

Case Study

Service: Magnetic Particle Inspection

Location: Rathbone Place, London

Client: Careys

Magnetic Particle inspection is one of the most common NDT Inspection techniques for detecting surface breaking defects in ferromagnetic materials. MPI is most commonly used on new and existing structural welds in order to identify and highlight any defects or stresses in the weld material and adjacent areas.

Swantest were employed by Careys to carry out Magnetic Particle Inspection on the newly designed and fabricated Tower Crane base at their site at Rathbone Place, London.

The aim of the inspection was to guarantee the structural integrity of the welds piecing together the crane base structure.

Once the Material had been welded, a hold time of 24 hours was given to the welds to allow them to cool down naturally and allow the structure to settle. This process is to allow for any 'delayed cracking' which might occur in the weld or adjacent materials.

After a Visual Inspection, looking for any obvious weld defects or imperfections present, the Magnetic particle inspection was carried out on all of the specified weld areas.

No Surface breaking indications were found therefore the welds were found to be acceptable to the Specification: National Structural Steelwork Specification for building Construction – NSSS Version 5

Key to images:

1. TC3 Crane Base
2. TC3 Crane base areas of Inspection
3. MPI of Structural welds
4. MPI Burmah Castrol Strip (Flux Indicator)

