

XTRAC THATCHAM, UK

Project Overview

Project	Acoustic enclosures for testing equipment
Location	Thatcham, Berkshire
Application	Advanced transmission manufacturing facilities
Walls	M200 (NFR)
Ceilings	MCT
Doors	Double leaf DDA glazed door set (NFR); powder coated leaf and frame to Xtrac green
Glazing	Integrated flush triple glazed vision panels (EI60)
Miscellaneous	Mineral fibre infill for improved acoustic performance; M100 single flush frame surrounds/openings for doors by others; recessed skirting powder coated in Xtrac green
Performance	Structure (Heavy Duty BS 5234 Part 2) Acoustic 33db (Rw) to BS EN ISO 10140-1: 2016

Background

MIDDAS were selected by main contractor SDC to design and build a two-sided specialist acoustic enclosure as part of a project to convert a storage space to an assembly and test area at Xtrac's UK location. MIDDAS worked closely with SDC and architects at Ridge to incorporate all interfaces seamlessly within the new facility. Off the back of this small project, MIDDAS were commissioned direct by Xtrac to design and build two further acoustic test cells in the original facility.

Brief

The high velocity rotation of parts within the test chamber would generate considerable noise, so the new acoustic enclosures were designed to house gearbox test equipment and provide sound isolation and safety for the rigorous testing process.

Solution

MIDDAS installed M200 acoustic partitions from floor slab to soffit to create enclosures that provided sound reduction to 33dB (Rw). The team worked closely with the Xtrac project manager and specialist doors supplier for seamless integration of the door sets. To achieve the required acoustic performance, the vision panels were triple glazed with an intermediate pane of glass. MIDDAS also developed a stepped design for the ceiling to integrate all M&E distributed services.



“MIDDAS were integral to the design process on this project, helping us create the ideal enclosures for our testing equipment to meet the required performance specification. For example, we discussed options for impact resistance from flying objects for the vision panels and arrived at an intermediate solution. Impact resistance was ultimately controlled by guards fitted to the test rigs themselves, rather than a film applied to the glazing. Instead, the vision panels were triple glazed to support acoustic performance.”

Sam Handley, Senior Project Engineer
Xtrac Ltd