



vebro

vebrodeck at Ram Mill Business Centre, Manchester

PROJECT SHOWCASE

modular steel frame car park expansion completed at historic business centre

The Ram Mill Business Centre has taken a significant step forward in modernising its infrastructure and enhancing its appeal as a premier workspace destination in the Northwest. As of November 2024, the highly anticipated new car park – delivered through a collaborative effort between Manchester Cabins, Vebro Polymers and Mike Thelwell Flooring (MTF) – has officially been completed, bringing with it an array of benefits for tenants, visitors, and the surrounding community.

smart expansion with modular steel design

The new structure, installed over the course of October and November 2024, is a single-storey modular steel car park deck, covering 1,200 square metres and designed to significantly increase the number of available parking bays without requiring extensive new land use.

Constructed by Manchester Cabins, the project exemplifies their pioneering approach to modular steel car-park structures. These systems are revolutionising the way organisations expand car park capacity – without the costs, planning complications, or environmental disruption of more traditional developments.

Using a system of prefabricated metal decking, ramps, legs, staircases, and structural bracing, the new deck at Ram Mill Business Centre was bolted directly into the existing surface-level car park, doubling the capacity within a compact footprint. This not only improves usability but also maximises the value of the existing site.

built for speed & flexibility

One of the hallmarks of Manchester Cabins' modular systems is their speed of installation. In many instances, entire parking structures can be erected in just a matter of days. These versatile car park solutions are increasingly popular at busy sites where space is at a premium, including hospitals, transport hubs, schools, supermarkets, and commercial office buildings.

At Ram Mill, however, progress was challenged by the arrival of early winter weather. Cold sub-zero temperatures and frequent rainfall in late autumn presented obstacles to both construction and specialist surfacing works, particularly for the top-deck areas that are directly exposed to the elements. Despite these hurdles, the project was delivered successfully and to a high standard, thanks to the determination and skill of the teams involved.



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spotlight on the floor

The exposed top deck and adjoining steel ramps of the newly constructed modular car park at Ram Mill were expertly completed by Mike Thelwell Flooring (MTF), who managed the installation of two high-performance coating systems: **vebrodeck MMA ED** and **vebrodeck MMA ED HD** to protect the steel frames and panels.

vebrodeck MMA ED is a high-performance methyl methacrylate (MMA) decking system designed specifically for exposed top-deck car parks that are subject to challenging environmental and structural conditions. Ideal for protecting upper-level parking decks, the system delivers a seamless, slip-resistant, and weatherproof surface that stands up to the demands of daily vehicle traffic, thermal cycling, and moisture exposure.

One of the key advantages of **vebrodeck MMA ED** is its ability to bridge both static and dynamic cracks. Thanks to its elastomeric properties and flexible formulation, the system is engineered to accommodate movement within the substrate – whether caused by structural flex, thermal expansion, or vibration – without compromising its integrity. This dual crack-bridging capability significantly reduces the risk of water ingress, concrete deterioration, and reinforcement corrosion, which are common failure points in multi-storey car park structures.

In terms of compliance and performance, **vebrodeck MMA ED** meets the stringent requirements of OS11a under EN 1504-2, the European standard for surface protection systems for concrete, making it suitable for car park decks exposed to environmental conditions and mechanical loading. Additionally, the system satisfies the B3.2 classification under EN 1062-7, certifying its proven ability to bridge cracks under varying temperature conditions, even at low ambient temperatures.

Beyond its structural benefits, **vebrodeck MMA ED** also offers excellent abrasion, chemical, and UV resistance, ensuring long-term durability and aesthetic performance. Its rapid-curing nature, even in cold weather, allows for installation in tight timeframes and year-round application, making it an ideal choice for time-critical refurbishments or phased deck installations. Overall, **vebrodeck MMA ED** provides a robust, compliant, and future-proof solution for exposed parking deck environments.

vebrodeck MMA ED HD was installed on ramps and other high-stress areas as a heavy-duty enhancement of the standard MMA ED system. This version incorporated larger, more robust aggregates to deliver increased mechanical strength and improved long-term performance under extreme conditions.

The ramps at Ram Mill – like those in many multi-level car parks – were expected to endure intensive wear, including high shear forces from accelerating and braking vehicles, sharp turning motions, and repeated exposure to water, de-icing salts, fuel, and oil.

These challenging conditions can rapidly deteriorate conventional coatings, but **vebrodeck MMA ED HD** was specifically selected for its ability to withstand these punishing mechanical loads. Its rapid-curing MMA formulation also allowed for efficient installation, minimising disruption to the overall project timeline while ensuring maximum durability in the most demanding areas of the deck.

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one layer at a time

The **vebrodeck** MMA ED system is installed in a multi-layered process designed to ensure optimal adhesion, durability, and performance. Here's a general overview of the installation procedure:

1 surface preparation

Proper preparation is critical to the success of the system. The concrete substrate must be clean, dry, and structurally sound. All laitance, dust, dirt, oil, grease, and other contaminants are removed using mechanical means such as shot blasting or diamond grinding. Any cracks or defects in the substrate are repaired, and surface moisture levels are checked to confirm they are within the system's tolerances.

2 primer application

An MMA-based primer is applied to the prepared substrate to promote strong adhesion between the concrete and the subsequent layers. The primer penetrates the substrate and cures quickly – typically within 30 to 60 minutes, depending on ambient temperature.

3 membrane layer (crack-bridging)

A key feature of the system, the elastomeric membrane layer provides both static and dynamic crack-bridging properties. This flexible layer is roller-applied and designed to absorb structural movement, helping to prevent reflective cracking through the upper surface. It also acts as a waterproofing barrier to protect the concrete beneath.

4 bodycoat with aggregate broadcast

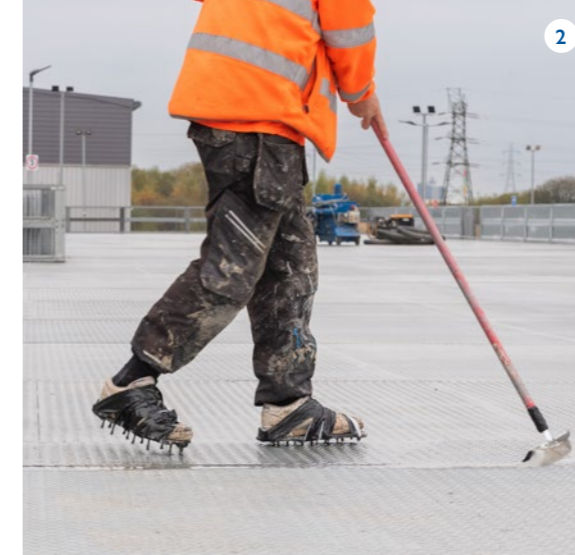
Once the membrane has cured, the bodycoat layer is applied. This resin layer incorporates an MMA-based binder and fine fillers followed by a full broadcast of selected aggregates to provide mechanical strength and texture whilst still tacky.

In standard **vebrodeck** MMA ED systems, medium-sized aggregates are used, while the HD (Heavy Duty) version incorporates larger, more robust aggregates for high-stress areas such as ramps and turning zones.

5 topcoat

Finally, a UV-stable, pigmented seal coat is applied to lock in the aggregates and provide the system with a durable, slip-resistant, and weather-resistant finish. This layer also enhances the aesthetic and protects against chemicals, fuel spills, and de-icing salts. A range of colours were used on the pioneering Ram Mill project!

Thanks to the fast-reactive nature of MMA resins, each layer cures rapidly – even at low temperatures – allowing the full system to be completed and trafficked within a matter of hours. This makes **vebrodeck** MMA ED ideal for fast-track projects or car parks that need to remain operational with minimal downtime.



how MMA systems support sustainability goals at Ram Mill

The choice of **vebrodeck** MMA ED for the Ram Mill car park project not only ensured a durable and high-performance surface but also brought several important environmental and sustainability advantages.

One of the key benefits of MMA systems is their exceptional longevity. Their resistance to wear, chemical exposure, UV degradation, and thermal movement means that the need for frequent repairs or full resurfacing is dramatically reduced. This extended service life helps minimise material waste and the consumption of resources over the lifecycle of the car park.

In addition to durability, MMA systems offer significant efficiencies during installation. The rapid curing properties of the **vebrodeck** MMA ED allowed the project team to complete work swiftly, even under challenging weather conditions. This fast installation reduces the need for energy-intensive curing methods such as heating and lowers on-site vehicle idling times, contributing to a reduction in carbon emissions associated with the project.

Furthermore, modern MMA formulations, including those from Vebro Polymers, often come in low-VOC variants that support compliance with green building standards such as BREEAM and LEED, promoting better air quality and lower environmental impact.

Maintenance is also more efficient with MMA systems, as their excellent bonding properties allow for localised repairs and overlays without the need to remove entire sections of the surface. This targeted approach minimises waste and extends the life of the installation further. The ability to install in phases without closing the entire facility reduces disruption and resource consumption associated with prolonged construction periods.

Overall, while MMA materials are synthetic resins, their use at Ram Mill reflects a thoughtful, resource-efficient strategy. By combining long-term durability, rapid cold curing, and maintenance efficiencies, the **vebrodeck** MMA ED system contributes to a more sustainable, environmentally conscious car park solution – supporting Ram Mill's commitment to a bright, efficient, and future-ready workspace environment.



supporting the growth of Ram Mill

This investment in infrastructure reflects the wider regeneration and enhancement of the Ram Mill Business Centre.

Over the past several years, Ram Mill has undergone a comprehensive refurbishment, blending modern amenities with the character and charm of its historic industrial heritage.

With high ceilings, exposed brickwork, and plentiful natural light, the offices retain a unique aesthetic while meeting the demands of modern occupiers.

The addition of the new car park further strengthens Ram Mill's position as one of the region's most attractive workspaces, offering both style and practicality in equal measure.

Tenants now benefit from abundant parking, easing access for employees, clients, and guests – a critical factor in today's commercial property landscape.



looking ahead

The completion of the new car park at Ram Mill is more than just a structural upgrade – it represents a bold step into the future.

It enhances convenience, accessibility, and visual appeal, all while maintaining the sustainability and cost-efficiency benefits of modular construction.

With this latest improvement, Ram Mill Business Centre solidifies its reputation as a dynamic, professional, and future-ready working environment.

The new parking deck is already being enjoyed by tenants and visitors alike, and with further enhancements planned for the site, the future continues to look bright.

Here's to a smarter, more connected Ram Mill – where history meets innovation, and parking is no longer a problem.



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working together...

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