

CASE STUDY

SELBY SWING BRIDGE

Swing Bridge Over the River Ouse is Re-Surfaced



The Ouse Swing Bridge was built as part of the Selby Bypass and was eventually opened in 2005. Ten years on, re-surfacing of the bridge was required.

The Brief & Solution

Along with re-surfacing of the roads either side of the bridge, on close inspection, there were signs of wear and tear on the bridge surface areas too.

Consulting Engineers, Jacobs, approached IKO for the specification, and Galliford Try won the tender. BriggsAmasco were chosen as the installing contractor because of their installation machine equipment.

IKO's Permatrack Bridge Surfacing system was chosen - a waterproof mastic asphalt wearing course for Bridge Decks containing both polymer and epure (Trinidad Lake Asphalt) modifications to the bitumen binder, which offers improved material flexibility and maintains good rut resistance.

The existing mastic asphalt surfacing and bridge deck waterproofing was stripped off and replaced with Stirling Lloyd's eliminator waterproofing system and Permatrack.

The project was first machine laid by BriggsAmasco as opposed to traditional hand laying. This enabled a far quicker installation and produces a much more uniform surface to provide a better ride quality for vehicles passing over it.

The 1,200m² project was complete in 5 days. IKO supplied a total of 100 tonnes in 6 no. loads. The actual laying machine on the second day laid approx. 400m² in around 2 hours including the addition of pre-coated chippings and rolling.

Existing construction meant Permatrack Bridge Surfacing had to be laid at a thickness of approx. 36mm. Ideal for this type of product which forms a homogeneous, voidless, waterproof mix which cannot be affected by water ingress and freeze thaw cycling.

Sector: Local Authority – Highways Works

System: Mastic Asphalt

Products Used: Permatrack Bridge Surfacing on Stirling Lloyd Eliminator Waterproofing on the Steel Bridge Deck

Contractor: BriggsAmasco

Size: 1200m²

Client Requirements & Challenges

An even distribution of pre-coating chippings was required at a spread rate of approx. 13kg/m². This is not easily achievable with a mastic asphalt type surfacing due to heat retention in the product. Also, a tight working space meant using a mechanical spreader impractical to use. Therefore, all pre-coated chippings were applied by hand and carefully rolled into the surface at the correct time.

North Yorkshire County Council stated that a specific test reading was required for surface skid resistance. Due to the initial shiny appearance of the finished Permatrack surface which is inevitable with this type of product, a retexturing process was carried out whereby a thin film of the laitance bitumen was removed to expose the aggregate within the product and also expose the pre-coated chippings. This provided the necessary skid resistance when tested against requirements.

IKO Permatrack is used extensively as the surface course for expansion joints on both raised structures and a wide variety of bridge decks. Its advanced polymer modification makes IKO Permatrack highly durable and resistant to deformation, and there is no compaction required. Furthermore, it offers high stability and no impact sensitivity, accommodating structural movements without fracturing or cracking.

