



## Case Study

### Void Fill - Cowgate Roundabout Newcastle

**Product** Structural Fill EPS SE 300  
**Application** Tunnel Infill - 2880m<sup>3</sup>

Sundolitt's Structural Fill EPS has been used as an innovative void fill under one of Newcastle's busiest roundabouts.

The scope of the £4.3 million project was to remove and replace a notorious junction, by infilling the pedestrian subways and the main bowl of the roundabout.

The junction, known locally as Cowgate roundabout, renowned for being "dangerous and inefficient", now boasts new intelligent traffic signals to manage traffic flow and new cycle and bus lanes as well as pedestrian crossings.

Being such a busy junction, time was critical as the roads could not be closed for long periods to allow construction to go ahead.

Sundolitt worked with Newcastle City Council to engineer and design the solution for the project. A total of 2000 blocks, 2880m<sup>3</sup>, were used to infill the roundabout and three pedestrian tunnels.

The EPS blocks can withstand up to 120 kN/m<sup>2</sup>, therefore with this high design load plus the compacted stone, the new junction can now safely carry the thousands of motorists including up to seventy buses an hour.

The subways had been the source of repeated complaints by local residents to the Council, regarding anti-social behaviour and vandalism plus pedestrians were reluctant to use them, putting themselves at risk by attempting to cross the very busy road instead.

*"Using polystyrene blocks was a quick, effective and sustainable way to infill a huge area and bring it up to ground level. It also meant that we could keep all lanes moving during the infill as engineers could work in the bowl of the roundabout without impacting on traffic – which underpinned our commitment to keep disruption to a minimum as we made a major investment to one of the city's busiest junctions."*



#### EPS Benefits

-  Load Bearing
-  Lightweight
-  Water Resistant
-  Versatile
-  Resistant to freeze/thaw
-  Flame Retardant Available
-  ODP = 0 GWP = <5
-  Fully Recyclable

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