



Internal Insulation of Museum's Archives

Client: **Imperial War Museum**

Measures: **Internal Wall Insulation**

Location: **Duxford, Cambridgeshire**

Date: **November 2016 – March 2017**

Value: **£80,000**

CORNERSTONE



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The Challenge

Over the winter of 2016/17, the Imperial War Museum at Duxford sought to refurbish one of its archive rooms – Building 13 on the site's North Side.

Building 13 was originally constructed as a barracks in 1933 and forms part of one of the country's best preserved examples of a World War Two era fighter base. The Imperial War Museum is a major national attraction, hosting world-renowned air shows and attracting over 350,000 visitors a year. The North Side, including Building 13, is now predominantly used as a storage area for collections and artefacts.

Building 13 is typically constructed for the period, with main walls of cavity masonry construction, filled with UF foam as part of upgrade works undertaken in 1985.

The refurbishment works included new insulation and air-tightness improvements throughout the archive rooms. The challenge was to improve the thermal performance of Building 13 to create the optimum internal environment for the preservation of wartime documents, photos and film.

Our Solution

Cornerstone was engaged by the IWM's main contractor Borras Construction to provide the specialist internal thermal upgrade element of the refurbishment works, which involved the application of insulation and improvements to the airtightness of the individual archive rooms.

We commenced work on site in late November, deploying a team of highly skilled insulation engineers under the guidance of an experienced Site Manager to the secure site.

Works began with the completion of a small sample room to ensure the targeted specification could be achieved. This room was then tested and returned an extremely low score of 0.2m3/(h.m2), significantly lower than the required rating.

We installed the Kingspan Kooltherm K118 Insulated Plasterboard, selected for its premium performance and suitability for the project, to Building 13's internal walls and ceiling. The system comprises a 12.5mm plasterboard bonded to its front surface and a composite foil based facing on its reverse surface.

Facts & Figures

A total of 653m2 internally insulated for this prestigious client

The Result

Despite the challenging conditions and confined working spaces, Cornerstone completed all core works to schedule in February 2017. We left site in early March following a scrupulous snagging and clean-up process and the completion of a number of minor variation orders.

In total, an area of 653m2 was insulated by Cornerstone, achieving a high grade finish to the complete satisfaction of Borras Construction and the end client.

The building achieved exceptional air tightness scores – some of the best recorded by the monitoring team. It has now been returned to use as an important cold storage facility for the Imperial War Museum.

