

4 Minute Read

RAAC Replacement

BRITMET
LIGHTWEIGHT ROOFING



Project Details

As a result of shrinkage and product expiration, the existing RAAC roof decks were failing, this caused water ponding, leading to structural deterioration of the RAAC panels, and in some cases, the potential collapse of the flat roof system. The existing roof became fragile and created a potentially hazardous environment for standard safe working practices. The most cost-effective approach was the installation of Britmet's Tacray 90 Perforated Structural Support System, reinforcing the flat roof above and providing a beneficial new ceiling.

The RAAC Crisis

Many schools throughout the UK were initially constructed using RAAC. After five decades, evidence of distortion and ponding is prevalent, causing concerns of structural compromise. Recently issued guidance by the UK Department for Education underscores the need for awareness and appropriate action to address risks associated with RAAC in schools.

Product Used:

Perforated Tacray 90 –
White Polyester Finish

Project Size:

1600sqm

Sector:

Education

Contractor:

T & B Contractors Ltd and
William Cooper Ltd.

Location:

Hertfordshire

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RAISING THE STANDARDS IN LIGHTWEIGHT ROOFING

Key Benefits

Britmet's Tacray 90 offers a range of benefits that make it a preferred solution for cases such as Cunningham Hill School. Functioning as a robust structural ceiling support to underpin the flat roof system above, the system ensures stability and reliability in diverse applications. Made from galvanised steel, coated with a low-maintenance white polyester finish, the system provides durability but also imparts a sophisticated aesthetic. Offered with a 60-year warranty, Tacray 90 is designed to provide a lasting solution for future generations.

With the option of a full or phased installation, the use of this structural support system offers a planned approach that minimises disruption to the school, allowing the project to take place at any point of the year, including term time and out-of-school hours.



William Cooper Ltd was awarded the contract to design and install a solution to contain the failing RAAC roof panels at Cunningham Hill School, St Alban's, Hertfordshire. Working closely with our supply chain partner Britmet Tileform Ltd we adopted a non-invasive structural ceiling support solution which kept the school operational throughout the works.

Using heavy gauge Tacray 90 support panels together with a bespoke structural anchor system each room within the school was successfully completed within 24/48hrs without the need for expensive roof replacement.

Upon completion, the new ceiling not only eradicated the imminent danger of a failing RAAC panel falling onto a live classroom but delivered a bright white new atmosphere with the added benefit of enhanced insulation and acoustics due to the client's choice Britmet's acoustic panel option.”



– Iain Grimley, Director, William Cooper Ltd.

Further benefits include enhanced acoustic levels creating a more comfortable environment, and improved thermal insulation for energy efficiency. Tacray 90 is manufactured in the UK, reducing transport costs and carbon footprint.

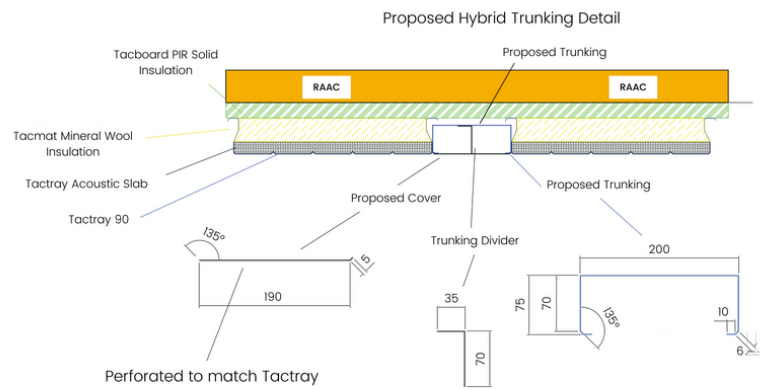


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Installation Brief

- A structurally engineered angle is secured to the existing lattice beams. This forms the primary support for a second angle.
- Installation continues accommodating cabling, pipework and future services by using integral duct trays, providing access for ongoing maintenance.
- 40mm solid insulation board is fixed to the existing ceiling. A secondary angle/cleat is securely attached to the first angle forming the main bearing to support the Tacray.
- The duct trays can be installed as the project requires. Removable colour-coated cover plates are provided to match Tacray 90.
- Tacmat insulation and Rockwool RW3 acoustic board are pre-installed within the Tacray pan. The tray is securely attached to the second angle as a whole assembly.
- The remaining exposed lattice beams can be encased with purpose-made box flashings; colour-coated to match Tacray. Perimeter flashing or edge trims were also provided.



Conclusion

The utilisation of the Tacray 90 Perforated Structural Support System proves to be a transformative solution for addressing the critical challenges faced by ageing educational buildings, particularly those constructed with RAAC. The innovative approach provides essential structural support to counteract the signs of distortion and potential collapse of the existing roof. Beyond its functional benefits, the Tacray 90 system introduces a new low-maintenance ceiling finish with aesthetic appeal, offering clean lines and enhanced acoustic solutions. The retrofitting process outlined showcases a meticulous installation that not only ensures structural integrity but also considers practical elements such as cabling, pipework, and future services.

The system's bespoke solutions, including options in insulation and modular layouts, underscore its versatility. As a result, the Tacray 90 system emerges as a cost-effective and sustainable solution, contributing to the longevity and improved functionality of the existing structure, ultimately creating a conducive environment for learning.