

Making waves by the river



ADAM COUPE (2)

The sinuous curves of the Thames inspired Stanton Williams' design for this amorphous-shaped block of 116 high end residential apartments on the north bank of the river at Pimlico, just moments from Tate Britain.

The building's facade resembles a series of strata, its curved strips of limestone cladding at each floor level alternating with bronze-coloured metal and glass bands that form windows and balconies. Step-backs on the upper floors help define the roofscape and provide large roof terraces for penthouses.

Riverside Walk's massing and its curved shape were informed by factors including the winding river, height restrictions and protected views of the Houses of Parliament from Hungerford Bridge, as well as efforts to maximise viewing angles of at least 180° from flats towards central London and the suburbs.

Doriano Chiarparin, associate at Stanton Williams, told RIBA Journal: 'Decisive to the design was the brief from client Ronson Capital Partners to create an original and unmistakably residential building that could not be confused with an office block. That led us to think of balconies, but rather than make them a stuck on element, the challenge was to make them sculptural and integral to the building form.'

In plan, the windows and cladding are laid out as two curved ribbons that pull apart and come together at various points to form

the crescent-shaped balconies, which differ in size and shape depending on the size of each apartment and its orientation.

Each balcony structure comprises a cast in situ concrete slab with prefabricated steel end sections, which is connected to but thermally separated from the main building's concrete structure. Balconies feature hardwood timber decking and are clad, externally, in curved limestone panels, topped by a frameless curved glass screen.

The balcony floor slabs were waterproofed using the alpha-hybrid liquid waterproofing product Hydrostop EU AH-25, supplied by roofing specialist SIG Design and Technology, following consultation with the architect and main contractor Sir Robert McAlpine.

'Initially, we considered using a hot-applied waterproofing system, but

realised that a cold-applied product was much more practical,' said Chiarparin. 'It meant less interference with the cladding installation and less time had to be assigned to Health & Safety procedures related to the use of gas and open flames. The Hydrostop product also has a very good performance warranty.'

The numerous cleats and bolts linking into each balcony made application of a homogenous liquid layer more straightforward than the cutting required to install a sheet membrane solution. In addition, using a liquid made it possible to waterproof the prefabricated steel balcony ends ahead of installation and before the remaining areas were waterproofed.

SIG D&T provided Knight Asphalte with design and technical advice, and technical inspections on site. It also trained the roofing contractor's staff to use the product, both on site and at the firm's offices.

'We looked at half a dozen liquid products and were very impressed with the technical performance of AH-25,' said David Knight, technical director at Knight Asphalte.

'It was the best fit to the project constraints, having just received its Agrément Certificate, which was essential for the contract. Many liquid products have a pungent smell, but AH-25 doesn't smell at all. It's a new generation technology and it actually works.' ●



Above Riverwalk east elevation, it's sinuous cladding referencing the Thames' curves.

Left Cold-applied Hydrostop waterproofing on balconies meant less interruption to the cladding critical path.

Let's float the idea

BACA met space, style and conservation requirements with a house that floats when it floods

Sheathed in its homogenous skin of shimmering zinc diamonds, architect BACA's new house on the banks of the Thames at Marlow in Buckinghamshire already has a strong sense of the contemporary – but there's some striking goings-on below ground level too - for though it might not look like it, this is the UK's first amphibious house. Having bought a stunning riverside site with an existing bungalow, the client was keen to create a modern three-bedroom home, but a number of factors stood in the way. Just 10m from the riverbank, the house regularly suffered some degree of flooding so any new proposal had to be raised 2.5m to deal with a 1 in 60-year event. But the local conservation area placed limits on the height of any two-storey home. With its space needs conflicting with these constraints,

the client turned to BACA, a firm experienced in planning and designing floating homes. BACA proposed a two-storey home built on a floating concrete platform sunk within a steel-encased concrete box, with living areas at ground level and bedrooms in the basement. The innovation is that when the site floods, the building becomes buoyant. 'As with any building, the superstructure is fixed to foundations, but these aren't fixed to the ground. When the floodwaters come and hydrostatic pressure increases, the building starts to float within its dock,' says BACA director Robert Barker – like an ark rising above the flood. So how did BACA express its innovative 'aquitecture'? 'We saw it as an opportunity to think differently, to try and express a sense of evolution, a reinterpretation of a marine

tradition,' recalls Barker. For that the firm looked to SIG Zinc and Copper's NEDZink NOVA, its titanium zinc product with a pre-weathered grey finish. The firm had initially looked to the local vernacular of timber weatherboarding but was drawn instead to the ad-hoc industrial sheds that peppered the island as well as wider marine architecture references. It became clear that it wanted to express its pioneering building using a modern aesthetic. 'We began thinking more about engineering structures like the Thames Barrier and the fact that zinc was traditionally used to protect the hulls of boats from rust, so the material seemed particularly applicable here,' adds Barker. They also enjoyed the reflective quality of the zinc, alluding to the rippling surface of the nearby Thames; as well

SIG Zinc & Copper is part of SIG Design & Technology and offers a complete and impartial design and supply service, which covers all eight steps to help create the perfect roof. It designs flat roofs, green roofs, and zinc, copper and stainless steel roofing and cladding.

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as the diamond-shaped shingles, which had a dynamic all of their own. These characteristic shingles, which completely cover the timber-framed house's walls and roof, were manufactured and installed by Kingsley Specialist Roofing, a member of the Federation of Traditional Metal Roofing Contractors, which has years of experience using both SIG's NEDZink and KME copper sheet products. The 2000 zinc diamonds, measuring 300mm by 300mm, were formed at the firm's Sussex factory, with SIG Zinc and Copper involved at the start of the design and fabrication process. Procurement manager Daniel Madell says the main challenge here was the setting out, adding: 'We were using a shingle tile system, effectively panels that are cut and bent allowing them to interlock on all

four sides. Concealed fasteners and clips fix the zinc shingles to the 18mm plywood substrate over the top using a single lock welt.' Bespoke detailing benefited from the intrinsic malleability and flexibility of the NEDZink product, particularly around the 'dolphins' – the visible recesses on the side elevations. These house the thick, solid steel posts rising out of a steel ring beam at the bottom of the dock and act as a guide for the house to rise up in a flood scenario. 'We had to continue the cladding pattern and wrap in behind the dolphins to create the seamless look,' says Madell. 'The great thing about zinc is that it is flexible enough to deal with specific details like this.' It also accounts for the bespoke flashings creating the interesting visual detail

at the wall/roof interface. It is this detail that helps create the slightly abstracted 'home' form. With the house designed the way it is, the idea of guttering away run-off seemed perverse, so BACA thought it better to simply allow the water to run directly along and down its surfaces into the 'dock' void. This led to the question of whether continual run-off might lead to localised staining, but Barker is unfazed by this, saying: 'The good thing about specifying zinc is that its character only develops more through patination over time.' And with the Amphibious House's built-in floating resilience now allowing it to easily withstand a rare flood event and SIG offering 25-year warranties on NEDZink NOVA, they figure there'll be plenty of time to test the theory. ●



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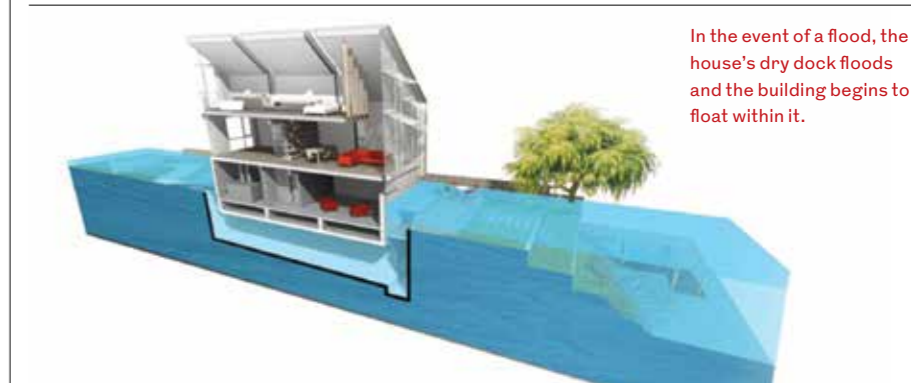
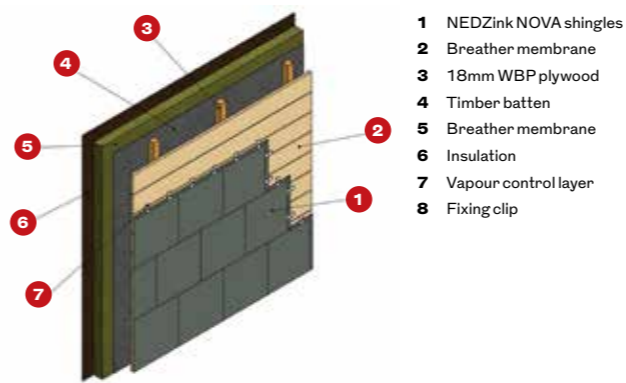
FAR LEFT: TIM CROCKER



Opposite page The amphibious house with its distinctive NEDZink shingles looks anything but – until the nearby river floods.

Left Bespoke NEDZink shingles being fixed to the plywood substrate.

Left Detailing of the NEDZink shingles is crisp – particularly around the 'dolphins' holding the steel guide post for the house to move up along.



In the event of a flood, the house's dry dock floods and the building begins to float within it.

Read the small print

Ross Finnie, sales director SIG Design and Technology, on what roofing specifiers need to know about guarantees

Guarantees are designed to offer peace of mind in case things go wrong, but in reality getting the right cover can be a minefield. All too often, it's only when they are needed that any shortcomings in the guarantees come to light. Then, rather than making a claim that will swiftly resolve the issue for you and your client, you may find yourself in a situation where no one will accept liability, or where one of the key parties involved in the roofing contract is no longer trading.

So beyond minimising the chances of problems occurring in the first place by careful product selection and the use of trained subcontractors, what can specifiers do to avoid this? There are several issues to bear in mind.

What do you want cover for?

Some guarantees are for product/materials, others for workmanship, installation or design. When you specify be clear what you want – if you are after latent defects cover or insolvency, for example, make sure you ask for it specifically – never assume it's included. Always carry out due diligence on a guarantee up front to find out exactly what cover is being offered.

What's the right insurance?

Increasingly, clients and specifiers request insurance backed guarantees as a way of reducing the risk. However this alone is not enough: you need to see the wording of the manufacturer's and/or contractor's guarantee and the detail of the policy behind it to assess if the cover is appropriate. All too often, specifiers and clients don't really know exactly what is being covered because it isn't clearly defined, and they haven't asked enough questions to find out. Types of cover range from product guarantees to latent defects insurance (see right), but wordings vary depending on the insurance company.



Ask a professional

Don't rely solely on the manufacturer's advice. Always seek additional information on the insurance being offered from an independent adviser who is Financial Conduct Authority regulated. Talk to them to better understand what the various insurance policies that could apply actually cover. Consider possible scenarios that you might need cover for, including worst case.

Independent advice can be particularly important when assessing a product guarantee from a manufacturer. Ask an FCA-regulated adviser to analyse what is covered if the product is faulty – for example does it cover just the replacement of the materials or the whole cost of replacing the roof including labour and access? If you don't ask the right questions at this stage, when you do need to call on your guarantee, you may find you don't have the degree of cover you expected.

Do the due diligence

Carry out financial due diligence on the stability and credibility of the manufacturer, designer or installer – how long have they been trading? Do they have a good reputation within the industry? Some companies

offering guarantees for roofing may not be financially stable enough to sustain lengthy insurances, which could be on their balance sheets for 10 or even 20 years, and some policies may cease if the company stops trading. A lot of guarantees appear to have insurance backing but make no mention of any insurer or the Financial Conduct Authority, which regulates the sale of insurance products. These will invariably be guarantees backed by the manufacturer only, which is of no value if they cease trading. Always read the small print. Also be aware if some manufacturers are actually agencies importing other products, which might simply fold if claimed against.

Consequential loss

Make sure you're fully protected for the potentially substantial consequential losses of a leaking roof relating to the occupants and their business. This can be considerable if it involves damage to equipment and relocation. Find out if the policy covers loss of earnings. Since remedial work could be lengthy and this could affect cash flow, find out how long resolution of a consequential claim is likely to take (it also might be covered by other insurances such as buildings and contents insurance). ●

INSURANCE OPTIONS

- **Professional indemnity insurance:** This is bought by designers/architects and covers their legal defence costs and damages in the event of being sued by their clients for professional errors or omissions.
- **Public liability insurance:** covers the legal liability to third parties for bodily injury, damage to property and direct consequential losses (excluding products).
- **Product liability insurance:** covers the legal liability to third parties, for bodily injury, damage to property and direct consequential losses arising out of the products sold/supplied/installed. The replacement cost of the defective product itself is excluded.
- **Insurance backed guarantee:** steps in to fulfill the written guarantee of the manufacturer/installer, should it cease trading. Depending on the wording, it can cover defective, design workmanship or materials.
- **Latent defects insurance:** protects against design workmanship or material defects after completion causing damage to the building, and in most cases ensures the policy holder can go straight to the insurer rather than to individual parties. Some may have an initial guarantee period where the contractor is still responsible, during which insurers provide insolvency cover only.

8 steps to a ‘#PerfectRoof’

Picture courtesy of terencesmithphotography.co.uk

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