

CASE STUDY

20 Fenchurch Street



“Installation of the Radmat inverted roof systems was extremely demanding, particularly on the 45 degree slope of the ‘Sky Garden’. Adding to the complexity was the requirement to waterproof the concrete soil restraints, which have drainage gullies running through them to provide irrigation and drainage to the trees and shrubs.”

Paul Nelson,
Prater's Project Manager

RADMAT PRODUCTS:

EshaUniversal
PermaQuik PQ6100
ParaFlex

ARCHITECTS:

Rafael Viñoly

Leading waterproofing and green roofing supplier **Radmat Building Products** has supplied a comprehensive range of systems for the landmark 20 Fenchurch Street skyscraper in the City of London, nicknamed The Walkie-Talkie. Radmat's **PermaQuik, ParaFlex waterproofing systems** and **EshaUniversal roofing membranes** have been installed during the creation of the building, which includes a breathtaking ‘Sky Garden’ offering superb views over the Capital.

- Features one of the highest green roofs in the world
- Waterproofing also applied to the drainage gullies
- 45° degree slope added installation difficulty.



Designed by world-renowned architect Rafael Vinoly and jointly developed by Land Securities and Canary Wharf Group, 20 Fenchurch Street has been famously nicknamed the 'Walkie Talkie' due to its iconic and unique top-heavy shape. Designed and constructed with high sustainability credentials to achieve an 'Excellent' BREEAM rating, the 38 storey tower incorporates an open and vibrant 'garden in the sky' – spanning the top three floors and surrounded by a sloping landscaped garden on the 32nd floor. Described as the terraced "hanging gardens of modern Babylon", the fifth of an acre garden utilises drought resistant Mediterranean and South African flowers, shrubs and ferns in soil up to a metre deep. The gardens also supply rosemary, thyme and other herbs to the three restaurants within the building.



Set to become London's highest public park, the publicly accessible roof gardens include a viewing area, terrace, café, bar and restaurant. For such a unique space, it was crucial that the roofing system chosen delivered thermal performance, watertightness and long term reliability for the client and for Radmat. Land Securities and Canary Wharf Group awarded the work to Radmat Approved Contractor Prater on the basis of the company's established reputation and expertise in all types of flat roofing.

For the pitched green roofs, sectioned into a series of individual 45° slopes, **EshaUniversal** waterproofing was specified as part of a Radmat roofing system that included insulation and drainage layer. Made from recycled materials and 100% recyclable – EshaUniversal proved ideal to meet the demands at this sustainable development.

Offering an efficient and safe installation, EshaUniversal is ideal for green roofs. More durable than elastomeric roofing, the system is also weather proof, UV stable and offers flexibility, durability and high puncture resistance to make it ideal for challenging applications.

Prater's Project Manager, Paul Nelson, said: "We have installed waterproofing systems over the concrete decks from ground up to second floor level then levels 34, 35, 36, 37 and 38. This required our installations teams to make repeated visits to site, using both internal and external hoists for access; with work completed in March 2014. The inverted roof arrangement means the waterproofing is covered by insulation and either paving, ballast or planted medium," he added. "Then there is also the sky garden at an angle of 45° planted with trees and shrubs, which will be accessible to clients using the restaurant there."

For public-access terracing across levels 34-38 – as well as a series of applications on the Ground Floor, second floor and the concrete staircase – over 1,200m² of Radmat **PermaQuik PQ6100** was applied. With an independently verified durability 'for the life of the building' and a market leading guarantee, the liquid-applied PermaQuik PQ6100 waterproofing system delivers exceptional performance befitting of this uniquely designed structure.

On level 37, where visitors can enjoy 360° views of the Capital, Prater required an additional waterproofing solution following the installation of a glass internal cladding system. With the glass already in place and challenged by high winds and low temperatures, the fast curing, cold applied **ParaFlex** waterproofing system was specified. Suitable for application at temperatures below zero reliable sealing can even be achieved at -5°C.

Utilising collaborative working practices and a responsive and interactive design process, Prater and Radmat have created a stunning waterproofing and green roof application of the highest standard. Radmat's proven range of waterproofing solutions met all the client's demands and has ensured that visitors from all over the world can enjoy this stunning venue for many years to come.