Visqueen Special Projects
offers complete end-to-end solutions

- CSSW waterproofing designs
- Covered by Professional Indemnity
- End-to-end design with accredited product solutions
- Dedicated in-house design team
- On-site technical support

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Complete Design Solutions from Visqueen Special Projects
“With this current boom in basements, and the frequency of below-ground waterproofing claims to registrations being circa 1600 times greater than foundation-related claims, below ground construction remains a cause of concern.”

NHBC chapter 5.4

Laying the best foundations for a new approach to structural waterproofing

There have been huge changes in the way that we approach waterproofing design for underground structures.

Increasing property prices and limited availability of land have led demand for more below-ground accommodation, especially within our major cities.

The additional challenges in providing effective waterproofing have seen a significant rise in the frequency of below-ground waterproofing claims. Between 2005 and 2013 this has cost in the region of £21 million and affected 890 homes.¹

This means that the effective waterproofing of below-ground structures now has to meet increasingly demanding standards and regulations.

¹ NHBC Technical Extra Nov 2014 Issue 16
Traditionally it has been the role of the architects to draw up and recommend the waterproofing design for below ground projects. However, the vast majority of architects will readily acknowledge that they do not have the training or expertise to undertake this function. The only reason they have been doing it is because there are so few people in the industry who are willing to undertake this role.

Under the code of practice BS8102:2009 however, it is recommended that, once the design team has given the system some thought, an appropriate specialist should be contacted immediately for early advice and help on the waterproofing design.

This is set out in section 4.2 of BS8102:2009 under the heading “Design Team”. The code states:

“A waterproofing specialist should be included as part of the design team so that an integrated waterproofing solution is created.

The waterproofing specialist should:

- Be suitably experienced.
- Be capable of devising solutions that accommodate the various project constraints and needs.
- Provide the design team with information and guidance that assists with and influences the design, installation and future maintenance of the waterproofed structure.”

The right expertise is crucial to the success of your project.

Waterproofing Design Specialists (WDS) are able to provide expertise in structural waterproofing. However, identifying suitable specialist companies that have the appropriate design capability & resources from those who don’t can be challenging. Even the most experienced design teams and building developers can struggle to single out appropriate design guidance.

BS8102:2009 implies that the Waterproofing Design Specialist should have knowledge of the following:

- The waterproofing systems available.
- An in-depth understanding of the requirements of BS8102:2009.
- Sources of water, and how it flows through the soil and interacts with the structure. Sufficient structural knowledge to be able to discourse meaningfully with the structural engineer. Sufficient geotechnical knowledge to be able to understand the implications of a soil report, and to discourse meaningfully with the geotechnical engineer.
Your blueprint for success

A qualified structural waterproofing designer will be able to take all the project information including the site investigation report, the local geotechnical information and the construction drawings and produce a structural waterproofing design to suit the structure.

The designer will ensure the initial outline proposals are compliant with the British Standard BS8102:2009 and the British Standard BS8485:2015 where required, for gas protection and reference other relevant codes of practice from industry research bodies such as BRE and CIRIA. Other factors to consider are contaminated land on brown field developments. They will also advise how build sequence can influence product choices, other products, trades and structural elements should interact with the waterproofing, and if extra protection or preventative methods are required to prevent damage by follow on trades.

In this scenario, previous free-of-charge waterproofing design services are now no longer adequate. While the solutions provided are fit-for-purpose, there is no ultimate ownership or design liability for them across all stakeholders and the supply chain, since typically they are approved by architects or contractors with little or no formal training in waterproofing, and this can lead to problems. Nor are they likely to meet all the criteria of the structural warranty providers in order to be able to provide projects with their appropriate building guarantee.

Not all warranty providers insist on having professional indemnity, however they do insist on CSSW designs. There is a fee attached to this service as the responsibility of the design is with the designer and this establishes a commitment to use the products as specified.

Visqueen also offer a full Professional Indemnity package for the structural warranty providers who do insist on having professional indemnity. We look to establish expectations of stakeholders with pre start meetings and on-site support. At the end of the project a full design handover pack will be issued.

Smarter, flexible, solutions from Visqueen Special Projects

Understanding and delivering designs to meet these stricter standards is essential, and has led to the construction industry demanding greater in-depth and comprehensive support. In recognition of this, Visqueen has invested heavily in the establishment of a bespoke WDS service that integrates our specialists as a fundamental part of the project design team.

Visqueen Special Projects provides high-level expertise and experience in all types of waterproofing and gas protection.
From initial design to the completed project, we’re with you every step of the way

Whatever the requirement – from waterproofing barriers to structural, integral and drained cavity constructions – we work with all stakeholders to support your project efficiently and cost-effectively at every stage.

Our core values and technical service levels are well recognised within the industry, this makes us unique in the market place, offering technical advice across the structural waterproofing and gas protection sectors.

The Visqueen Special Projects team are dedicated to designing waterproofing and gas protection solutions, linking up with all stakeholders with professional indemnity.

We take full ownership from design briefs, delivering CAD detailing, ensuring all designs are in accordance with industry recommendations and guidance, through to on-site support, making sure everyone’s needs are met.

Complete end-to-end solutions

Our European technical team delivers a complete solution, working with all stakeholders to provide end-to-end project support including:

- Initial project appraisal
- Design brief
- CAD design with insurance-backed warranty
- On-site support
- Design Handover Pack issued at the end of the project
1. Initial project appraisal

As part of our new Special Projects service our waterproofing design specialists (WDS) carry out a risk assessment to determine the principal risks with respect to water ingress into structures.

The project appraisal assesses the geology and hydrogeology, including soil permeability, flood risk, radon, methane and other ground gases and contaminants (e.g. chlorides and acids), hydrocarbons and volatile organic compounds (VOCs) due to the increase in demands for brownfield site development.

We also assess the topography of the surrounding ground in relation to the below ground structure and establish the likely highest level of the water table.

Our site investigation takes into account current construction details and building type.

Visqueen WDS will assess and review the following:
- Current construction details and building type
- Soil/ground investigation and hydrology, hydrogeology and topography report
- The design will adhere to the following codes: BS8102:2009, BS8485:2015, Ciria 659, 716, 735, 737, 748 and BRE 211
- Building schedule and timings

“The Visqueen Special Projects team offer first class expertise; they have a comprehensive understanding of the necessary requirements and all systems available to ensure our project was delivered in line with these standards.”

Andrew Sapiano – Evolution Architects
2. Design brief

Waterproofing design is a complex task. Many structural warranty providers now require a CSSW designed waterproofing solution to their project and a mandatory requirement is that CSSW qualified designer is involved as early as possible, ideally 8 weeks before any concrete is cast.

All our design experts have undergone full CSSW training and have PI insurance backing, in order to provide complete piece of mind throughout the construction period and following its completion.

We work with all key stakeholders, architects, structural engineers and the contractor’s design team to ensure the construction methodology is sympathetic with the waterproofing design which will mean that the waterproofing design is suited for on-site installation.

Our design specialist will take the site investigation report and any other corresponding reports and ensure sufficient protection is designed. Getting the design correct prior to the construction phase can save significant costs. For example, if a site requires a gas protection membrane and this is not identified until the construction stage, huge costs will be incurred to redesign the protection system.

Taking all the available information into account allows our design team to prepare the most robust waterproofing system that’s suited to your project.

Identity:
- All stakeholder expectations
- Structural warranty provider considerations i.e. NHBC, LABC requirements
- Design limitations and contaminated land issues
- Waterproofing design options

“We have gained so much valuable insight throughout that we can take with us onto our next projects”
Simon Monk – McDermott Building & Civil Engineering
3. Initial design synopsis

Our design team take the project construction drawings and provide a complete set of working detail drawings which will produce a practical design for the waterproofing to be installed correctly to the structure. It is at this stage when any incompatibilities can be recognised and resolved.

We regularly attend design team meetings and provide recommendations and advice relating to the waterproofing strategy. When detailing the waterproofing design, we liaise between architect, engineer, client and contractor to ensure the design is sufficient and practical.

Upon completion of the initial project appraisal and design brief we will deliver a detailed proposal outlining the following:

- Design commitment and quotation
- Design options in accordance with COP
- CAD waterproofing solutions and sequence of build options
- Preferred installers

“There is no ‘one design fits all’ in this game and all the issues on our site were resolved with clarity, we all knew what was happening every step of the way”

Phil Knowles – Octopus Building Services
4. On-site support

We provide site support and training to ensure the waterproofing systems are installed correctly according to the designs. Prior to installation, we will attend site and where necessary hold training sessions with the site personnel.

Training can be held on site or at our new purpose-built Training Academy in Heanor.

We also issue technical data sheets which make it very easy for any installer to understand exactly how they should be installing the membranes.

For added peace of mind our technical team will provide the following support:

- Pre-Construction Visit
- Pre-start meeting with contractors and design team
- Ongoing site visits in accordance with design quotation
- Site visit log

“Our Visqueen WDS has been vital to the success of our development, the knowledge and on-site support has been key in aiding our team along a minefield of regulations and codes of practice”

Luke Fowles – Bouygues UK
5. Design Handover Pack

Upon completion of the design phases of the project, our technical team will produce and issue a Design Handover Pack to the client. This provides everything from full specification of the waterproofing systems recommended, to accreditation and certification.

Our comprehensive Design Handover Pack will provide you with a complete structural waterproofing system that includes:

- Bespoke CAD drawings including joints, junctions and service penetrations
- Full specification of Type A element where applicable
- Full specification of Type B element where applicable
- Full specification of Type C element where applicable
- Product data sheets & MSDS
- Third party accreditation BBA/BDA
- Ground condition report
- CSSW certificate
- Preferred Installers
- Site visit log

"The Design Handover Pack is just the icing on the cake, I would highly recommend the Visqueen WDS and integrating them into your own teams."

Stewart Smith – Halsall Construction
Case Study

Ensuring effective waterproofing for island homes

Visqueen were approached to supply Certificated Surveyor in Structural Waterproofing (CSSW) design for strategically planned island community.

St. Mary’s Island is a 150 acre residential redevelopment which forms part of the 350 acre Chatham Maritime regeneration project.

The aim is to create a new way of life for people who valued the simple things – tranquillity, harmony and community and to establish a benchmark for how homes and communities should be in the future. This has resulted in a rich, inspired environment and a community with enviable ‘green credentials’.

The Challenge

The major requirement for any development based on an island is to eliminate the risk of water ingress. In addition, the site is a CO₂ with methane and CO₂ gases present. Visqueen was therefore tasked to provide a solution to achieve both a waterproof and gas tight solution for a variety of different building requirements, including beam & block, ground bearing slabs, lift pits and retaining walls.

The Solution

In order to meet the varying requirements of these different applications, Visqueen utilised a range of products to deliver two layers of protection – type A and type B waterproofing (for below ground structures) in accordance with BS:8102, together with means to prevent hydrostatic pressure from forming at the side of the structure through the use of a geo-composite drainage layer and land drains.

The Result

The project that was completed in March 2017, has ensured that the island’s structures are safe and protected, ideal for a community that will provide a blueprint for similar developments in the future.
Visqueen is the market leader in the manufacture and supply of structural waterproofing and gas protection systems.

Visqueen offers complete support at every stage in the specification and supply chain process. We offer a comprehensive range of advanced products, a dedicated technical support team of specialists – offering specification and design advice and a best in class level of customer service.

With a team of highly trained and experienced technical experts offering the highest level of support to our customers, including, architects and specifiers, contractors and merchants – all of our technical team have been awarded the CSSW award (certificated surveyor of structural waterproofing), a nationally recognised professional qualification – we aim to promote excellence within the industry, improving consumer confidence and encourage professional development.

Our market leading expert team are equipped to offer the best specification and design solution for gas and waterproofing using Visqueen’s extensive product range.

Working to only the highest standards and through innovation and excellence as key values, Visqueen remains the industry leader and is trusted as the technical authority for product standards.