



CASE STUDY:

## Modern, contemporary, luxurious perfection

CMS Danskin meet the challenge of balancing aesthetic vision with the demands of Part E

### The Project

If estate agents are to be believed and "location, location, location" are the three most important things to consider when looking for a new property, then Cheval Three Quays, a development of 160 apartments over approximately 17,200m<sup>2</sup> combined with 930m<sup>2</sup> of retail space, is possibly the most desirable residence to arrive in London for quite some time.

Not only is Three Quays situated in Central London, it is positioned right

on the waterfront, with views across the Thames to the already iconic Shard. And if the quality of a property can be measured by the eminence of its neighbours, then Three Quays has quite a lot to boast about, as it sits within walking distance of not one but two of the city's great historical landmarks, the Tower of London and Tower Bridge, both World Heritage Sites that together attract over three million visitors from across the globe each year.



However, despite stories of broom cupboards and abandoned garages selling for astronomical sums purely on the strength of their location, there's more to this development than the geographical space it occupies. Cheval Residences, Three Quays developer, have a reputation for providing luxurious short- and long-term residences in London's most desirable addresses and sought-after neighbourhoods. Three Quays was to be no different.





## The Challenge

Between the Flowcrete screed and the Amtico finish, an acoustic underlay was required that would meet the requirements of Part E of the Building Regulations. A material would be required that would achieve superior impact sound attenuation, delivering high tensile strength and exceptional acoustic performance over time without ageing or collapsing.

Unfortunately, those stylish white vinyl tiles, so important to achieving the “modern contemporary luxurious perfection” the developers were striving toward, presented something of a challenge. When looking for a resilient material that demonstrates excellent soundproofing performance, rubber-based products are typically first to attract the interest of specifiers. Rubber is tough, flexible and is widely recognised as an outstanding barrier to both airborne and, especially, impact noise.

But white vinyl tiles and rubber underlay don't play well together.

At the risk of getting ahead of ourselves, Cheval Residences, working with multi-award-winning concept architects 3DReid, in-construction architects Axis and interior design specialists Forme UK, were wholly successful in their ambitions, as this review from the Radio Times (27th March 2014) attests:

“[Three Quays] has been designed with luxury at the very heart of your experience... With 24-hour concierge service and housekeeping to look after your property for you, you're free to simply enjoy every luxurious detail... Every inch of this property has been manicured to modern contemporary luxurious perfection.”

This process of manicuring every inch to “modern contemporary luxurious perfection” and placing “luxury at the very heart of your experience” presented a very real challenge when it came to the floors of Three Quays.

Not only did the floors have to look fantastic, for which a range of stylish white vinyl tiles was selected from Amtico, they also had to perform. In a residence as lavish as Three Quays, it is crucial that noise from neighbours above doesn't interfere with the occupier's endeavours to “simply enjoy every luxurious detail”. This is where acoustic flooring materials come in.







The problem is something called 'plasticiser migration'. Plasticisers are chemicals added to plastic and rubber to make them softer and more flexible. The softer or more flexible the material, the more plasticiser it contains. Since rubber underlay is, by necessity, flexible, it goes without saying that they contain a lot of plasticiser. Over time, the plasticizers migrate out of the rubber, typically via the adhesive, and are absorbed into whatever materials that are lying on top of the rubber underlay. In the case of dark coloured final floor finishes, this isn't generally a problem. However, with Amtico's stylish white vinyl floor tiles, plasticiser migration and the subsequent shading that would result, very much was a problem.



## The Solution

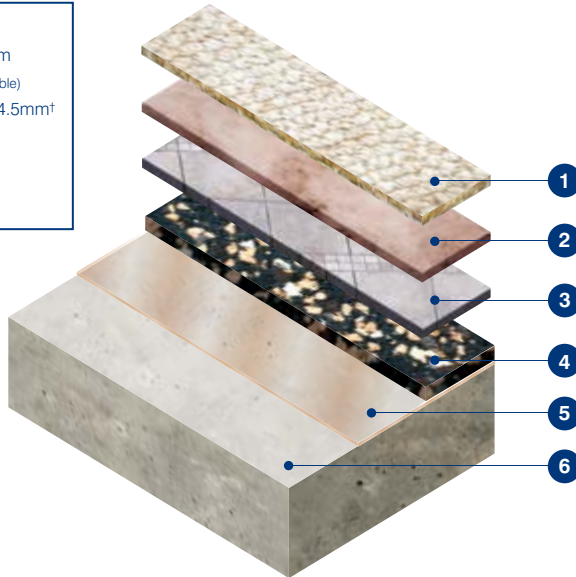
CMS Danskin Acoustics had come to the attention of main contractor Mace, following their soundproofing work with Beck Interiors on the very exclusive Four Seasons Hotel. CMS Danskin's product range, it developed, featured an innovation that had been specifically designed with the elimination of plasticiser migration in mind: Regupol 4515 Multi.

Plasticiser migration isn't a problem for an acoustic material that, because it doesn't contain any rubber, doesn't require the addition of any plasticisers. Regupol 4515 Multi is a PUR foam and cork compound. Acoustic materials comprised *entirely* of foam, particularly in a non-cross-linked configuration, have a tendency to 'creep' (i.e. compress) over time. This compares unfavourably to PE/cork or rubber/cork materials. The addition of cork in Regupol 4515 Multi effectively reduces the risk of creep.

Regupol 4515 Multi has a density of 420kg/m<sup>3</sup>, a tensile strength of approximately 0.7N/mm<sup>2</sup> and, measured in accordance with BS EN ISO 140-8:1998, offers 18dB of impact sound insulation. In fact, so effective and innovative was Regupol 4515 Multi when it first entered a complex and crowded marketplace, it was shortlisted for the Flooring Product of the Year Award by Tomorrow's Flooring magazine in 2012.

## Typical Regupol 4515 Multi installation

- 1 Carpet
- 2 Vinyl or linoleum/marmoleum
- 3 Tiles (ceramic, granite, stone, marble)
- 4 Regupol® 4515 Multi 3mm/4.5mm†
- 5 CMS Bond 100 adhesive or similar approved\*
- 6 Concrete slab (self-levelling screed if required)



“We’ve always seen our materials less as ‘products’ and more as ‘solutions’. Regupol 4515 Multi is our solution to the long-standing problem of plasticiser migration, providing effective soundproofing whilst allowing interior specialists like Forme UK to make full use of a wide palette of colours and styles. It was a pleasure to work with the people at Mace, Axis, 3DReid, Forme UK, Amtico and Rees Flooring in bringing a high standard of acoustics and aesthetics to Cheval Three Quays.”

Paul Absolon  
Technical Director  
CMS Danskin

## The Installation

CMS Danskin’s involvement wasn’t limited to the supply of an innovative, problem-solving product. They worked closely with flooring contractor Rees Flooring during the installation, providing full technical support and adhering to a rigid delivery schedule despite the many challenges presented by a site that was difficult to access and located in a tourist-centric part of London.

CMS Danskin also worked closely with vinyl tile manufacturer’s Amtico, when Mace, quite understandably leaving nothing to chance, requested a 20-year joint warranty to cover the final floor finish. Warranties across disparate products and businesses are notoriously complex and fraught, but Amtico and CMS Danskin formulated something that was robust and agreeable to all parties, with CMS Danskin producing independent test data, both laboratory- and field-sourced, demonstrating compliance with Document E of the Building Regulations.



# EXPERTS IN ACOUSTIC INSULATION SOUND ABSORPTION & ANTI-VIBRATION

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Fellert Acoustic Plaster Spray

### Residential/Leisure



De Vere Gardens, London  
Regupol® 6010SH

CMS Danskin offer an end-to-end service:

- **Product Development**
- **Bespoke Manufacture**
- **Product Consultation**

Our acoustic product range includes:

- **Underscreeds**
- **Underlays**
- **Overlays**
- **Acoustic Panels**
- **Cradles & Battens**
- **Acoustic Barriers**
- **Industrial Enclosures**
- **Acoustic Lagging Systems**



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