and services, please call 0844 633 1000, and ask for 'Sales'.

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