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Fit Out & Finishing Specialists

Following its successful fulfilment of the contract for applied finishes and fit-out in the new McLaren Production Centre (MPC) near Woking, Lucas is delighted to announce that it has become a Partner of the McLaren Group.

The MPC, designed by world-renowned architects Foster + Partners, was built alongside the existing McLaren Technology Centre and will enable McLaren Automotive to fulfil global demand for its forthcoming range of high-tech sports cars, beginning with the MP4-12C. By meeting and even exceeding McLaren's famously exacting quality standards, Lucas opened the door to an ongoing relationship with one of the UK's leading technology companies.

Ron Dennis, Executive Chairman of McLaren Group and McLaren Automotive, says: "Lucas was initially involved with the McLaren Production Centre as a contractor, and the excellence of its work amply demonstrated that we shared a passion for quality and detail.

"Quality of finish is something we strive for in all of the McLaren Group's activities. It is fundamental to our brand. The quality of the McLaren Production Centre sets the tone for the people who will work within it and we were delighted by Lucas's ability to match or exceed all of our expectations within a very tight time frame. It became abundantly clear that we would continue to work together as both our businesses grow."

"We're proud to be associated with a landmark project and with high-profile clients such as Foster + Partners and McLaren," says Danny Lucas, Managing Director of the Lucas. "Becoming a Partner with McLaren was the logical next step because the McLaren Group has exciting plans for growth over the next three years and we're pleased to be part of that."

The word 'finishing' implies a process that occurs at the very end of a project. But the unique nature of the MPC build – to minimise disruption to local residents the new facility was fast-tracked – meant that the Lucas had to begin work while construction was in progress.

"This contract had to be completed within a short time frame," says Lucas. "So our biggest challenge was to start working in what was still very much a building site environment, being squeezed into certain areas because of plant being delivered. There were various mechanical and electrical items which had to be installed, and it wouldn't be possible to apply surface treatments around, under or behind them once they were in situ. We also had to maintain those surface treatments to the high standards McLaren expected.

"Where we've added value is that we're not just contractors; we're surface treatment advisors. We won't just apply a product which then has to be reapplied six months later. We help clients find the optimum combination of quality and durability. "We get personal feedback from senior staff which is very powerful for me and my staff, a big motivator. We like to work with people who value what we do."

Although best known for its involvement in Formula 1, the McLaren Group is expanding rapidly, with plans for another new building to house its growing Applied Technologies division. As well as facilitating surface treatments and fit-out in this and the existing buildings, Lucas will benefit from shared knowledge and technology.

"We can learn a lot from McLaren – technology and techniques that we can bring to construction," says Lucas. "Moving forward, as the company grows, we want to be able to set up a 3D modelling workshop so that we can be at the forefront of fit out, offering solutions rather than being a contractor who has to wait for an architect to provide the answer.

"We want to be at the forefront of what we do. The partnership with McLaren will provide not only a regular stream of exciting projects, but also opportunities to grow the business by learning from McLaren's technology. We will be able to bring to our offering services that nobody else is even thinking about."



ADRIAN BROOKS, PROJECT MANAGER, McLAREN GROUP

Q: What have been the main challenges involved in the McLaren Production Centre project?

A: It was a fast-track project with an inflexible deadline; it had to be completed on time in order for McLaren Automotive to move in and bring production of the MP4-12C sports car on stream. The only way to deliver this project on time was to work with the right partners and contractors – companies that share McLaren's commitment to quality and excellence. Attention to detail has been everything.

There were a lot of people telling us that it wasn't the right time to build, because of the economic situation. What we actually found was that there were many contractors out there very eager to do business, and to commit to the quality we required.

Anyone who has worked in the building industry will be familiar with the scenario of escalating costs and missed deadlines as contractors fail to meet their obligations. On this project we didn't have that because we got the right people on board very early on.

Q: How did Lucas get involved?

A: They won the tender for surface treatments competitively through McAlpine, although I was familiar with them because of their reputation. From a McLaren point of view we had very few dealings with them after agreeing the specifications,

until later in the project when we wanted to apply paint to the concrete columns in the basement. There was some discussion at the time about whether we were laying this down too early in the build process and the dust was contaminating the paint.

Usually in that sort of situation, the subcontractor just wants to get the job done, get paid and get out, but Lucas were determined to achieve the level of finish we wanted. Danny Lucas suggested a range of products we could use, and we also consulted with our partners at AkzoNobel, and we found a solution.

As we got towards the final stages of the project they were incredibly flexible, working with us and around us, and even coming in out of hours to fit in around our equipment installation. They were a joy to work with – nothing was too much trouble.

Q: Is that how the partnership came about?

A: We realised that there was still a lot of work to be done to get the MPC ready in time for the opening, plus ongoing maintenance of the McLaren Technology Centre and the Brand Centre: more than just painting, there was cleaning and fit-out to accomplish as well. Lucas were a natural fit; they were heavily market-tested before working with us, and they proved themselves on the MPC project for both value and quality.

**MPC KEY FACTS**

The McLaren Production Centre represents a textbook definition of a fast-track construction program. From initial planning application to official opening, the project took a little over two years. This is especially remarkable given the scale of the building: its floor plan could accommodate three jumbo jets or 2469 Formula 1 cars.

Although the site was subject to strict planning constraints, the meticulous approach of the McLaren Group and architects Foster + Partners meant the local council granted planning permission just one month after the initial application in August 2009.

By April 2010 the architects' plans had been turned into a full concept design, the site had been prepared (including the replanting of 68 mature trees), and building contractors McAlpine were ready to break ground. In all, 180,000m³ of soil was excavated – but, in order to reduce traffic congestion and prevent the introduction of invasive plant species, all the soil was retained on site. The concrete foundation – 21,000m³ of concrete – was laid during July and August.

The steel frame that forms the MPC's 1500-tonne 'skeleton' arrived in September 2010; by December the basement had been rendered watertight, enabling the contractors to start back-filling the soil around the MPC.

Although the winter of 2010-2011 was one of the coldest in living memory, the MPC's envelope was finished and rendered watertight by February, enabling the contractors to complete the electrical installation. The 20,000m² of ceramic flooring (enough to stretch from the MPC to McLaren Automotive's flagship showroom at One Hyde Park if laid end to end) was then installed.

The production line equipment arrived in April, just as the main body of the building was being fitted out, and production of the McLaren MP4-12C sports car began in June. Each one is composed of around 13,000 components; the logistics floor, fitted out by Lucas, will handle 50-60,000 components a day.

MP4-12C >



Formula 1 technology for the road – marketers often make bold claims about it, but with McLaren Automotive's new sports car the proof is in the product. Designed under the same roof as the Vodafone McLaren Mercedes F1 racers, and honed using the same wind tunnel and simulation technology, the ground-breaking MP4-12C is lighter, faster, more powerful, more fuel efficient and more exclusive than its key competition.

McLaren Automotive's heritage stretches back two decades to the iconic McLaren F1, which was followed by the Mercedes-Benz SLR McLaren (2003 – 2009) the most successful supercar ever in its price bracket, selling twice as many cars as its nearest carbon-based rival. The company's ambitious plans for a new range of road cars, beginning with the MP4-12C, meant that it would outgrow its original production line – hence the construction of the McLaren Production Centre.

Getting more out of less – adding lightness, making each drop of fuel go further for a given power output – are key disciplines in F1. McLaren Automotive and McLaren Racing are based alongside one another within the McLaren Technology Centre, and very early in the MP4-12C's development a group of senior engineers from both teams met to hold a competitive 'weight down' workshop. Pooling their ideas enabled them to find 100kg of potential savings in just one day.

Rather than paring weight by specifying carbon fibre body panels, the engineers started with the

fundamentals. At the core of the MP4-12C is the revolutionary 'MonoCell', a one-piece carbon fibre structure that gives the car its strength. And while other sports cars have been built around similar structural philosophies, they have all cost at least three times as much: what makes the MonoCell revolutionary is its ingeniously cost-efficient design as well as its light (75kg) weight.

Like an F1 car, the MP4-12C is built around the driver. Both the occupants sit closer to the centre of the car than in similar machinery, so that the driver has a perfectly straight reach to the pedals and has an optimum view forwards. The low windscreen cowl gives an uninterrupted sightline to both front wings, which peak over the centre of each wheel so that the driver can position the 12C accurately. A small touch, but one that will please the driver every time they climb aboard, is that the steering wheel itself was moulded using the grip patterns of previous McLaren world champions as a reference.

Ultimately, the question everyone asks of performance car is, "How fast does it go?" The 12C's twin-turbo V8 propels it from a standstill to 200kph in 9.1s (8.9s on optional Corsa tyres), and BBC Top Gear's 'The Stig' lapped the programme's Dunsfold test track in 1m16.2s in a production-specification 12C – the fastest ever for a mid-engined sports car.

MPC >

Foster + Partners Review

The McLaren Group's headquarters, the spectacular McLaren Technology Centre, was the work of renowned architects Foster + Partners. Their success in responding to what was a challenging brief made them a natural choice to shape the McLaren Production Centre, a complementary building but one with a very different function. Just as the MTC was definitive in its genre, the MPC is a manufacturing facility unlike any other in the world.

"The McLaren Production Centre is a further leap forward in the evolution of industrial buildings, both socially and in terms of working conditions and technologically in its flexibility and the sophistication of its services integration," says Lord Foster, the Founder and Chairman of Foster + Partners. "The scale and grandeur of the main hall is a fitting complement to the perfection of the McLaren cars which will emerge from its production line."

"Our intention was to design a new kind of industrial building, which would be an elegant addition to the Technology Centre," says Foster + Partners' Iwan Jones. "The two buildings are physically connected by a 100-metre-long tunnel and unified by a common architectural language – we established an efficient and uniform selection of master elements for the project, a family of finishes and details."

While the MPC's external shape shares design

synergies with the neighbouring MTC, and was guided by stringent planning restrictions, the internal layout was dictated by the way McLaren Automotive's road cars will be built.

"The design is driven by the processes that the building will support so that it is custom-built for purpose," says Foster + Partners Design Director Nigel Dancey.

"The production line is like an operating theatre. The attention given to every detail of the building is highly appropriate to the precise nature of McLaren's work."

Of course, while McLaren Automotive's quality-first philosophy will never change, the cars themselves will. The new MP4-12C is just the first in a new range of planned models, all of which will be built within the MPC.

"By optimising structural spans to allow a largely clear floor space, we have essentially created a scalable and reconfigurable enclosure, with services integrated within the structural zones, wall and floor voids," says Iwan Jones. "This flexible form ensures that the building is also highly cost efficient – it will support McLaren's production needs today and in the future."

