

# Waterproofing, damp proofing and ground gas solutions in housing management

Delta Membrane Systems' technical director, David J Symes, explores the challenges experienced by housing providers in today's ever evolving market

The availability of affordable housing is key to accommodating the United Kingdom's ever increasing population, not only in building newer homes, but in ensuring the restoration and maintenance of existing buildings.

Social housing provides accommodation for around 4 million tenants in the United Kingdom, and the upkeep of these homes is essential.

The Government pledged in April 2017 to unlock brownfield land to accommodate our housing shortage. 73 Local authorities across the United Kingdom will pilot, under new legislation, registers of brownfield sites available for housing locally. These new registers will help housebuilders identify suitable brownfield sites instantly, therefore unlocking land for thousands of new homes.

## BUILDING ON BROWNFIELD LAND

The government has pledged 1 million more homes and to get planning permission in place on 90 per cent of suitable brownfield sites for housing.

Brownfield land is a term specifically used to describe land which has previously been used for commercial or industrial purposes with suspected or known contamination (such as pollution or soil contamination) or land which has been in close proximity to pollution, hazardous waste or soil contamination. There are over 66,000 hectares of brownfield sites in England, one third of these are in the high-growth areas of greater London, the South East and East.

To safely build on brownfield land, considerations need to be given to how the land was previously used. All brownfield sites prior to developing will need to be assessed by an experienced environmental consultant before they can be redeveloped. This involves an analysis of the soil, groundwater and surface water through testing for hazardous compounds, and will ensure that appropriate measures are taken to reduce identified risks and liabilities.

With the continued challenges to build on brownfield land, technology has advanced accordingly, with the introduction of gas proof membranes. Gas proof membranes protect buildings and structures by offering a barrier to dangerous chemicals and ground gases.

Legislations such as building standards BS8485:2015, BRE 211.2015, CIRIA 665, CIRIA 735, CIRIA 748 and NHBC standards have all taken into consideration what protection will be essential for building on brownfield land. Gas proof membranes can cater for the harshest of brownfield conditions, protecting against the ingress of hydrocarbon vapours, radon, methane, carbon dioxide, ground gas and volatile organic compounds (VOC).

## MAINTAINING THE COUNTRY'S HOUSING STOCK

The preservation of older properties has taken on greater significance in recent years. Concrete structures over time deteriorate. Properties which have experienced long term exposure to snow, frost, ice and rain will require repair and maintenance. Concrete repair solutions can repair and protect a



The demand for maintaining the country's ever growing housing stock is continual

structure, while managing and controlling corrosion, strengthening the structures, and offering a cost effective solution.

Multi-tenanted structures will have additional features to consider - besides the frontage, maintenance of balconies, terraces and walkways are vital. With a wide array of application techniques and detailed knowledge of the causes of deterioration to concrete, a waterproofing design specialist should be consulted to advise cost effective solutions available.

## DAMP

Damp can damage much more than a building's appearance, creating unhealthy conditions for occupants. Over time, damp will lead to the deterioration of plaster and masonry, while promoting timber decay. Inappropriate treatments for damp will cause further harm to older structures.

Damp proof barriers, such as damp proof membranes, satisfy most site conditions while offering a sympathetic approach. Incorporating a damp proof membrane to a structure suffering with damp issues minimises recurrence or structural damage.

Additional attention may need administering during the design stage to maintain the aesthetic and structural integrity of the structure/building. The waterproofing design should offer sympathetic application.

Damp proof membranes offer a further compromise for when lime renders are inadequate in given situations. For example, on below ground structures, on structures that have heavy salt contamination and on structures that cannot be effectively repaired and waterproofed sympathetically and adequately from the outside (eg. where there are architectural features that cannot be waterproofed). Damp proof membranes may be used in conjunction with a chemical damp proof course, or as is often the case, in listed buildings used as the sole means of providing an effective barrier which complies with BS 6576:2005.

Understanding the basic construction of older buildings differs from that of new ones, and this knowledge will assist in avoiding misguided remedies.

**THE ROLE OF A WATERPROOFING DESIGN SPECIALIST**

A waterproofing design specialist provides expertise in structural waterproofing. Waterproofing design is a complex task; every construction project is different and will require diversities.

There are number of key signs to look out for when selecting a qualified waterproofing design specialist. A waterproofing design specialist should attend the site, undertake investigations, produce reports and manage documentation in relation to the design, ensuring at all stages that sufficient protection is designed into the project. Getting the design correct prior to construction can save significant long-term costs.

A waterproofing design specialist should have CSSW as a minimum standard of qualification, be able to offer knowledge on ground gases, structures, risk assessment, water sources, and other domains. A qualified specialist should, in addition, be able to produce a design report, method statement, and waterproofing design drawings.

*David J Symes is the technical director at Delta Membrane Systems*



**Advantages of Osmo UV-Protection-Oil**

Osmo UK, the eco-friendly wood and finishes specialist, has developed a quality finish to protect, maintain and restore exterior wood. Osmo UV-Protection-Oil has been specially designed to preserve the natural colour of the wood, leaving it looking in top condition. Protection of exterior wood is of the upmost importance as the colour can fade after harmful UV rays damage the lignin within the wood. Osmo UV-Protection-Oil is a clear, satin finish for exterior application onto vertical wooden structures only such as doors, cladding, fencing etc. Based on natural oil, it does not crack, flake, peel or blister. The UV-Protection-Oil 410 consists of natural ingredients.



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**The customer always comes first**

Designer Contracts has launched a Customer Service Charter, believed to be a first within the industry. Since the launch of the Home Builders Federation (HBF) annual customer satisfaction survey, carried out by the HBF and the National Housebuilding Council each year, significant progress has been made by the industry to deliver exemplary levels of customer service, with Designer Contracts generally considered a leading example. The new Customer Service Charter sets out its mission, commitment and processes to give guidance on how to deal with issues quickly and effectively. The detailed flow charts ensure that every consequence is covered.



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**Practicality meets comfort at tudor lodge**

Tudor Lodge, a development of 30, one and two bedroom, purpose-built retirement apartments based in Solihull, in the West Midlands, has upgraded the carpet in its communal areas with Total Care, from Heckmondwike. After the period of consultation with residents had concluded, Tudor Lodge's management team opted to upgrade all the carpet in communal areas and chose Heckmondwike Total Care in 'Spice' for the corridors and Total Care in 'Cajun' for the lounge. Total Care and Pure Care are ideally suited to healthcare environments or sheltered housing, whether in communal areas, corridors or bedrooms and in entrance areas.



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**Polyflor helps create modern apartments**

Luxury vinyl sheet flooring and Polysafe safety flooring from Polyflor, was recently installed throughout apartments on the Belle View social housing development, Stow Park Avenue, Newport. Approximately 1400m<sup>2</sup> of Designatex PUR sheet vinyl flooring, Polysafe Wood fx PUR and Polysafe Arena PUR safety flooring was installed during the interior fit out phase by Evabuild Interiors Ltd, under main contractor Willis Construction. The Platinum Oak grey wood effect design from Polyflor's Designatex collection of luxury vinyl sheet flooring for residential interiors was used throughout bedroom, living room and kitchen areas in each apartment.



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