

Case study

# School achieves regulation compliance with ROCKWOOL® DuoDuct and Ductwrap

Minerva Primary Academy, Bristol





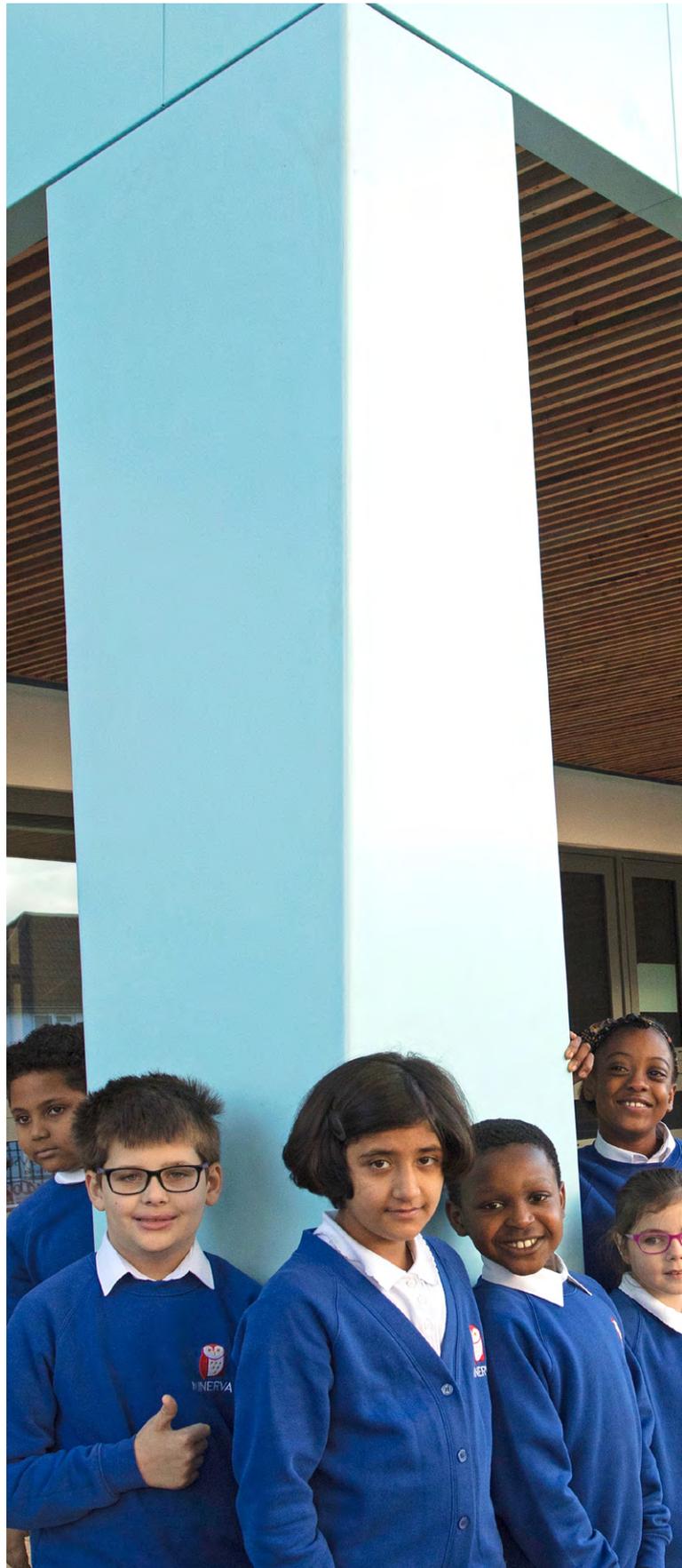
## The project

The Minerva Primary Academy in Bristol undertook an exciting two-storey extension project which increased its capacity from 300 up to 420 pupils.

This state-of-the-art £7.5m facility also includes a multi-use hall, additional classrooms and learning spaces, as well as offices and additional staff areas.

Main contractor, Elliott, appointed Charleson Building Services of Warrington to carry out design and installation of the mechanical and electrical services for the project and DPR Thermal, a long-time partner of Charleson, was subcontracted to fit all internal and external HVAC insulation on the site.

The company specified ROCKWOOL® DuoDuct slab and Ductwrap as thermal, noise reducing and non-combustible insulation solutions for the building's ventilation system in line with the requirements of Building Bulletin 101 (BB101) "Guidelines on Ventilation, Thermal Comfort and Indoor Air Quality in Schools" and Building Bulletin 93 (BB93) "Acoustic Design of Schools" .





## The challenge

The Minerva Primary Academy's ventilation system incorporates an extensive ductwork system featuring both internal circular and external rectangular sections.

To ensure optimum performance for the system, external ductwork sections require effective insulation to protect them from changes in the ambient temperature.

Daniel Rowan of DPR Thermal takes up the story: "Maintaining the right air temperature is essential in a ventilation system and insulation has an important role to play in meeting this objective. The right type of insulation restricts and controls any potential heat loss and ensures the air temperature in the ventilation system stays at the desired level."

He adds: "It goes without saying that on any education project the fire safety performance of the product is a critical consideration. We were also looking for a solution that could help minimise any noise transfer in line with BB93. Finally, it makes a big difference if the insulation is also easy to work with, saves us time and doesn't cause us any issues on site."

"It goes without saying that on any education project the fire safety performance of the product is a critical consideration."

Daniel Rowan  
DPR Thermal



## The solution

Weighing up all these factors, DPR Thermal specified ROCKWOOL DuoDuct and ROCKWOOL Ductwrap for Minerva Primary Academy.

ROCKWOOL DuoDuct is a non-combustible stone wool slab which provides thermal insulation to external ducts carrying warm air, chilled air or dual-purpose duct systems. The insulation is designed for use with rectangular external ducts and is made using ROCKWOOL Dual-Density technology. This consists of a heavier density outer and a lower density inner layer. The high-density outer layer offers greater impact resistance over a single density stone wool product. This makes it ideal for areas where the duct may be susceptible to damage in confined spaces, high traffic areas and external spaces, such as those at Minerva Primary Academy.

"We had some tricky areas to insulate externally, especially around the air handling unit. I was impressed with how easy the DuoDuct was to install," commented Daniel. "It's a hard-wearing product but it's easy to cut with a handsaw. As such, it was straight-forward to make all our cuts and square up and fix all the individual DuoDuct sections. The flexible inner layer allowed us to easily accommodate joints and any irregularities. The general malleability of stone wool – a quality not found in other materials which are prone to snap – meant that we could detail around flanges, saving us time on site. We finished it off with a self-adhesive weather-resistant layer to match the surrounding masonry. I'm really pleased, as is the client, with the finished result."

Internal ductwork was insulated with ROCKWOOL Ductwrap, a lightweight and flexible thermal insulation roll faced with reinforced aluminium foil. Like DuoDuct, ROCKWOOL Ductwrap is acoustically absorbent and A1 non-combustible, ensuring all the relevant project requirements were achieved.

"It goes without saying that on any education project the fire safety performance of the product is a critical consideration. We were also looking for a solution that could help minimise any noise transfer in line with BB93. Finally, it makes a big difference if the insulation is also easy to work with, saves us time and doesn't cause us any issues on site."

Daniel Rowan  
DPR Thermal



## The result

Shaun Byrne, ROCKWOOL National Sales Manager commented: "The ROCKWOOL solution satisfied the thermal, fire safety and acoustic demands of the project but also offered the flexibility, toughness and ease of installation needed by DPR Thermal.

"Whilst the fire performance, thermal efficiency and acoustics are the critical elements to any install on a project, the finished aesthetics of the installation show the quality of both the installing contractor and the products used and this is what has been achieved on this project."

