

tal[®]
THE PROFESSIONAL CHOICE

THE LEONARDO
SANDTON



THE SCIENCE
BEHIND
BEAUTIFUL SPACES



A COMPLETE LIFESTYLE IN ONE BUILDING

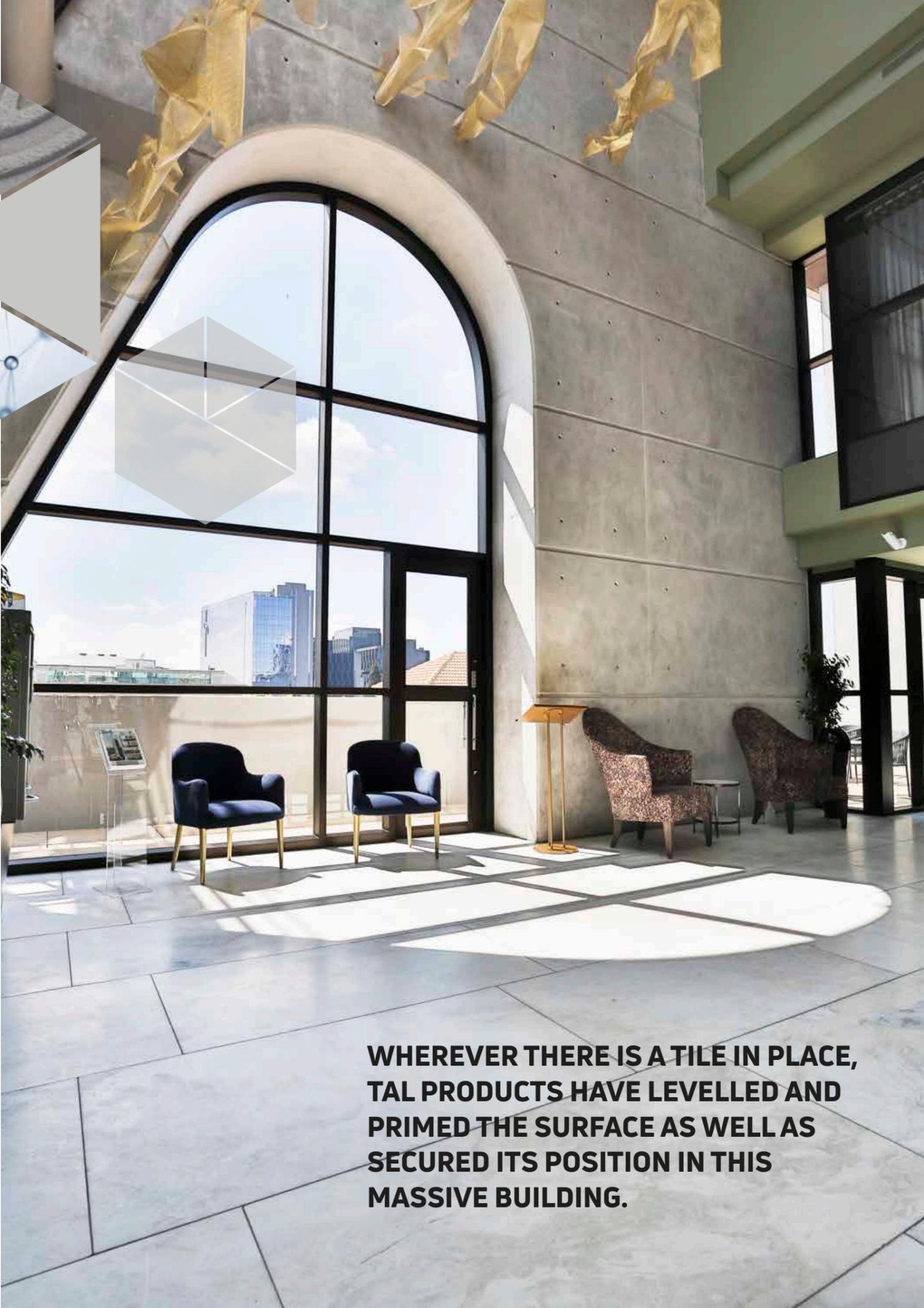
THE LEONARDO, SANDTON

TAL products were used exclusively at The Leonardo, Legacy Group's prestigious 55-floor, mixed-use property development near the Johannesburg Stock Exchange. TAL successfully fulfilled all the specific tiling preparation and solutions requirements within numerous different areas of this multi-faceted project, a total surface area of 40 000m².

Designed by Co-Arc International Architects, the 234 metre-high skyscraper was officially declared the tallest building in Africa, by the Council of Tall Buildings and Urban Habitat International, having exceeded the height of the Carlton Centre in Johannesburg's CBD, by 11 metres.

The Leonardo consists of luxury apartments, eight penthouses, a spa, swimming pools and gym as well as a 140 room, six-star hotel with viewing deck and a 'Sky Bar'. Besides eight penthouses, The Leonardo boasts The Suite, a triple storey, state-of-the-art penthouse that could become South Africa's most expensive sectional title property ever sold. With its own dedicated lift reaching the 55th floor in less than 60 seconds, the Suite offers views stretching as far as the Voortrekker Monument in Pretoria. Legacy Group founder, Bart Dorrestein explained the idea of the all-inclusive development, "We want to give a complete lifestyle in one building".

While initial construction began in 2016, TAL began supplying their fit for purpose products for the tiling phase of The Leonardo in early 2018.



WHEREVER THERE IS A TILE IN PLACE, TAL PRODUCTS HAVE LEVELLED AND PRIMED THE SURFACE AS WELL AS SECURED ITS POSITION IN THIS MASSIVE BUILDING.



Surface Preparation

Surface preparation of porous surfaces in the form of priming is crucial to the solidity and longevity of the subsequent covering, be it waterproofing or tiling or both. As the walls are constructed of porous light weight AAC (Autoclaved Aerated Concrete) bricks, it is fundamental to ensure the tile adhesive is bonded securely to the wall and does not leach into the bricks, which would cause the adhesive to crumble. Porous surfaces should be sealed with a latex based liquid primer to prevent the water from the adhesive leaching into the surface before it has set. Failure to correctly prepare and prime the substrate can easily result in delamination of the ensuing layer/s with time. The selection of the correct priming agent depends not only on the substrate type and finish, but also the material being installed.

Priming of the various substrates was undertaken as follows:

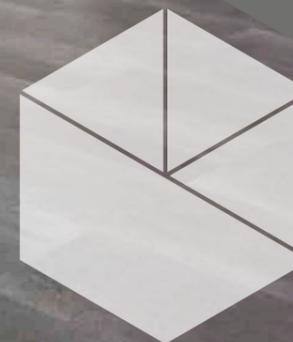
Levelling compound prior to tiling
• TAL SF Primer

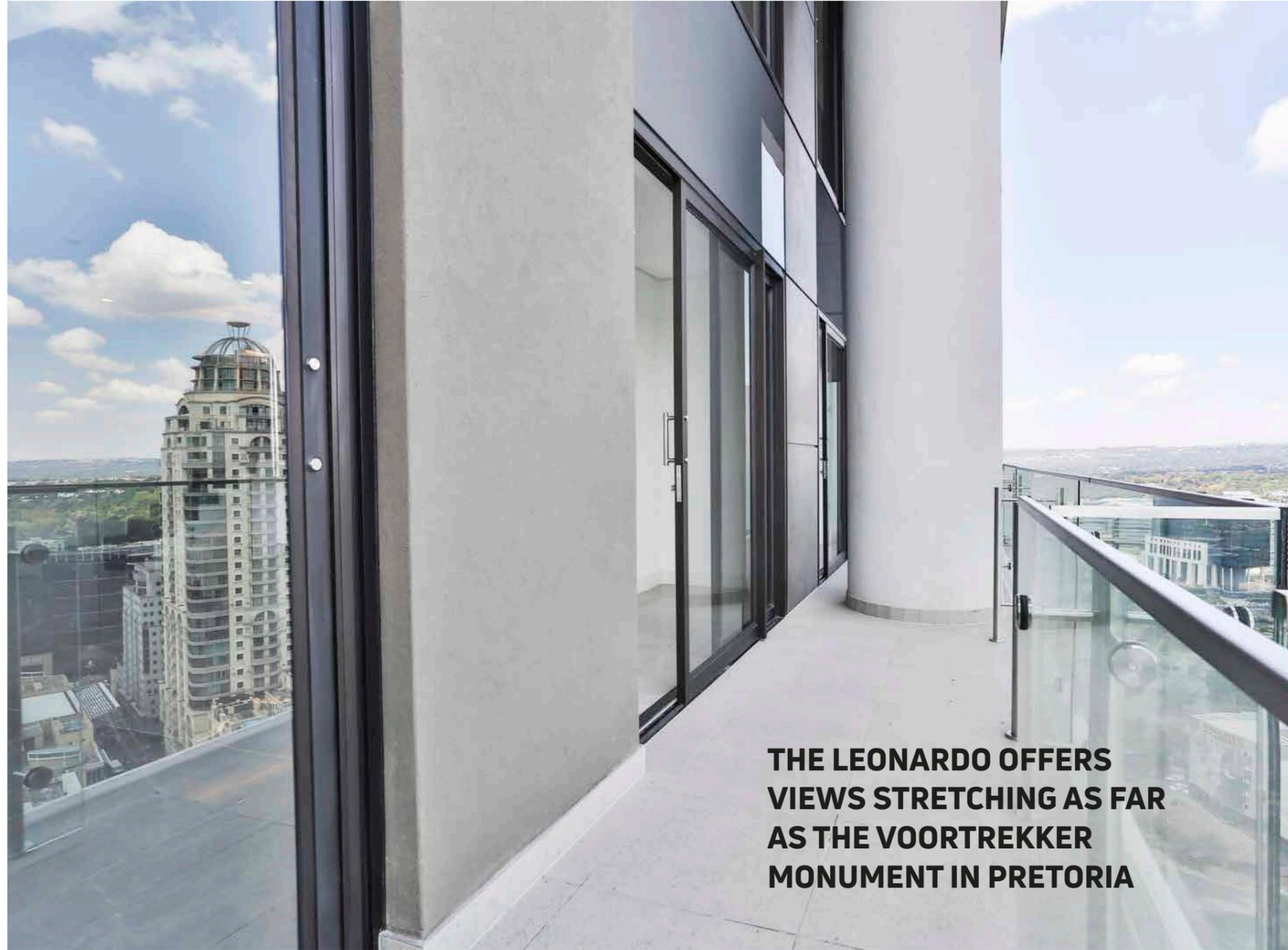
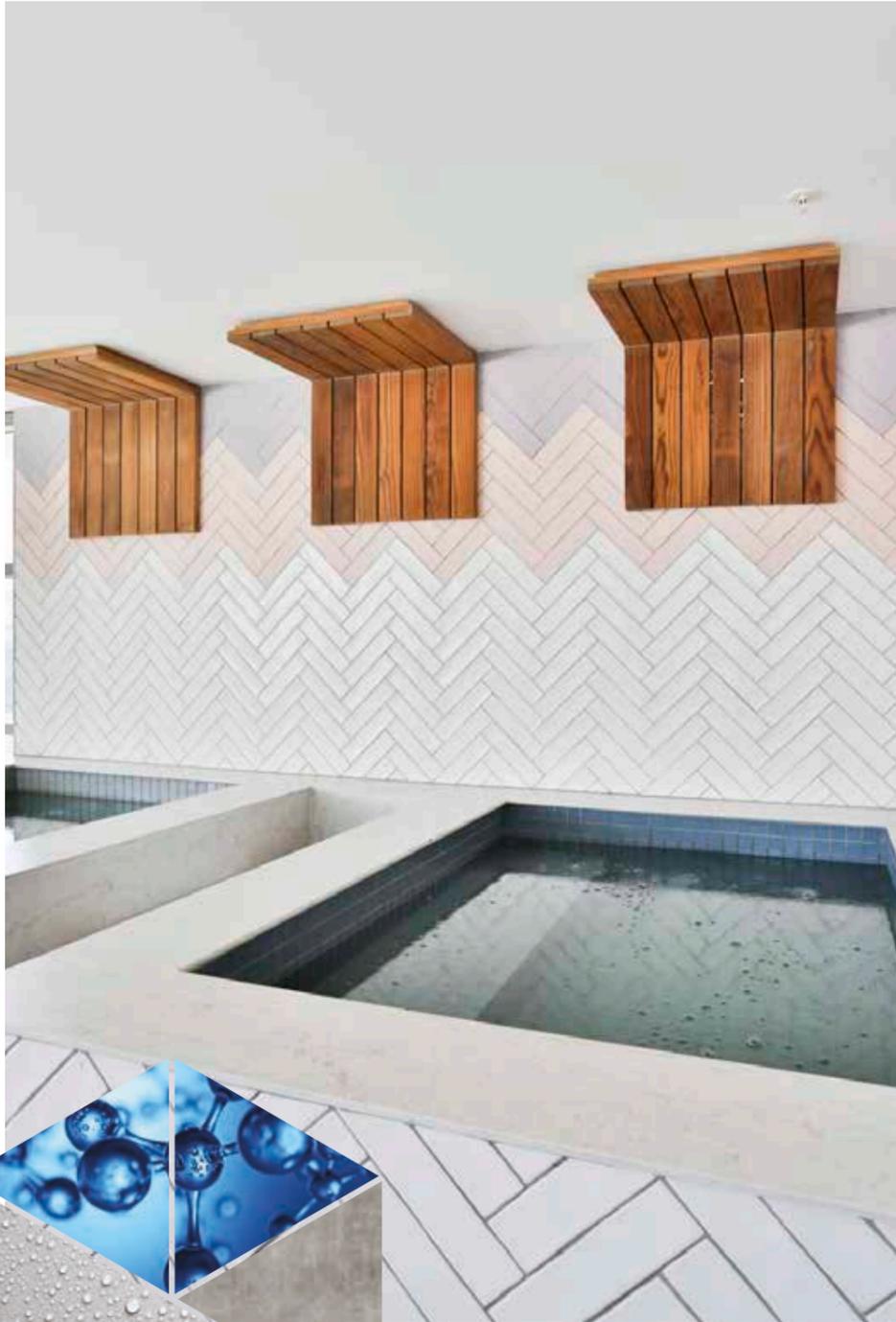
Waterproofing prior to tiling
• Wood floated rendered walls, dry wall partitioning, and AAC Blocks – TAL Floor Primer, a latex primer with excellent wetting-out properties to ensure penetration into and sealing of porous substrates
• Power-floated or Steel-floated surfaces – a TAL Floorkey + TAL Rapidfix slurry priming coat, designed to achieve an excellent bond onto smooth and dense substrates

Tiling
• Power-floated concrete and dry wall partitioning – a slurry priming coat consisting of 1 part TAL Keycoat (modified latex primer) and 2 parts TAL Keymix (powder primer). This slurry priming coat provides phenomenal adhesion onto smooth or dense substrates.



**SURFACE
PREPARATION IS
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SOLIDITY AND
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FINAL FINISH**





Floor Levelling

Variances in levels in the concrete slabs frequently occur in multi-level structures. These should be rectified prior to tiling to prevent excessive adhesive bed thicknesses and consumption, potential lipping of large format tiles, etc.

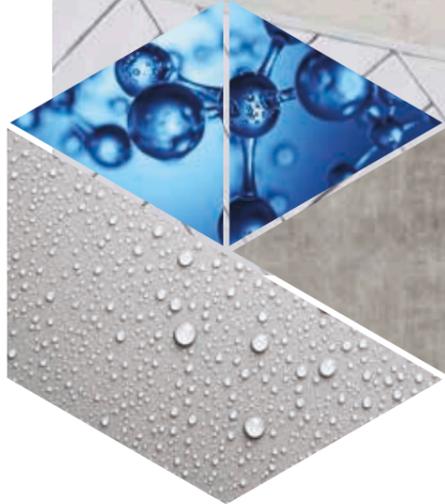
TAL specified their TAL SlabPatch Flowable to correct the variances in floor levels in the apartments and lift lobbies. This high strength, single-component, micro-fluid concrete provides ease of installation, level surfaces and fast return-to-service. Due to the nature of the floors, comprising powerfloated post-tensioned concrete coffer slabs, the levelling compound was wet-bonded to the concrete using TAL SF Primer, a solvent-free epoxy primer.

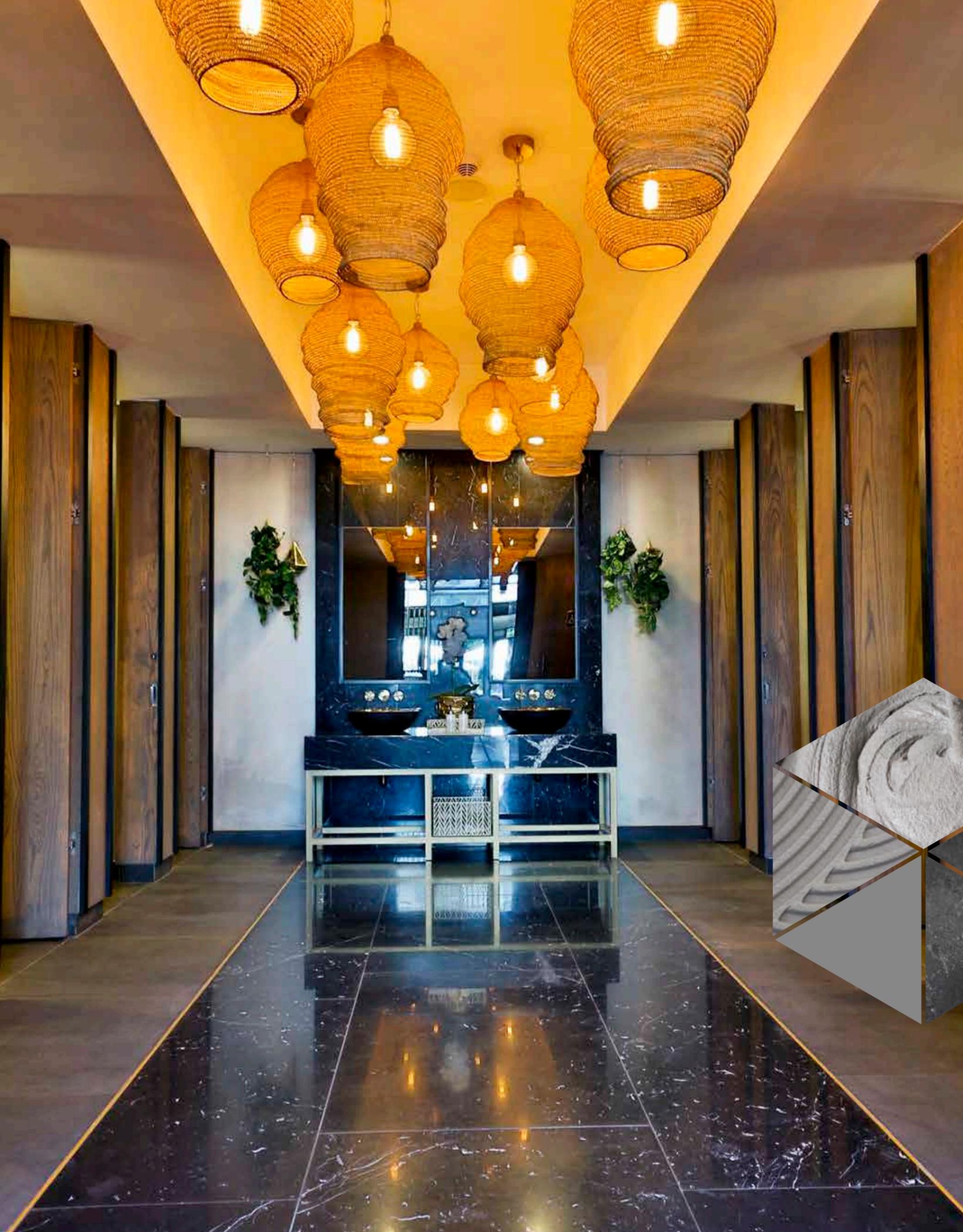
Waterproofing

To ensure a well-bonded waterproofing installation that is fully compatible with cementitious tile adhesives, TAL specified TAL Superflex I, a membrane-reinforced acrylic waterproofing compound. This system cures to provide a flexible, waterproofing layer capable of accommodating normal structural movement in the background. The TAL Superflex I system (2 440 000 litres) was applied to all bathroom floors and shower enclosures (walls and floors) in the Apartments.

While the balconies on some levels were waterproofed with a bituminous waterproofing compound prior to screeding and tiling, the screeded balconies on Levels 25, 38 & 40 – 52, and Terraces on Level 59, were also waterproofed with TAL Superflex I prior to tiling. TAL Superflex I was also applied to the 'wet' areas in the Gym/Spa, Hot & Cold Pools, Steam Room, Shower, Bathroom and WC floors, prior to tiling.

In total an area of around 12 200m² was waterproofed with TAL Superflex I. Subsequent water tests performed on these waterproofed structures have proved the efficacy of the system. Waterproofing Sub-contractor, Ngobeni & TDS, who is TAL-accredited, was responsible for the waterproofing phase of the project.





Adhesives

The porcelain tiling to the Apartment Levels (apartments, balconies and lift lobbies) was undertaken using TAL Goldstar 12, a quick-setting, high-strength, shrinkage-compensated, cementitious adhesive. This adhesive has a longer pot life and open time, making it easier to work with, especially during the hot summer months.

The fusion-type glass mosaics in the Upper Level Spa were installed using TAL Fine Epoxy Mortar & Grout, as the bonding and grouting of mosaics is usually done simultaneously to ensure a sound installation. This water-based, cleanable, non-sagging, resin-based adhesive is ideal for bonding tiles to walls and floors, and can also be used for subsequent grouting. TAL Fine Epoxy Mortar & Grout is ideal for installation areas where total imperviousness, chemical resistance and good hygienic conditions are important, such as commercial spa environments.

Due to the extreme operating conditions associated with steam rooms, a highly modified adhesive system, TAL Goldflex + TAL Bond, was specified for fixing the porcelain tiles and silestone tiles in the steam room of the Upper Level Spa. Porcelain tiles installed to the rest of the spa areas were installed using TAL Goldstar 6 + TAL Bond.

Grouting

TAL Wall & Floor Grout was modified with TAL Bond as a total water replacement in the mix and then applied to the joints of the tiled surfaces throughout the apartment levels. This grout mix enhances flexibility and water resistance, which must be carried throughout the application, from the substrate to the final surface, as this limits cracking and lifting of tiles. Available in a variety of colours, TAL Wall & Floor Grout offers resistance to moisture ingress and fungal growth.

TAL Water-Based Epoxy Grout was specified for grouting between the porcelain tiles and silestone slabs in the 'wet' areas of the Upper Level Spa, pool splashbacks, steam room and shower, to provide an impervious and hygienic finish. This water-based, cleanable, high-performance, epoxy-resin grout was formulated specifically for ease of application and clean-up.





As is standard on all projects where TAL products are specified and used, TAL's Technical Consultants were on site to ensure material was delivered timeously, to provide product training on the application of TAL products, and to assist the contractors with queries and trouble shooting.



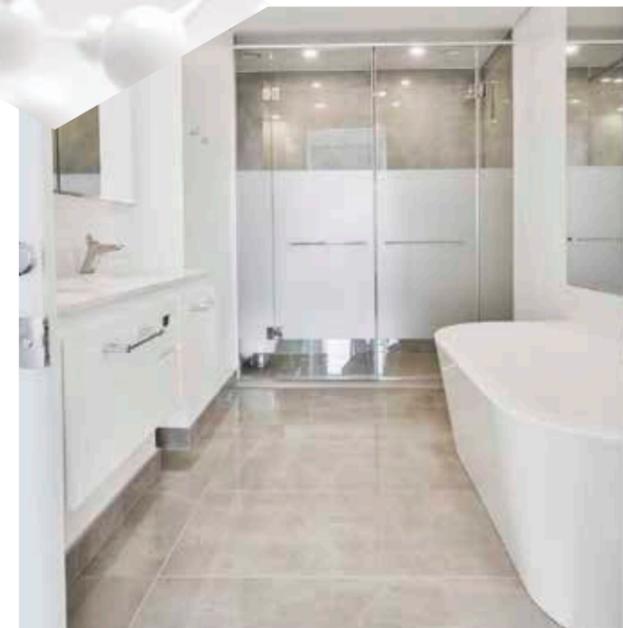
Additives

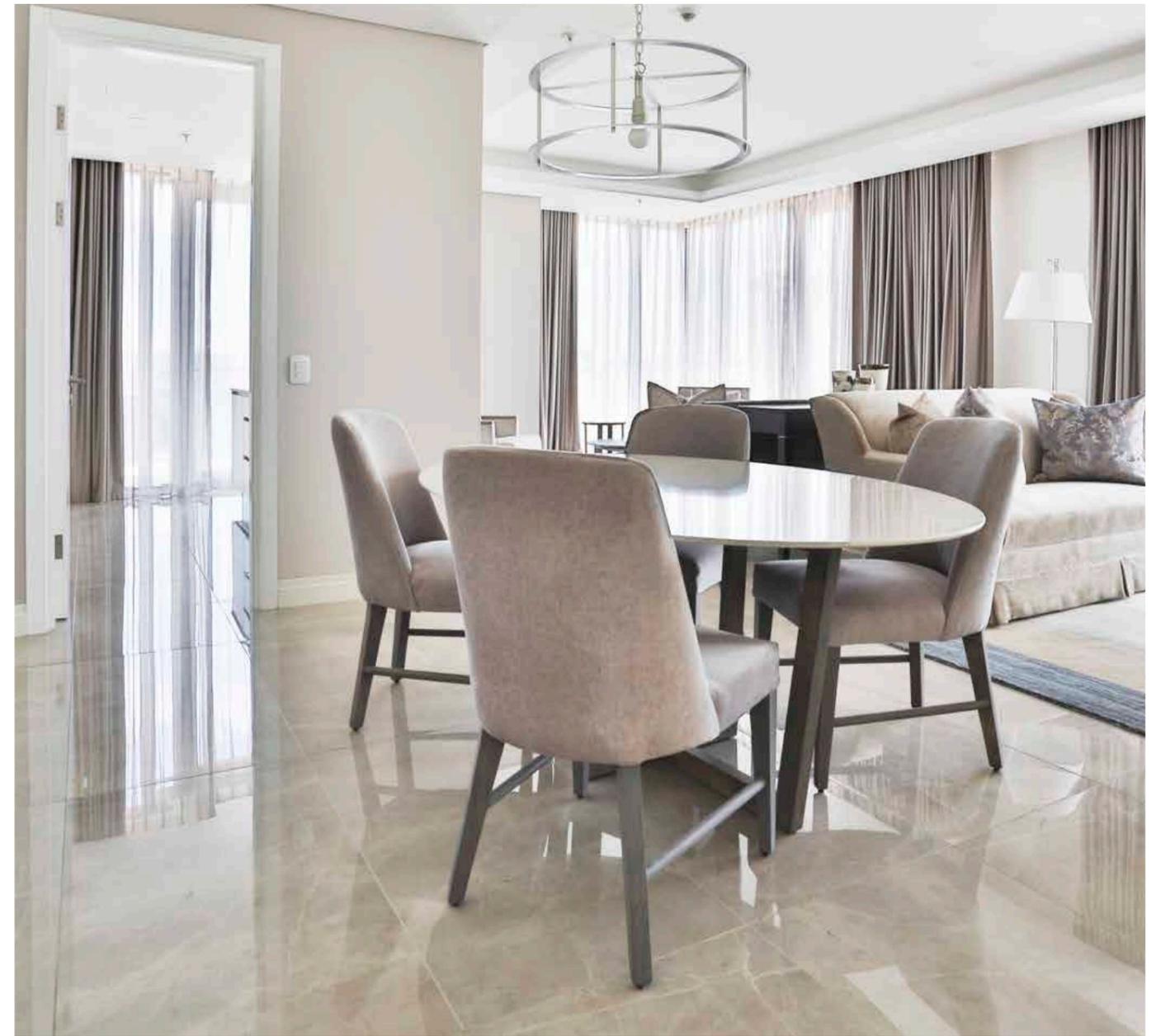
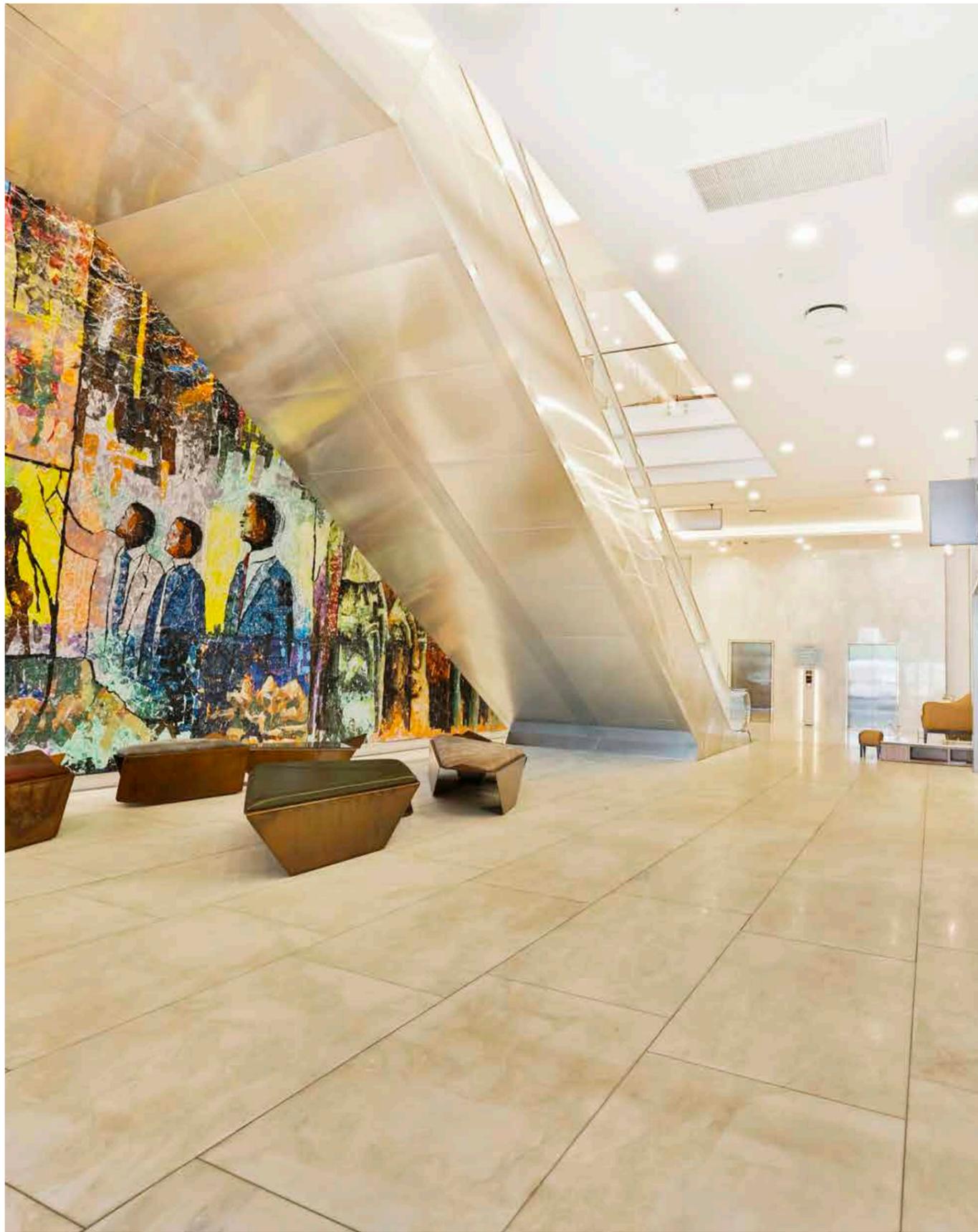
As post-tensioned concrete suspended slabs are prone to increased movement, it is essential that this movement is catered for in the tiling installations to limit cracking and lifting of tiles. TAL Bond, a modified latex additive, was incorporated as a water replacement in the adhesive and grout mixes for tiling to all floors. This additive not only enhances the flexibility of cementitious adhesives and grout, but also provides water resistance.

TAL Bond was therefore incorporated in the cementitious adhesive and grout mixes for tiling to 'wet' areas such as showers and balconies, as well as tiling to dry-wall partitioning in the apartments and the lift shaft walls in the lift lobbies, as these substrates are prone to increased movement.

Movement Joints

Tile panel movement joints and perimeter joints in tile installations cater for the anticipated structural, background and thermal movement. These joints are specifically constructed to ensure no compressive stress build up and subsequent unnecessary forces are projected on the adhesive and tile. Although smaller tiled areas may not need intermediate tile panel movement joints, all tile installations need perimeter movement joints where floor tiles abut walls, columns and stairs, where wall tiles abut each other, and in doorways and around fixtures such as built-in cupboards and sanitary ware. For this project the intermediate tile panel movement joints were specified at 2.40 metre centres, to align with the modular tile sizes.





TAL is a division of Norcros SA and has been a trusted manufacturer and supplier of the highest quality materials to the construction industry for almost 50 years. Our products are designed for the harsh South African climate and to be fully compatible with each other. The TAL laboratory is the first in Africa to gain ISO 17025 accreditation for 1348:2017 testing (tensile strength of cementitious tile adhesives). We supply free technical Methods and Materials Specifications for projects, and when correctly followed, projects are awarded the TAL 10-year guarantee. When you consider these facts in combination with our commitment to exceptional customer service, technical advice and on-site support, it is clear that TAL is there for you at every level, to help make your project a success – from design to completion.

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