



WORLDWIDE PARTNER



**PROJECT NAME:** London 2012 Olympic Games Litter and Recycling Bins  
**PROJECT LOCATION:** London 2012 Olympic Games Venues  
**BIN RESINS:** DOWLEX™ Polyethylene Resins and DOW™ HDPE Resins  
**TOTAL NUMBER OF BINS:** 3,600  
**PROJECT TEAM:** Dow in partnership with Glasdon

## Keeping the Olympic Games Clean Through Sustainable Means

High-performance resins support development of innovative litter and recycling bins

The Olympic Games are a major event that offers a one-of-a-kind competitive environment to athletes across the world. Requiring extensive preparation to ensure every detail is set in place, the Olympic Games must host elaborate ceremonies and competitions, welcome thousands of athletes and spectators and meet the organisers' most stringent requirements. Overlooked by the majority, but crucial to an event of this scale to help guarantee an unforgettable experience, are litter and recycling bins.

Thanks to the technology and performance qualities behind DOWLEX™ Polyethylene (PE) Resins and DOW™ HDPE Resins, two solutions by The Dow Chemical Company ("Dow") – used in the design and production of litter and recycling bins by Glasdon and branded by Coca-Cola – the London 2012 Olympic Games will offer sustainable means to discard waste using 240 litre and 120 litre capacity bins named *C Thru Trio Bins*.

## Meeting Olympic standards

With a brief by the London 2012 Organising Committee of the Olympic Games (LOCOG) to create litter and recycling bins that would meet specific requirements, Dow collaborated with Glasdon to propose a solution that would match LOCOG's needs and win the bid. As part of this process, Coca-Cola contributed to the cost of procuring the bins and branding them with clear iconic messages.

The nature of this high profile event required bins that could withstand extreme use and abuse from both the operator and the general public. At the same time, the bins needed to meet LOCOG's legacy requirements as they are expected to be sold and reused at future event venues across the UK.

To achieve this, Dow needed to provide resin technologies that would help deliver a unique, strong and very distinctive recycling bin. Together with its business partner, Dow was able to respond to the challenge, delivering a bin that met LOCOG's technical and competitive price requirements.

"Given the challenge, we worked closely to determine the most appropriate solutions," explains Martin Hill, Application Technology Leader, Rigid Packaging and Durable Goods, Dow Performance Plastics. "Factors such as long lasting exposure

to sunlight and constant manipulation by thousands of people needed to be taken into account to determine the right plastics materials for these bins."

"DOWLEX™ PE Resins and DOW™ HDPE Resins from Dow perfectly responded to LOCOG's technical requirements, offering a high level of aesthetic performance and UV stability for both the Games and legacy beyond," continues Hill.

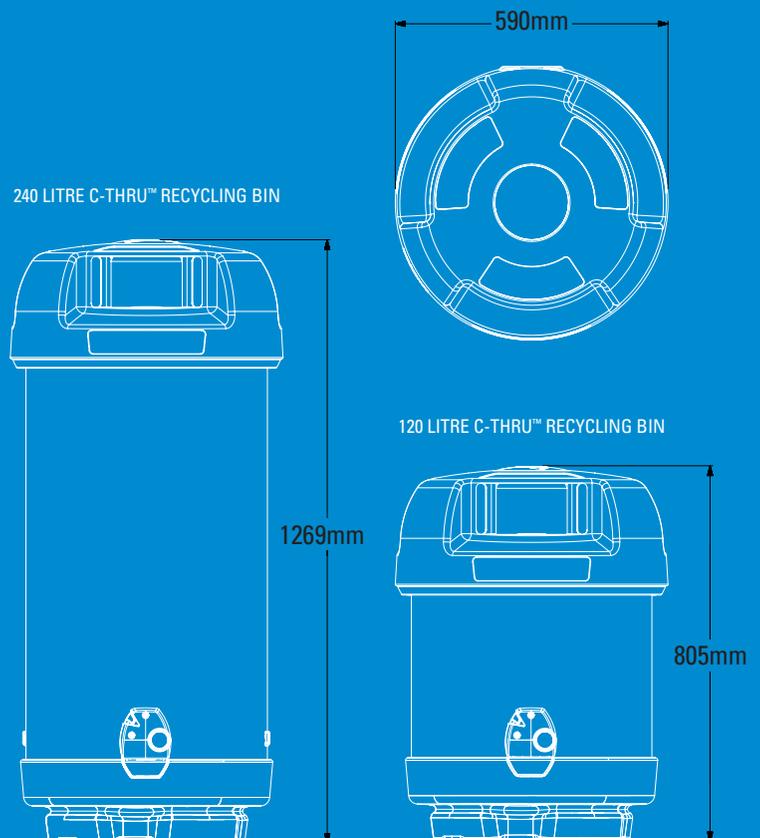
- **DOW™ HDPE Resins** offered an ideal combination of stiffness, high environmental stress crack resistance and good impact resistance for the manufacturing of *C Thru Trio Bins*. These resins were used to develop the base of the bins using blow molding at a high volume process and in a single grey colour. The result was a cost-effective, tough and durable component ideal for continuous use.
- **DOWLEX™ PE Resins** offered excellent processability and aesthetics in combination with low warpage and good mechanical properties. Further, their fully heat and UV stabilized offering met the demand for good colour retention and long life expectancy. The DOWLEX™ PE Resins were critical in producing the bin hoods for the *C Thru Trio Bins* via rotational moulding allowing for a variety of colours in relatively short production runs.

## An efficient and sustainable solution

In the London 2012 Olympic Games approximately 3,600 *C Thru Trio Bins* will be distributed in 30 venues across the city. Due to the transparent design of the bins, operators will be able to easily check the contents without having to open them making the management of the bins more efficient.

The robust base made from DOW™ HDPE Resins will provide strength, support and stability for the clear body. The colourful hoods made possible by the DOWLEX™ PE Resins will make recycling easy for the general public, by identifying each colour, black, orange and green with a category of recyclables. Coca-Cola further supported the development and branding of this three-bin system by drawing on its extensive experience in engaging people to recycle.

The *C Thru Trio Bins* will help reduce the amount of waste sent to landfills and have a smaller environmental footprint. "Staying aligned with Dow's sustainable commitment to deliver technologies that enable customers to meet society's greatest needs is always a priority," confirms Mark Smith, EMEA Marketing Manager Rigid Packaging, Dow Performance Plastics. "In collaboration with Glasdon we were able to do so by producing litter and recycling bins that are fully recyclable once their usable





life expires.” To further broaden the sustainable impact, Coca-Cola aims to turn all soft drink bottles that are recycled in the Olympic venues into brand new ones within six weeks, thus sharing the commitment to making this an environmentally conscious event.

## Focus on safety

The performance of DOWLEX™ PE Resins and DOW™ HDPE Resins in the *C Thru Trio Bins* was successfully validated by Dow’s laboratory tests. Once the bins were manufactured, the product supplier performed impact and UV stability testing to ensure they met specific performance standards. Additionally, to guarantee the product was suitable to use in a real and extreme environment, they underwent vandal and operator testing abuse. Taking rigorous measures and the necessary safety precautions to prevent possible incidents was an important step of the process, particularly for an event of this magnitude.

## Dow and the Olympic Games

Dow is a Worldwide Partner and the Official Chemistry Company of the Olympic Games through 2020. The partnership with the International Olympic Committee (IOC) embraces Dow’s

strategic transformation to a technology-focused, market-driven, customer-centric organization and also allows the Company to demonstrate the significant role chemistry plays in athletics and in everyday life.

In the upcoming London 2012 Olympic Games, Dow will be making yet another significant contribution where the Olympic Hockey competition will be played on an artificial turf surface featuring yarn made with DOWLEX™ Polyethylene Resins from Dow and manufactured by Tapex. The yarn will offer London 2012 Olympians tremendous benefits featuring a high performance artificial turf system specifically designed to meet International Hockey Federation (FHI) standards.

## Combined expertise

With thousands of people flooding the London 2012 Olympic Stadium and Olympic Venues, the *C Thru Trio Bins* featuring Dow resin technology and Glasdon’s design will be fundamental in keeping the areas clean, organized and safe. “By combining our long experience in designing litter and recycling bins suitable for high volume applications and Dow’s material science expertise, we were able to deliver a quality product at the right cost,” comments Dave Holgate, Product Manager, Glasdon Group Research & Development.





Dow's offering and diversified industry leading portfolio is grounded on a wealth of knowledge, sustainability principles and innovation. DOWLEX™ PE Resins and DOW™ HDPE Resins underwent rigorous endurance testing to offer the necessary durability and resilience to produce high-quality litter and recycling bins.

Dow places great value in working together with its customers to deliver tailor-made solutions enabled by its technology expertise and global reach. This project was no exception, where the successful collaboration between Dow and Glasdon was instrumental in meeting the expectations of LOCOG.

## About Dow

**Dow** connects chemistry and innovation with the principles of sustainability to help address many of the world's most challenging problems. Dow's diversified industry-leading portfolio of specialty chemical, advanced materials, agrosiences and plastics businesses delivers a broad range

of technology-based products and solutions to customers in approximately 160 countries and in high growth sectors such as electronics, energy and agriculture. In 2011, Dow had annual sales of \$60 billion and employed approximately 52,000 people worldwide. The Company's more than 5,000 products are manufactured at 197 sites in 36 countries across the globe.

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Published May 2012 – Form No. 768-23621-0512-PN