



## THE CUSTOMER

St John Bosco College is a thriving, Roman Catholic school for 11-18 year olds. Located a short distance from Clapham Junction, in the heart of Battersea. The school opened its doors in 2011 and moved into a brand-new purpose built modern building in 2015. Not only do they benefit from excellent facilities such as large indoor and outdoor multi-use sports areas, and a beautiful Chapel, they are also part of a long tradition of excellence in education, one which began with the foundation of Salesian College dating as far back as the 19th century.

## THE CHALLENGE

The College had recently moved into a new building in 2015. During the short period of occupancy up to 2022 the insulation covering the fresh air ductwork to the roof of the College had failed.

The College suspected the failure was contributing to the poor performance of the fresh air supply to the school and therefore was not working efficiently. Birdsall were employed by the College to work closely with the site manager, to identify & rectify the faults to improve the fresh air being supplied by all the air handling units.

After an initial survey it was confirmed that the original insulation had failed and we suspected that there may be some issues with the sealing of the duct work which would contribute to the failure and the poor performance of the fresh air system. Further investigations were carried out into the air tightness of all four ductwork systems utilising a Retrotec 451 KA duct leakage tester.

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**...THE PROJECT COULD NOT HAVE BEEN RUN BETTER.**

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SITE MANAGER - ST JOHN BOSCO COLLEGE



Existing delapidated insulation.



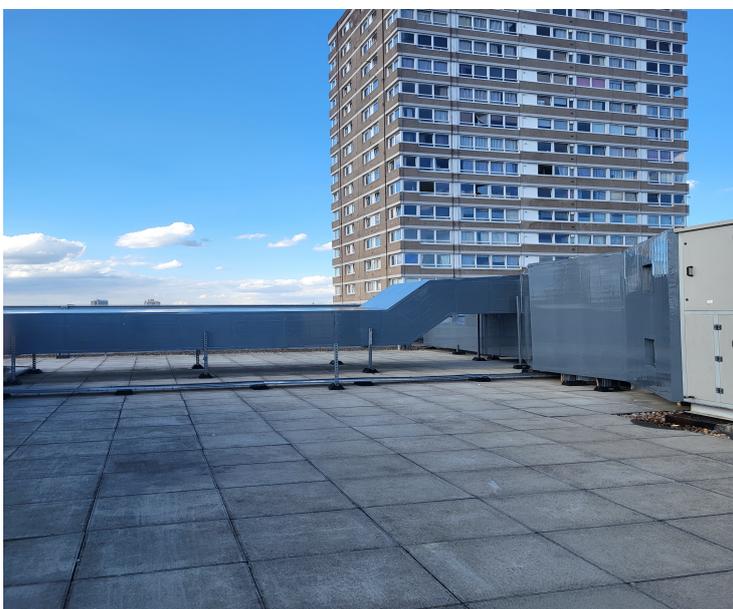
Poorly sealed ductwork joints causing air pressure loss.



Installation of the Retrotec 451 tightness tester attached to the ductwork before testing took place.



Completed installation of new ductwork installation by Birdsall.



Another view of completed installation of new ductwork installation by Birdsall.



Another view of completed installation of new ductwork installation by Birdsall.

"FROM THE COLLEGE POINT OF VIEW, WE FOUND THE ENTIRE PROJECT TO HAVE BEEN MANAGED VERY PROFESSIONALLY BY BIRDSALL SERVICES, ENVIRONMENTAL CONDITIONS OVER THE INSTALLATION PERIOD WERE VERY CHALLENGING FOR THE OPERATIVES CARRYING OUT THE WORK. THE PROJECT COULD NOT HAVE BEEN RUN BETTER, THE SITE FOLLOWING THE WORKS WAS LEFT CLEAN AND TIDY, AND WE CONGRATULATE BOTH BIRDSALL SERVICES AND THERE INSTALLATION AND TECHNICAL TEAM FOR ALL THERE EFFORTS"

SITE MANAGER - ST JOHN BOSCO COLLEGE

## THE SOLUTION

In order to investigate properly Birdsall removed all existing Rock-wall insulation on the supply and extract ductwork of air handling units 1, 2 & 3 plus the kitchen supply unit. Once the ductwork was isolated from the building we were able to carry out an extensive tightness test of the installed ductwork.

All necessary remedial repairs were carried out, including all seams being sealed internally, utilising high velocity duct mastic also some additional supports were installed.

Following completion of the sealing and remedial works, Birdsall then carried out a second tightness test of the installed ductwork which showed a massive 185 litres of air per second improvement of the fresh air supply across all systems.

After the tests were witnessed by the Colleges site engineer, the approval was given to start the 4-week program installing the new lagging throughout.

In place of the existing Rockwall lagging, the decision was made to use Kingspan Therma duct board, the advantage of this product is that it is not affected by water unlike the Rockwall which absorbs water like a sponge. Aluminium angle edging was installed to protect the Kingspan corners, with a metal sheet then installed on the top to protect any damage caused from wildlife. The entire ductwork was then covered with external weatherproof Pro Clad covering to seal fully and weather proof further.

## THE OUTCOME

Birdsall successfully replaced all the lagging on four AHUs within the time restrains of the school holiday, it was important that the school didn't experience any disruption or downtime.

Birdsall organised and managed all aspects of the project including testing and remedial repairs. This included removal and safe disposal of all discarded material, ductwork testing and the install of the new insulation.

Upon completion of the project, a full hand-over was completed with all test certificates provided and a demonstration of the increased performance of the systems and final sign off from the site manager.



10 YEAR  
WARRANTY



185 LITRES OF AIR PER  
SECOND IMPROVEMENT



IMPROVED EFFICIENCY  
& AESTHETICS



- BUILDING SERVICES • ENERGY SERVICES
- HVAC • PROJECT SERVICES

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