



Arsenal stadium has a huge 60,000 capacity, but its sloping translucent roof canopy gives it intimacy and focuses attention on the pitch

GUNNING FOR GLORY

At least one world-class football stadium in London is on schedule, on budget, and in time to stage its first match ... 1-0 to the Arsenal

by Martin Spring

WHATEVER HAPPENS IN THE World Cup, at least English football will have one reason to celebrate come July. So smoothly has construction progressed on the new Arsenal stadium at Highbury, north London, that the ground is due to stage its first match on 22 July, a week ahead of programme. It is also on target to meet its budget cost of £220m, according to the club.

The ground, named the Emirates Stadium in honour of its prime commercial sponsor, is to be England's third largest football stadium after Wembley and Old Trafford. It packs in 60,000 seats, which is 21,581 more than the old Highbury stadium, and according to manager Arsène Wenger, it should increase revenue 50% to £150m a year.

Despite its huge capacity, the stadium keeps its head well below the parapet. Whereas the steel arch over Wembley can be seen right across Greater London, the Emirates is tucked between two main railway lines, invisible from the inner-city roads crowding around it. It is only when you turn the final corner facing the entrance square or cross the footbridges over the railway lines that you are confronted with a vast, gleaming drum.

The drum is low – Islington planners stipulated an eaves height of 35 m – and avoids appearing top-heavy. The main structure is made up of stretches of smooth fairface concrete alternating with crisply detailed curtain walls. Above that the upper tiers of seating are set back slightly on all four sides, and are encircled by a window wall that is so transparent as to appear quite insubstantial. Finally the

slenderest disc of a roof just seems to float overhead.

Walk inside the stadium and an even bigger surprise awaits you. When you emerge from the access passages, your mouth drops open at the scale of the stadium bowl in front of you. The 60,000 seats are arranged in three tiers that wrap themselves right around the pitch without interruption.

Despite its huge volume, the stadium retains a certain intimacy, thanks to the roof canopies that slope downwards towards the pitch. These are made of translucent polycarbonate and transmit daylight down to the spectators and the all-important turf. The large roof trusses in white-painted tubular steel stretch above, and the two primary trusses span a full 204 m lengthwise across the pitch.

As Rod Sheard, director of HOK Sport Architecture, says: "What sets this stadium apart is the downward-sloping roof canopies, which keep the atmosphere in, keep the sound in and focus attention. We tried it first at the Olympic stadium in Sydney."

Construction was carried out under a design-and-build contract with a guaranteed maximum price by Sir Robert McAlpine, and employed 1300 workers on site. After McAlpine took possession of the site in February 2004, construction started at one end of the site while a refuse transfer station was still operating at the other.

The main roof trusses were prefabricated on site out of tubular steel; the two primary trusses, which measured 204 x 15.5 m overall, were fabricated in two halves. The sections were then lifted into ▶



Above: The huge stadium hunkers down below its flat canopy roof and can be reached from the rear on footbridges across mainline railway lines
 Opposite: The base of the drum leans outward, leaving the upper part to recede behind a clear-glazed window wall
 Below right: Arsenal fans should have plenty to celebrate next season
 Below left: A comparison of three new world-class venues: the Emirates, Wembley and Munich's World Cup stadium, the Allianz Munich

	Arsenal	Allianz Munich	Wembley
Capacity	60,000	68,000	90,000
Cost	£220m	£277m	£757m
Completion	July 2006	July 2005	Currently September 2006
Special features	Low slung roof	Cantiling in inflatable ETFE windows that change colour	Sliding roof and 133 m high landmark arch
Architect	HOK Sport Architecture	Herzog & de Meuron	Foster and Partners, HOK Sport Architecture
Structural engineer	Buro Happold	Arup	Arup
Main contractor	Sir Robert McAlpine	Alpine Bau Deutschland	Multiplex



► place by a pair of crawler cranes and bolted together at the midpoint. They were later jacked down into their permanent position and the temporary scaffolding removed.
 The new stadium forms part of a larger urban regeneration

project that includes 1800 workplaces and 2000 homes, many to be converted out of the former stadium, which has now been listed.
 As an integral part of the £390m stadium development itself, Arsenal had to pay £60m for a replacement

waste transfer station.
 Whatever the reaction to the associated developments will be, the stadium is a fitting successor to the old ground. And with time it may well also be officially listed as a structure of architectural distinction.

Project team
 client Arsenal Football Club
 architect HOK Sport Architecture
 structural and services engineer Buro Happold
 quantity surveyor AYH
 main contractor Sir Robert McAlpine

