



PlasticsEurope
Association of Plastics Manufacturers



NEWSLETTER Summer 2012

'NEVER CHANGE A WINNING TEAM' FOOTBALL KEEPS GETTING FASTER, MORE DYNAMIC AND SPORTIVE. AND PLASTICS ARE PLAYING A DECISIVE ROLE IN THIS DEVELOPMENT. FROM THE PLAYERS' BOOTS TO THE STADIUM CONSTRUCTION...

1-0 TO PLASTICS



THE OFFICIAL MATCH BALL 2012

Tango 12 is the official match ball and carries with it decades of history and innovation. For a long time, there was no special ball developed for the European tournaments. In the 1950s, footballs were made of 18 individual leather sections, sewn together by hand. In wet weather they soaked up moisture, making the ball heavy and difficult to pass and manoeuvre. By 1986, design and technology had advanced and, for the first time, the official World Cup match ball was made of plastic. In that world championship (Mexico, 1986), the ball was still hand-sewn together out of 32 panels. It was rounder than the 1950s ball, but still not perfect.

Over the last 26 years, things have come a long way. The official match ball is made of the highest-quality plastics, and a thermal-bonded, seamless surface enables a more predictable trajectory, better touch and low water intake. This patented thermal bonding technology makes the new ball virtually waterproof with identical performance characteristics.

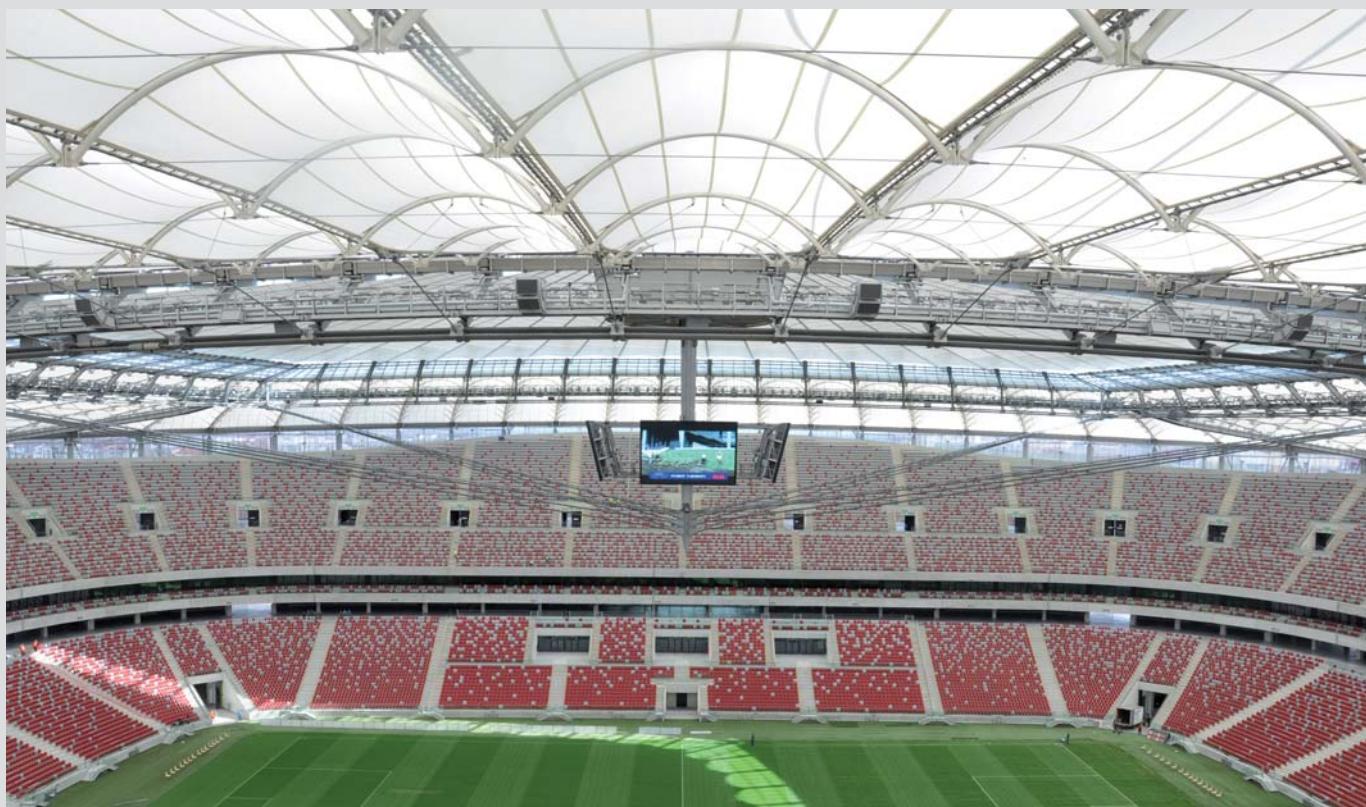
The shape of the panels is designed to minimise corners and to create a more homogenous system in terms of performance and look. This year's eight-panel design has resulted in a ball with the most consistent performance characteristics ever, enabling players to show their true skills. Fewer seams means the ball is rounder and performs more uniformly, regardless of where it is kicked.

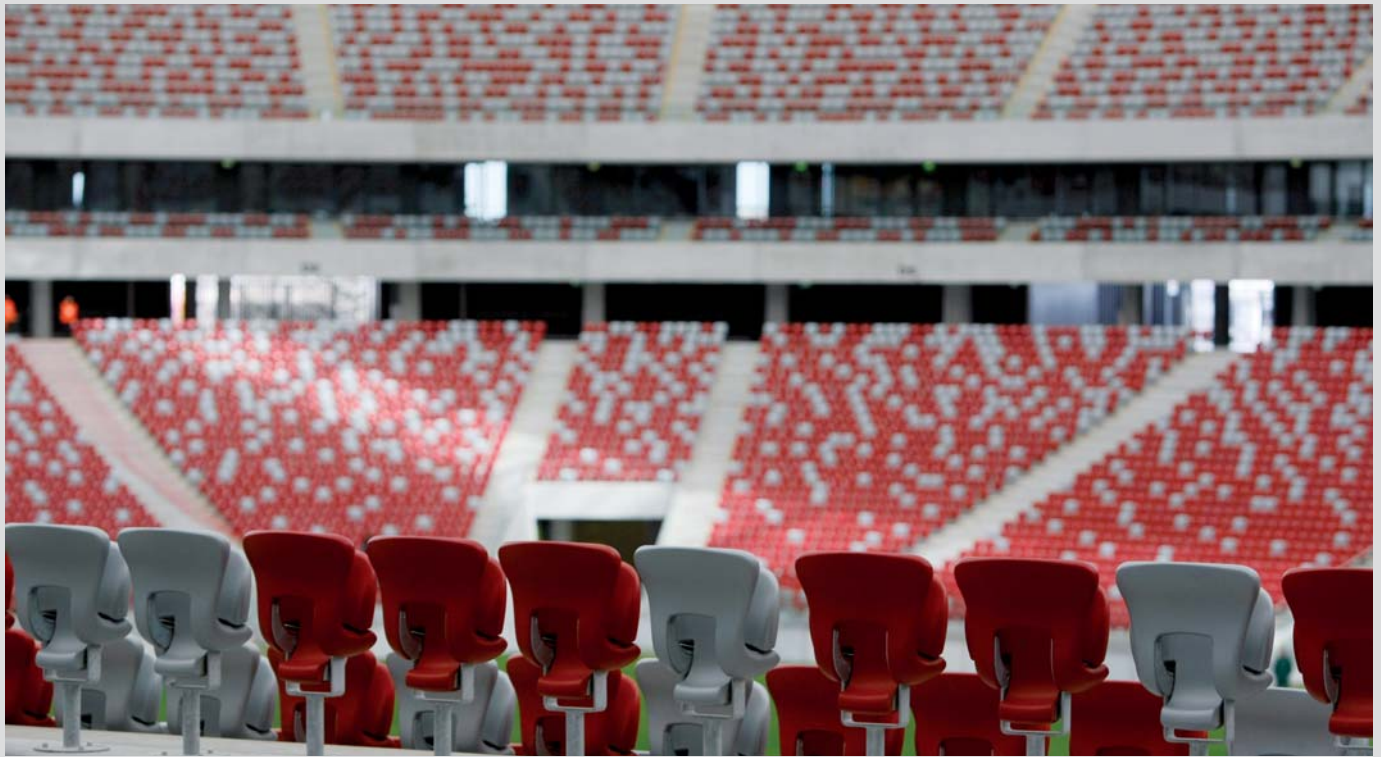
THE 2012 MATCH BALL AT A GLANCE

Prior to any major tournament, suppliers nowadays introduce new technological developments to the preceding competition ball. This year's football is an optimal combination of the World Cup ball 'Jabulani' and the German Bundesliga ball 'Torfabrik'. The new match ball underwent two types of testing – including tough laboratory conditions and qualitative player testing, which was conducted across eight different countries. Thanks to the extensive lab testing, the Tango 12 is more round, precise, consistent and flutters less than the last World Cup match ball, allowing much more ball control.

THE MOST IMPORTANT FEATURES IN SHORT:

- Revolutionary panel shapes creating a perfectly round ball
- Panel shape for an improved outer surface
- 100% waterproof
- Thermal bonding technology results in a seamless surface
- Improved ball control and energy pickup
- Grip 'n' Groove surface for a true, stable flight path
- Exceeds all FIFA-approved standards for an official match ball





KICK IT RIGHT

MODERN MATERIALS ARE IMPORTANT TEAM PLAYERS IN FOOTBALL

- **Kitting up:** everything from the players' shirts, boots, and shin guards to the goalkeepers' gloves involves plastics. Shirts are made of hard-wearing plastic and are therefore more durable, elastic and characterised by their ability to resist water. An intricate fibre structure helps transport moisture away from the body. The seams of the shirt are also partly welded, which improves aerodynamics and comfort. Football boots use a range of plastics, ensuring a light, breathable and water-repellent boot. Plastics used in shin guards provide players with lightweight impact protection and cushioning. Before plastic shin guards, players would often wear extra pairs of socks or no protection at all – unthinkable today. Even after serious injuries, today's football stars are back on the pitch earlier than in the past – e.g. after a nasal bone fracture protected by a plastic face mask. Goalkeepers' gloves have also benefited from the use of high-performance materials: glove palms coated with plastic allow a better grip on the ball, even in the rain.
- **The match ball:** this year, the official match ball is 100% plastic and has an innovative new design that will give spectators more excitement than ever. Virtually waterproof, the new ball allows for steady play under any conditions and fewer seams make the ball rounder and able to perform more consistently. Now every pass, shot and dribble will be as accurate and powerful as the one before!
- **Enforcing the game:** like the players, the referees couldn't do their jobs without plastic. Referees also wear durable tear- and fade-resistant uniforms made from plastic. What would a match be without plastic red and yellow cards? The use of coloured cards allows referees to convey their intentions regardless of the language spoken. Referees also carry whistles made of high-impact plastics. In addition, the linesmen's flags are made out of polymers.

INFRASTRUCTURE

Great sporting events like football championships and the Olympic Games also contribute to top-class performances in the architectural sector. For the 2012 European Football Championships, Poland and the Ukraine are taking the opportunity to improve their image by building modern, aesthetic and simultaneously functional sports arenas.

- Architecturally, the 2012 arenas convey an impression of lightness and simplicity – while offering maximum comfort. In Poland in particular, opportunities that plastics provide were successfully exploited: amber-coloured polycarbonate for the PGE Arena in Gdansk and membranes featuring different plastic coatings for the stadiums in Wroclaw, Poznan and Warsaw have made the stadia the new symbols of their country.
- Transparent plastic membranes stretch over the stands, which allow the turf sufficient light for natural growth and offer ideal visibility for fans even under unfavourable positions of the sun.
- The pitch is covered by a membrane roof which, when the weather is fine, can be folded back and, if necessary, ‘parked’ high above the centre circle. When the membrane roof is closed, even the inner sails are designed to cope with violent wind and heavy snow. At the same time, it is necessary for a construction of this type to weigh as little as possible.
- A look at the PGE Arena in Gdansk from the outside shows how plastics support the creativity of architects and engineers in their search for individuality in building assignments that, to a large extent, have become standardised. From a distance, the 42,000-seat football stadium conjures up a beautiful association with amber, the national emblem of Poland, thanks to its plastic skin and to the waves of the Baltic Sea with its translucent plastic roof.
- The unmistakable identity and futuristic appearance of the Olympic Stadium in Kiev, the location for the Final of this year’s European Championship, has been achieved by its ornate membrane roof construction with floating columns and dome lights.



WHAT OTHER USES DO PLASTICS HAVE?

- Plastic drainage guarantees a playable pitch, even in heavy rain. And after the championship, high-tech plastics piping will heat the pitch during the winter for optimal playing conditions.
- Plastic stadium seatings are extremely stable, light and convenient – and not too cold in winter because of its special thermal character.
- To allow billions of fans from all over the world to follow the tournament, TV cables, satellite receivers and other technical equipment made out of plastics is necessary for broadcasting the championship.
- Light, reusable plastic cups and plates are the perfect solution for anti-littering in the stadia as they can be recycled or used for energy recovery.



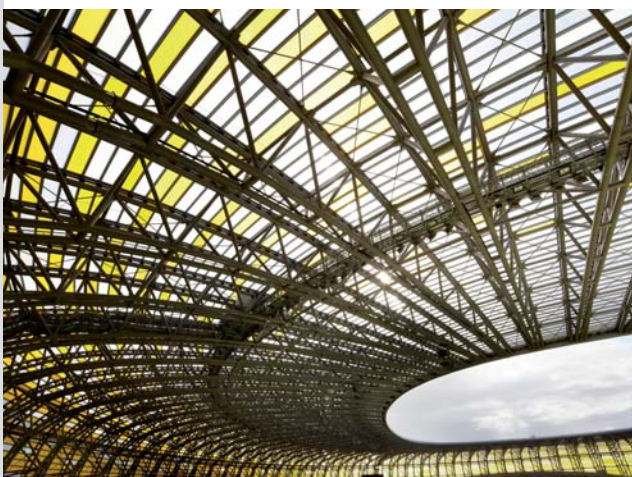
ARE YOU READY FOR THE CHAMPIONSHIPS?

TEST WHAT YOU KNOW ABOUT WHAT'S HAPPENING ON THE PITCH...

AND ABOUT INNOVATIONS THAT HAVE MADE THE MODERN GAME OF FOOTBALL WHAT IT IS TODAY.

QUESTIONS

1. Where and when was the first European Football Championship held? Which country was the winner?
2. How often did the host country win its home tournament?
3. Which nation is the most successful team in the history of the tournament?
4. What is the name of the European Football Championship's 2012 official match ball?
5. True or false: The 2012 official match ball is made up of 14 panels that are attached and glued together thermally.
6. Are football boots watertight, or do they allow the players' feet to breathe?
7. True or false: The average footballer runs more than ten kilometres in a typical game.
8. Is it possible to close the retractable roof at the National Stadium in Warsaw even during heavy snowfall?
9. Which weighs more? An iPod or a football shirt?



1. France, in 1960. The Soviet team was the winner, beating Yugoslavia 2-1 during extra time.
2. Three times.
3. Germany.
4. Tango 12.
5. The new official match ball for 2012 is now only made up of eight panels that are attached and glued together thermally, which ensures near-perfect roundness. At the World Cup in Germany, the official match ball, the Teamgeist, was made of 14 panels.
6. Both! Football boots are made almost entirely of plastics. Players' feet stay dry even in pouring rain, but innovative qualities of the material enable the feet to breathe. The soles of modern football boots are made of highly innovative plastics and moulded directly onto the upper section. Lightweight, moisture-repelling synthetic materials have been replacing leather in football boots and will continue to do so.
7. True. In fact, 11 kilometres is the average distance covered.
8. Yes. Although a square metre of this material can be lifted easily with one hand, it is also capable of enduring snow and wind weighing up to 100 kilograms. The perfect solution for the hard winters of the region.
9. A shirt, but only a bit. Thanks to the innovative qualities of plastics, today's football shirts weigh little more than 150 grams (iPod Classic: 140 g). The polyester microfibre structure enables moisture to be wicked away from the body. Seams are designed to improve aerodynamics and comfort, and it is tear-resistant – helping meet demands for high-performance athletics.

ANSWERS

FOOTBALL TRIVIA

- Already in China, some 2000 years ago, a football-type of game was played. The ball used was made of pieces of leather stitched together and stuffed with feathers and animal hair. According to historical sources from other regions, pig and cow bladders were also widely used from time to time.
- The first rubber football was created by Charles Goodyear in 1855.
- A ball made completely out of plastics was used for the first time in the 1986 World Cup in Mexico. In the quarter-final between Argentina and England, even the Almighty was curious to test the new material: when Maradona scored to make it 1–0, the hand of God was involved in the goal.

PGE Arena, Gdansk



Photo:
National Stadium of Warsaw: 2012, Hightex GmbH, www.hightexworld.com
PGE Arena, Gdansk: RKW Architektur+Städtebau, photographer: Michael Reisch