



ROOF REVIEW SERVICE

FOR ACADEMIES & SCHOOLS

BAUDER CERTIFIED INSTALLERS

Who We Are

Bauder is one of Europe's leading manufacturers of flat roof waterproofing membranes and insulation products that has been owner-operated for over 160 years across 14 countries. We have an enviable reputation and track record for delivering the highest quality materials and service through supplying and project managing the installation of premier flat roof systems on schools and academies.

Our comprehensive portfolio of flat roof waterproofing systems, green roofs and photovoltaic energy delivers an extensive range of solutions to meet individual needs without compromise.



“Manufacturing the highest quality roofing materials is one thing, but here at Bauder it is our total commitment and passion to work closely together with our clients to successfully deliver every project to the highest possible standard, that sets us above the rest.”

Andrew Mackenzie
Managing Director
Bauder Ltd

The heart of any education establishment, whether nursery, school, academy or college, is to provide an environment that promotes learning, personal development, wellbeing and achievement and keeping buildings weather tight for pupils and staff is key to supporting and influencing these goals.

Maintaining a school roof is a considerable responsibility and a proactive approach will permit early identification of existing roofing issues rather than leaving any leaks to go unnoticed and become a long-term problem that could cause costly damage to the fabric of the building. This positive approach will allow the management team to plan fund applications for improvement or maintenance of capital assets.

This reference booklet will provide you with the information you need to make informed decisions about refurbishing a school roof and selecting the right companies to work with from advice, precise scientific diagnostics that pinpoint and plot where water ingress is occurring, to design, funding application support, installation and guarantee of the re-covered roof.



Wildern School
Southampton



Oughterard National School
Oughterard

GET RESULTS FROM YOUR SCHOOL

Roof Inspection

Does your academy plan for the future and proactively look to safeguard its assets, or simply react to problems as they occur and then deal with the consequences?

PROACTIVE ROOF MANAGEMENT

- Significant money savings.
- Appropriate roof remedies easily scheduled.
- Time to plan fund applications for external works.
- Reassurance of future performance.

You may be experiencing an issue with your school roof that you need assistance with, or that you may not even be aware of. By proactively assessing the condition of your academy's roof you will benefit from all the advantages listed above.

Together we can select a roofing solution that is tailored exactly to your building's requirements, through our honest and expert roof appraisals. Our range of high performance waterproofing solutions are ideal for any refurbishment project and our no obligation service means that we can perform a comprehensive roof review to evaluate the condition of your flat roofs entirely **FREE OF CHARGE**.



The academy pictured above proactively contacted us to perform a condition review of their roof. The roof inspection revealed early signs of water ingress and so we were able to act quickly to prevent this problem from developing into something more serious, providing them with a cost effective solution that has given the school long-term peace of mind with regards to future performance.

REACTIVE ROOF RESPONSE

- Interruptions to school curriculum.
- Classroom closure.
- Relocation of students and staff.
- Increased costs to remedy damage.

School building owners who react to problems as they occur sustain far greater costs than those who proactively and routinely inspect the condition of their roofing area.

By ignoring the opportunity to have a no obligation roof review performed on your school building you will not be aware of any problem areas that could lead to leaks or even total roof failure, thus significantly increasing your long term costs. The longer you wait the more likely you are to be confronted by roof failure and by then the cost of remedial works will have increased considerably.



The owner of this school roof contacted us because they were experiencing leaks. They did not realise the extent of the damage and if they had delayed any longer this would have certainly led to complete roof failure. We were able to resolve this problem, but the school incurred higher costs that could have easily been avoided.

Specification Support



Specification downloads:
www.bauder.co.uk/technical-centre



Telephone helpline:
0845 271 8800

FLAT ROOF EVALUATION SERVICE

Identifying Any Areas Of Concern

A no obligation Bauder roof evaluation will determine any issues that the flat roof on your school building is experiencing, as well as identifying if no immediate work is required. Our roof surveys are performed in a way that is least disruptive to you and your students.

The service you receive from us is an indication of our 160 years in the waterproofing manufacturing industry and the experience gained from working daily on roofs, understanding the issues, the challenges of water ingress and how they impact your buildings.

This is an entirely free service that will give you clear information and guidance on keeping your school buildings watertight. Our no obligation roof review will provide you with all the information you need:

- Analysis of the existing roofs and their construction.
- Photographic evidence and explanation of issues that need maintenance, repairs or refurbishment as required.
- Recommended course of action.
- Suggested roof system to reinstate the waterproof integrity of the roof.
- Recommended insulation upgrades, where appropriate, to improve thermal efficiency and generate energy savings.
- Approved roofing contractors who will ensure the roof is fitted correctly.
- Roof guarantee covering all aspects of the system, its design and installation.



MOISTURE MAPPING

Pinpointing precise areas of water ingress on existing flat roofs.

Moisture mapping supports and enhances our flat roof review survey by scientifically verifying the exact locations and levels of moisture within existing flat roof waterproofing systems on a school building.

The readings from this test method provide accurate information about the condition of the existing roof, eliminating conflicting opinions and advice so that educated decisions can be made on the roofing options.

Moisture mapping gauges the thermalisation of emitted neutrons from the testing equipment to detect hydrogen and therefore moisture content to a depth of 300mm. Roofing materials also contain hydrogen, and so a background reading is established by analysing core samples taken from varying gauge reading locations (low-high) to determine how much of the thermalisation is due to trapped moisture.

The results are then plotted on a scaled drawing of the roof and a histogram is created following analysis of the gauge readings and results to show the dry and wet areas.

School Project Example Report

In total 561 gauge readings were taken, with readings ranging from 20-72 recorded and four exploratory core samples taken.

Analysis of Data Readings

Using the core sample results we have established that all readings 18-40 can be interpreted to show the waterproofing to contain very little or no moisture, results with the higher readings being associated to changes in the waterproofing materials/thicknesses and not to moisture ingress.

Readings of 41 and above contain varying levels of moisture which rise in line with the increasing gauge readings.

Conclusion and Recommendations

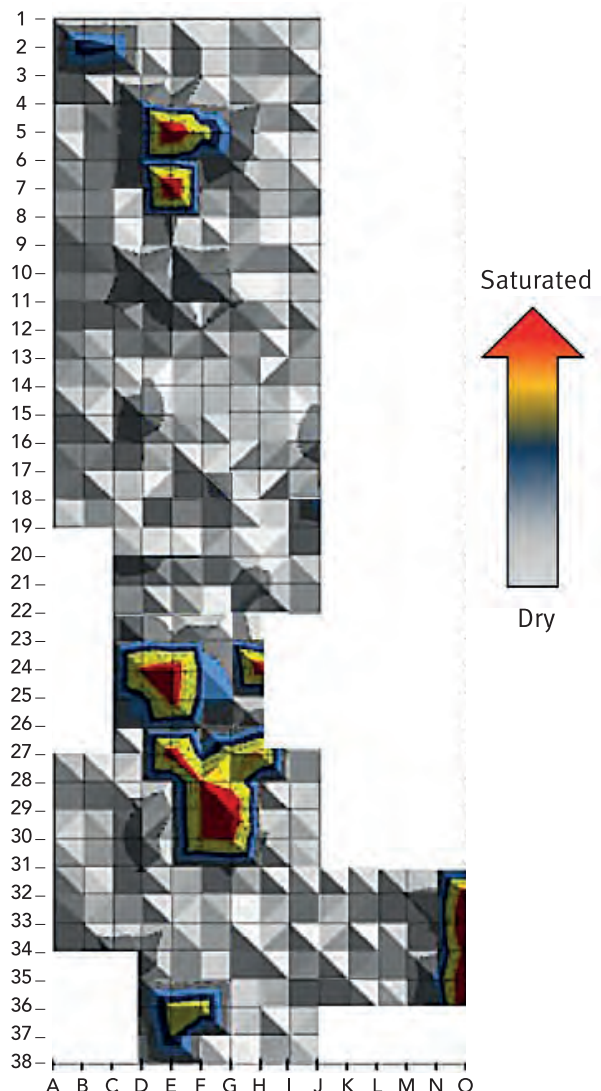
The readings show that the existing built-up bituminous waterproofing system contains several localised areas of moisture where the insulation contains varying levels of moisture that should be removed and replaced with new dry products prior to installation of the proposed overlay system.

There is no requirement to remove the entire existing waterproofing.

CORE SAMPLE	GRID REFERENCE	ROOF LOCATION	READING	FINDINGS
1	E7	Low Point	125	Saturated 20mm thickness cork insulation with the underlying first layer of 12mm fibreboard insulation being wet and the lower layer of fibreboard insulation being dry
2	G15	Low Point	34	Varying waterproofing system components were all found to be dry
3	F27	High Point	48	Damp 140mm thickness cork insulation with a layer of standing water under the cork. Due to the volume of water we could not cut through the underlying waterproofing membranes and insulation layers.
4	D4	Low-midpoint	42	Damp 50mm thickness cork insulation with the underlying first layer of fibreboard being dry but in a powder format due to having previously been wet. The final layer of fibreboard insulation was found to be dry and in a good stable condition.



Roof Moisture Plot



APPLICATION SUPPORT FOR CIF FUNDING

The Condition Improvement Fund (CIF) provides an access point for additional financial assistance beyond the allocated capital funding by the Education Funding Agency (EFA) to cover the cost of building's maintenance work including; roofs, windows, asbestos, and any structural improvements that need to be made to ensure safety for both school facilities and pupils. Many roofing works will fall within the CIF's high priority level for maintaining building condition of a teaching environment or key support space.

Bauder can act as technical advisers for the exact condition of the school roof by additionally performing a moisture mapping survey which gives accurate scientific information about the precise roof areas requiring remedial action as well as the consequence of any delay or failure to undertake the proposed work. This detailed investigation and specialist report is used within CIF applications and meets their guidance notes which asks for the provision of additional survey data for detailed evidence of condition need to the part of the building being addressed.

The recommended roof repairs and suitable system will be based on the extent of the repairs necessary, the needs of the building, longevity of service life required and guarantee duration needed.

The proposal will be assessed for approval and subsequent inclusion within the application by the responsible official at your school or college as the CIF does not permit intermediaries to apply on behalf of an academy, MAT or college.

By taking pro-active steps against potential roofing failures, schools and academies can schedule works to take place outside of term time, reducing disruption to teaching spaces and ensuring all facilities are available.



SOLAR PV - FUNDED BY ENERGY4ALL

Photovoltaic funding is available to reduce your bills

Installing a photovoltaic energy (PV) system on your building's flat roofs brings great advantages to you, your budget and your academy.

- You save money by reducing your energy bills.
- You do your bit for the environment by reducing your carbon footprint.
- You raise awareness amongst pupils and the local community about renewable energy.
- You can use it as a teaching resource to help fulfil curriculum topics in science and DT.

Accessing funding through Bauder and Energy4All for a PV solution allows you to not only lower your increasing energy costs but also fix a portion of your energy bill for the next 20 years, providing increased energy security.

How it works

Bauder and Energy4All will meet with you to assess your academy building's suitability and propose a roof top photovoltaic scheme that provides financial gains. If the system is viable Energy4All will work with you to raise the funds to provide a suitable solar system with zero capital expenditure.

How delivery of your photovoltaic energy solution is achieved

BAUDER delivers a unique photovoltaic solution where the array is secured to the roof without penetrating the roofing system and with minimal additional weight, ensuring that the building remains watertight. Additionally, the solar panels are set at a 12° angle so as not to create a distraction on the roof.

ENERGY4ALL will project manage and coordinate your installation from start to finish providing financial solutions and ensuring schools have no administration to undertake. They will audit the proposed scheme ensuring it is a viable proposition and that the energy generated will deliver to you additional revenue with no capital outlay.

For more information please call BauderSOLAR Product Manager Tom Raftery - M:07788 311 602 or alternatively please visit the Bauder and Energy4All websites:

bauder.co.uk

energy4all.co.uk



Sybil Andrews Academy
Bury St Edmunds

SAFE ROOFING SOLUTIONS FOR ALL YOUR SCHOOL'S NEEDS

At Bauder we understand that safety is of utmost importance within the education sector, especially in relation to refurbishing school and academy buildings, which is why all of our high-performance waterproofing solutions have been developed with safety in mind and are installed using the safest installation methods possible by our approved contractors.

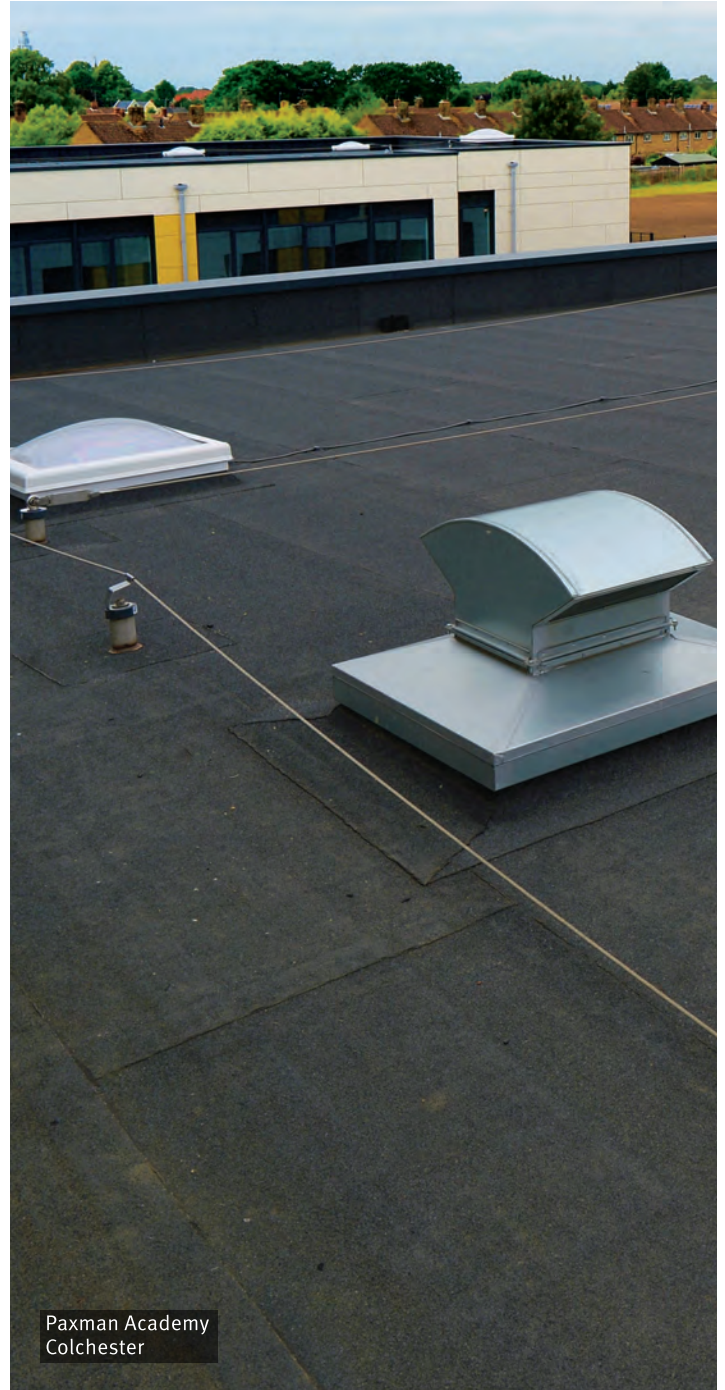
Critical to us achieving this is being able to identify vulnerable areas during the initial roof survey stage, which is why our comprehensive, no obligation roof evaluations are only conducted by members of our expert team who produce bespoke specifications for your school buildings that ensure the appropriate system and installation methods are adopted on all roof areas and details. This safety-conscious approach not only provides you with assurance that the necessary due diligence has been carried out but also means that your school building may well remain operational whilst the roofing works are being performed, causing minimal disruption to the school term.

Deciding which system is most suitable will depend on a variety of different factors including the configuration of your building's deck construction, insulation and roof details. Each waterproofing type has unique advantages in different contexts and only after a full evaluation of the exact needs of the building will highlight one as the most suitable.

We work closely with you to choose a roofing solution that is tailored exactly to your building's requirements and school's budget through our honest and expert roof appraisals. There are three main types of roofing technologies suitable for replacing a flat roof on a school; bitumen felt membrane, cold liquid applied resins and single ply membranes. These system options all deliver safe application techniques and can incorporate insulation upgrades for additional energy savings.

The Bauder waterproofing systems meet current Building Regulations for fire performance and our British Board of Agrément Certificates state, "the systems, when used in a suitable specification, will enable a roof to be unrestricted under the Building Regulations", which confirms they are appropriate for use on any part of a roof.

Bitumen Membrane Solutions



This group of waterproofing systems combine the latest generation of self-adhesive membranes, polyurethane adhesives and hot air welding to deliver robust long-term performance waterproofing.

- Long term durability
- Robust guarantees
- BBA Certified life expectancy to exceed 35 years



Cold Liquid Applied Solutions

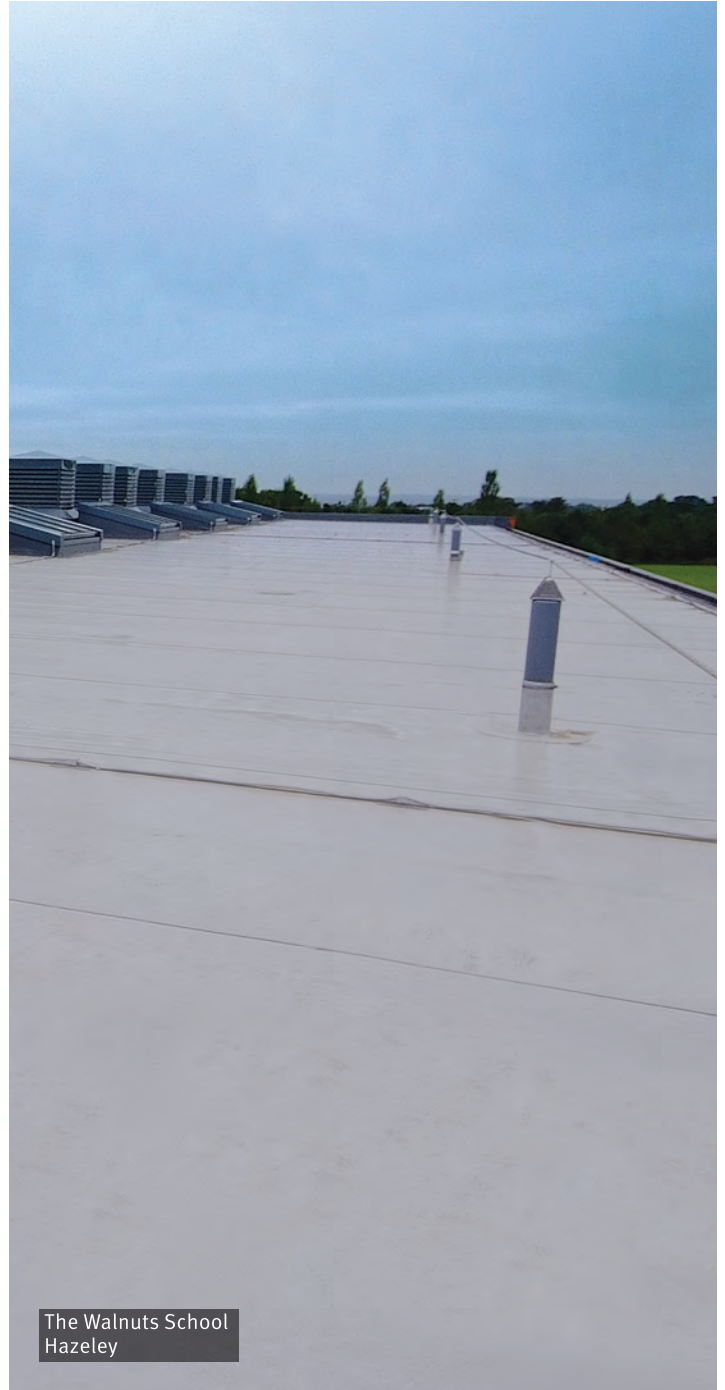


These waterproofing systems deliver a solution based on liquid resin technology which combines ease of application and fast cure making them suitable for use in all kinds of flat roof and recreational terraced area waterproofing applications.

- Seamless across the roof
- Quick installation
- BBA Certified life expectancy to exceed 25 years



Single Ply Solutions



The Walnuts School
Hazeley

These particular membrane systems offer lightweight and fast installations which are cost effective if there is low funding provision.

- Cost effective
- Durable
- BBA Certified life expectancy to exceed 30 years



ACHIEVING TOGETHER

Roofing Solution with Solar PV

SHERINGHAM HIGH SCHOOL

Sheringham High School is a secondary school with academy status located in Norfolk that underwent significant refurbishment to repair a number of its failing roofs. The client wanted the school's campus to act as a benchmark for sustainability and therefore saw this as the perfect opportunity to achieve this with the addition of solar panels.

Working closely with the surveyor PCH Associates, Bauder performed a comprehensive roof evaluation survey to identify the full extent of water ingress being experienced and to confirm the suitability of adding solar. The bespoke Bauder survey report highlighted that many of the roof areas needed to be stripped back to the screed, before being waterproofed with 1,500m² of Bauder Total Roof System by R T Roofing.

The school then had 150 BauderSOLAR PV modules fitted onto the roof by electrical installer Joju Solar. As a result of this PV install the school will be able to achieve a kilowatt peak of 39.00 and generate at least 34.61 Megawatt Hours of solar power each year, all without any capital expenditure or any disruptions to the school term. Funding for the solar PV array was provided through a community share offer, The Schools' Energy Co-operative, ensuring both the school and the local community benefited financially from the solar installation whilst also providing clean renewable energy.



PROJECT INSIGHT



Sheringham High School

THE CLIENT

Andrew Richardson, Executive Headteacher, Sheringham High School

Bauder were the perfect choice for our flat roof refurbishment as they offered a high quality solution installed by approved and certified contractors, with a long term guarantee. The inclusion of the PV system provided us with reduced installation costs by twinning the two projects.

The construction was entirely trouble free; Bauder representatives regularly attended to inspect progress and they were totally in-tune with the unique issues presented by a working school environment. We are thrilled with our new roof and PV installation. It has protected teaching spaces for the long term and provided a valuable source of energy saving and potential income. We are committed to carbon reduction and our solar panels and the output display provide a useful tool for teaching and learning.



THE SURVEYOR & PROJECT MANAGER

Darren Clerkin, Deputy Director, PCH Associates

Bauder's team provided us with expert support throughout the project, from the initial roof survey through to the final installation and handover. This collaborative approach helped us to keep the school fully updated with regular progress reports, which along with Bauder's all-inclusive waterproofing and PV guarantee meant that the client was assured that the installation was of the highest quality. From our point of view, another key consideration was the weight loadings; we needed a system that was both lightweight and non-penetrative, and Bauder's solution delivered just that.

We recommended Energy4All to coordinate the PV element because not only can they deliver a no capital outlay solution, by obtaining funding through The Schools' Energy Co-operative, but they also offer a combination of industry experience, community involvement and ethical investment to provide a package of financial services that meant the client had no administration to undertake.

THE FUNDING SPECIALIST

Mike Smyth Chairman, Energy4All

Working in partnership with Bauder to deliver this solar project resulted in a seamless installation process from start to finish from the school's perspective, with everything taken care of on their behalf. The BauderSOLAR PV system is not only lightweight and high quality but it also has excellent energy generation capabilities, which will result in significant cost savings for Sheringham by producing electricity that is cheaper than that off the grid. In addition, because of the co-operative nature of our social enterprise it means that all profits will subsequently be paid back to the school.

Sheringham's retrofit PV solution not only supports the school's sustainability efforts and provides them with financial benefits, but it also gives our co-operative members an investment opportunity that makes a tangible contribution to the development of renewable energy and the mitigation of climate change.

DELIVERING SUCCESS

Partnering with Bauder

Bauder works closely with schools and academies to advise and deliver the best flat roof systems from surveying a school roof and providing a detailed report through to assisting with funding applications to the CIF, installing the repair solution, inspecting the workmanship and guaranteeing the entire Bauder roof package to ensure that we satisfy all your needs.

We have a national network of highly experienced area technical managers and site technicians who consistently deliver expert advice and support, making sure that the flat roof systems installed answer the practical, environmental and term time considerations of your school roof project.

Some of the ways Bauder works with you:

Funding

Bauder can assist you with all stages of the funding process including providing a specialist report, help preparing and completing an application for submission to the Education Funding Agency (EFA) for Condition Improvement Fund (CIF) bids.

Flat Roof Evaluation Service

A no obligation Bauder roof evaluation will determine any issues that your flat roof is experiencing, as well as identifying if no immediate work is required. Our roof surveys are performed in a way that is least disruptive to you and your students.

Moisture Mapping Investigations

Our diagnostic report plots precisely the roof's condition confirming the suitability of the existing build up to receive a waterproofing membrane overlay and identifying areas that need the insulation to be replaced beforehand.

Solar PV Energy

Full funding is available to install a photovoltaic system on your school's flat roofs, through our trusted partnering companies allowing you to lower your increasing energy costs.

Safety First Waterproofing Systems

Our range of advanced waterproofing systems deliver broad advantages to meet performance, quality and give you the best solution to meet the needs of your school buildings. Our systems can also incorporate additional insulation to improve the thermal efficiency of buildings. We match the best system to suit your building needs.

Monitoring the Roof Installation

Once your school roof repair project starts, our experienced site technicians monitor the works as they progress, inspecting the installation and providing periodic reports. Our national team is the largest of all the manufacturer-suppliers, ensuring all our school projects receive the attention they deserve.

Your School Roof Guaranteed

A full final inspection is completed on the works by our site technician team before the guarantee is issued. Our guarantee covers all elements of product, design and installation of the Bauder system.



GUARANTEED TO PERFORM

Design and the quality of the roofing materials contribute greatly to the performance and longevity of a replacement school flat roof, as well as the quality and experience of the installer. You can be assured that your waterproofing application will be of the highest standard as we only allow fully trained and certified Bauder approved contractors to install our roofing solutions.

Approved Contractors

Our national network of approved contractors are all given full evaluation, as they must possess the technical expertise required and organisational facilities to maintain an efficient and well-run site.

Badged Operatives

Excellent workmanship is crucial to the guarantee that accompanies Bauder installations and so we have always operated a policy to train and approve the individual installer, and not simply the contracting roofing company. Each individual fixer is required to display their approved operative badge at all times showing photographic identification, name, badged operative number and the systems that they are trained to install.

Bauder Site Technicians

Once your roofing works commence, our experienced team of site technicians will monitor and inspect the workmanship at key stages to ensure that the standards required to meet our guarantee are fulfilled, as well as providing you with easy to understand reports on how the works are progressing.

Your Roof Guarantee

Your new completed roof will be backed up by what we can confidently claim to be the most comprehensive guarantee range in today's roofing industry, giving you total reassurance with regards to the future performance of your school roof.

Unlike others in the market, Bauder offers a full range of guarantees that map to the building's and your requirements to give complete satisfaction.

We issue our guarantees unreservedly as part of our service because we monitor quality every step of the way from manufacture to installation.



CASE STUDIES



Ormiston Forge Academy

Ormiston Forge Academy is a secondary school and sixth form with academy status located in Cradley Heath in the West Midlands. As a result of a comprehensive Bauder roof survey it was identified that all of the original waterproofing, insulation and rooflights on the school's sports hall roof had exceeded their serviceable life and were experiencing significant water ingress.

Consequently, the client wanted to level off the deck and remove all of the rooflights before replacing the waterproofing with over 700m² of Bauder's reinforced bituminous system, Bauderflex, which was expertly installed by Brindley Asphalt. The system build-up also included Bauder's 120mm PIR Insulation for superior thermal performance.

One of the major challenges on this project was adhering to the strict deadlines that were put in place to ensure that all the works were completed before the end of the summer holidays, however Bauder successfully overcame these logistical issues completing the project on time and to budget, much to the delight of the client. Since completion a second phase of work has been scheduled to replace the waterproofing and rooflights on the adjoining building.



South Hunsley School

The serviceable order of various flat roofs on the buildings at South Hunsley School & Sixth Form College were cause for concern and required urgent condition surveys to identify the scope of the issues.

The surveys revealed a number of serious problems. The existing roof area comprised uninsulated systems with loose laid mineral chippings over felt membranes that were showing severe signs of aging. Additionally, the rooflights had become defective and evidence of previous repairs indicated a recurrent source of failure over recent years.

A range of solutions was proposed to maximise the budget and eliminate unnecessary costs. The majority of the roofs were able to be overlaid, whilst others that were suffering badly from water ingress needed to be stripped back and re-decked prior to the new bituminous waterproofing system being introduced. All roof areas incorporated highly efficient insulation to improve the thermal performance of the building and new modular glazing rooflights were also installed.

The project was delivered during the winter months and came in on time, under budget and without interruption to the curriculum. Jon Hey, Premises Manager at the school, expressed his delight with the outcome, *"The results are already visible, not just from an aesthetics perspective, but also the improved thermal efficiencies are clear. This will undoubtedly lead to significant energy savings for our school."*

CASE STUDIES

GALLERY



Robert Bloomfield Academy

Robert Bloomfield Academy is a middle school situated in Shefford, Bedfordshire that has approximately 800 pupils aged from 9 to 13 years old.

Having recently had a Bauder roof installed, the school was keen to add a photovoltaic (PV) system to the building to meet their high sustainability aspirations. As a result of discussions with Bauder and a funding specialist, the school identified this as a perfect opportunity to have a no capital outlay PV solution fitted that would not compromise the existing 20 year roof guarantee.

78 photovoltaic modules were secured to the waterproofing, enabling the academy to achieve a kilowatt peak of 23.01 and generate at least 20.08 Megawatt Hours of solar power each year, equating to energy savings in excess of £200,000 over 20 years. This PV system was installed without any penetration of the waterproofing or roof deck, ensuring the roof integrity is completely upheld.

All works had to be carried out to strict timescales and stringent performance and design requirements needed to be met. Bauder fulfilled these objectives and delivered to the school a high quality, innovative roof with extraordinary renewable energy credentials.



Chelsea Academy
London



Falmer Academy
Brighton



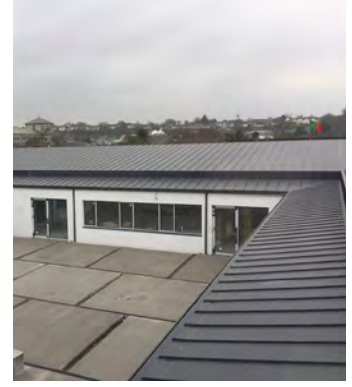
Ridgewood Academy
Doncaster



St. Paul's Academy
London



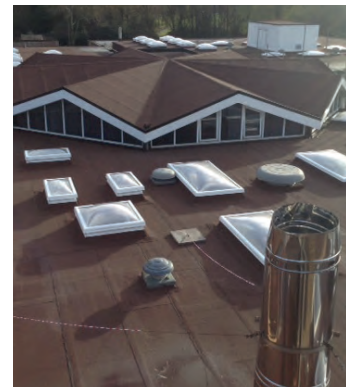
Forest Gate Community School
London



Westport School
County Mayo



St Bartholomew's Primary Academy
Royal Wootton Bassett, Swindon



Stafford Leys Academy Trust
Leicester



BAUDER

UNITED KINGDOM

Bauder Limited
70 Landseer Road, Ipswich, Suffolk IP3 0DH,
England
T: +44 (0)1473 257671 E: info@bauder.co.uk
bauder.co.uk

IRELAND

Bauder Limited
O'Duffy Centre, Carrickmacross, Co. Monaghan,
Ireland
T: +353 (0)42 9692 333 E: info@bauder.ie
bauder.ie