



# Grove Wood Primary School

**WATERPROOFING:** Derbigum Olivine

**PROJECT SIZE:** 2,000m<sup>2</sup>

**PROJECT LOCATION:** Essex

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## Project Overview

Grove Wood Primary School in Rayleigh, Essex, has secured its long-term future following a major roof refurbishment programme funded through the Condition Improvement Fund (CIF).

Extensive investigations revealed that existing waterproofing systems across a number of the school's roof areas had deteriorated, resulting in water ingress and saturated insulation.

Independent surveys concluded that both the flat and pitched roof sections had reached the end of their service life and required full replacement. Damaged rooflights further compounded the problem, requiring replacement as part of the refurbishment works.

Thermal testing identified U-values significantly below current Building Regulations requirements, resulting in heat loss and unnecessary energy costs.

## Client Brief

The school required a complete roof renewal to eliminate persistent leaks, improve energy efficiency and protect the building across future decades.

Following severe weather events, materials had become dislodged and fallen into areas used by pupils and staff. The incident highlighted the increasing risks associated with the deteriorating roof, so the chosen system needed to be installed as a matter of urgency.

## Solution

Approximately 2,000m<sup>2</sup> of roofing was refurbished using trusted waterproofing systems from Alumasc Roofing, with installation carried out by Alumasc Registered Contractor Acclaim Contracts Ltd.

To ensure a complete and lasting refurbishment, the existing roof construction was stripped back to the structural deck prior to the new installation. New insulation was incorporated throughout the scheme, achieving compliance with current Building Regulations while significantly improving overall thermal performance and reducing ongoing energy costs.

Alumasc's Derbigum Olivine Roofing System was installed across the main roof areas. This premium reinforced APP polymer-modified bituminous membrane combines durability, proven long-term performance and environmental benefits within a single roofing solution.

Derbigum Olivine is surfaced with a natural granule: magnesium iron silicate. Upon contact with rainwater, these granules react with carbon dioxide, converting it into environmentally harmless materials, helping to contribute towards carbon reduction objectives. The complete system, comprising waterproofing membranes, insulation boards, underlays and air and vapour control layers, is BBA certified.

With a proven track record since 1967, Derbigum is suitable for both refurbishment and new build applications across a wide range of building sectors.

Complex detailing around rooflights, penetrations and junctions was completed using Caltech QC Detailing. This cold-applied, fully reinforced PMMA liquid waterproofing system is particularly suited to intricate detailing applications, where its ability to conform seamlessly to challenging shapes ensures reliable waterproofing performance. Suitable for both horizontal and vertical surfaces, Caltech QC provided an effective solution for the project's more demanding areas.

## Challenges

The unusual geometry of the existing roofscape presented a significant challenge to the installers. A combination of sloping roof sections, angular transitions and numerous rooflights required a high level of expertise to ensure continuity of waterproofing and detailing throughout.

Initial attempts to secure funding for the refurbishment had also proved challenging, with the school's previous applications to the CIF being declined. Alumasc worked closely alongside building surveyors Munday and Cramer, providing technical support to strengthen the school's latest CIF application, which ultimately proved successful.

The building also remained operational for the duration of the project, and the works had to be carefully managed around the normal school day. In order to maintain a safe environment for pupils, staff and visitors throughout the installation period, close coordination between all parties was essential, and robust safety procedures were observed at all times.

## Outstanding Results

The completed refurbishment has transformed the performance of the school's roof, delivering a safe, compliant and energy-efficient solution designed to serve the building for many years.

The introduction of new insulation has dramatically improved thermal performance, achieving U-values of 0.18 W/m<sup>2</sup>K and significantly reducing heat loss through the building envelope. As a result, the school can expect lower energy consumption, reduced carbon emissions and improved internal comfort levels for both pupils and staff.

The complete Alumasc system was supplied with a 30-year warranty, providing additional assurance and peace of mind for the future. The result is a modern, resilient roof that has created a healthy, futureproof learning environment for generations of pupils to come.