Barnfield South Academy

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Jacksons
Quality that lasts
Fine Fencing, Gates & More

Key Challenge:

To produce a bespoke acoustic sound barrier to help reduce noise created from nearby motorway and surrounding areas, allowing the area to used as an out door meeting space and open air theatre, also to double as a wind and weather break.

Jacksons Fencing products featured:

Timber acoustic boards from Jacksons Jakoustic system and bespoke steel galvanized posts.

Barnfield South Academy is located in Rotheram Avenue, Luton, and is part of the Barnfield Federation. The Barnfield Federation was created in 2007 when Barnfield College broke new ground and sponsored two secondary schools, now Barnfield South Academy and Barnfield West Academy. In March 2011 the academies moved into two magnificent £30 million buildings.

Barnfield South Academy boasts outstanding facilities, including all weather sports pitches, an indoor games court, dance studios and a theatre. These state of the art facilities are, not only put to good use by the pupils at the Academy, but residents in the local community also benefit from being able to use them.

The Academy is relatively close to the M1 motorway and is also under the flight path of Luton airport, so part of the aim of the development works was to create a quieter environment more conducive to learning. These were to include measures such as acoustic sound reduction in the building's roofs and the building of a massive sound barrier constructed of steel posts and timber, in the courtyard area at the academy, to counteract noise from the surrounding area, this would then create a useful outdoor space for meetings.

JCW Acoustic supplies, a leading manufacturer and distributor of soundproofing and sound absorption products in the UK, won

the contract for various sound proofing projects at the Barnfield Academy site. One of these, the large external sound barrier, had some unusual aspects so Andy Critchley of JCW contacted Justin Khadaroo, Acoustic Solutions Manager at Jacksons Fencing, to seek out his expert advice.

Previously Jacksons have supplied JCW with their 'Jakoustic' range of acoustic barriers, however Jacksons reputation for being able to tackle many different types of external projects and to provide bespoke solutions to clients problems, lead to Andy Critchley realising they would have the expertise to take on the creation of the very large barrier; a steel structure split into three sections that spread an impressive 7.5m high by 30m wide.

Jacksons first step was for Paul Peers, fencing manager to make a site visit to investigate the existing steel structure adjacent to the courtyard area that was proposed to make into an acoustic barrier – the idea was to build on to it with custom built steel posts and timber acoustic cladding. Subsequent discussion among Jacksons team ensued including members of the in-house design team John Roach and Nigel Morris, who were tasked with designing steel posts that were to be bolted to the steel structure already in situ. This produced some challenges, as the new steel work had to fit exactly to the existing frame, so great attention to detail was needed, as each measurement had to be incredibly precise.

From then, timber batons were bolted onto the existing steel frame and Jacksons acoustic timber boards were then added, these were in turn bolted to new steel posts, at 2.4m centres. The 'Jakoustic' boards have a unique clamping system, which ensures the sound attenuation property of the barrier is maintained. The panels are constructed from 34mm thickness boards, the edges of which are machined with a combination of an interlocking "vee" system and tongue and groove effect. The unique Jakcure treatment process used by Jacksons on their softwood, enables the company to offer a 25 year guarantee against rot and insect attack.

The outside of the structure was clad up to 7.5m high. Obviously something built on this scale needs to be built from sturdy, good quality materials that will last for many years to come. The steel posts are hot dip galvanized, as is all the steel used by Jacksons, this also allows the company to offer a similar 25 year service life guarantee on all their galvanized steel too.

This demanding project took just over 12 weeks from the first site meeting for the project to be completed. The installation works took two men eleven days to complete, which was both on time and on budget. The end result is a remarkable acoustic barrier that can even be seen from the M1.

Acoustic barrier constructed from steel posts and acoustic boards

Rear view of the acoustic barrier showing steel frame work

The front view of the acoustic barrier showing the grand scale of the project

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