Education Sector
A Design Guide

Creating the optimum learning environment
in schools, colleges and universities

SAINT-GOBAIN

Ecophon SAINT-GOBAIN · Gyproc SAINT-GOBAIN · ISOVER SAINT-GOBAIN · weber SAINT-GOBAIN

Our Aim

Our aim, with this guide, is to help you create the best possible learning environment. This means designing and building classrooms and study areas which, first and foremost are safe, and then bringing together all the essential elements required to enhance the learning process: teaching, of course, but also comfort and wellbeing resulting from a healthy indoor climate, carefully thought-out ergonomics and the best possible acoustic conditions.

This guide considers the essential minimum requirements, as set out in The Department of Education and Skills own Technical Guidance Documents (TGD's) and provides tips as to how to achieve these requirements along with some guidance based on our own areas of expertise.

Globally, Saint-Gobain spends over €350 million annually on R&D. This investment enables us to bring to market the technical advances that will make our homes, schools and buildings more energy efficient and comfortable places.

Why Choose Saint-Gobain?

As the world leader in designing, manufacturing and distributing construction materials, we have a responsibility to meet the fundamental challenges faced by the industry today. We are totally committed to reducing energy consumption, limiting our impact on the environment and creating a new generation of buildings which are safe, comfortable and energy efficient. We provide systems and solutions which are designed to enhance all aspects of the build.

Trusted and respected in Ireland

Not only are we a world leader in our field, employing 200,000 people across 60 countries, we have a long established presence in Ireland with our Gyproc plant dating back to 1936. With a loyal network of suppliers and customers we are committed to Ireland and continue to invest in Irish manufacturing.

We have an unrivalled range of high-performance, energy saving products and systems, enabling architects, specifiers, contractors and developers to respond to the latest building trends, whilst meeting the most exacting legislative and performance standards. With our combined expertise and extensive resources, we are well placed to provide innovative solutions that will create real value for our customers by helping them to deliver a more sustainable, energy-efficient built environment.

Saint-Gobain in Ireland

Ireland's leading supplier of sound-absorbing ceilings and wall absorber systems, combining an innovative approach with extensive experience, especially in learning environments.
www.ecophon.co.uk

Irelands leading manufacturer and supplier of gypsum-based plastering and drylining solutions, manufacturing in Ireland since 1936.
www.gyproc.ie

Ireland's leading brand for sustainable mineral wool insulation, supplying the Irish market since 1974. Now the leading brand for airtightness and moisture management systems, with the 1st NSAI certified dry lining system for Ireland.
www.isover.ie

Formulator and manufacturer of building materials for the façade, construction mortars, flooring systems and tile fixing markets. Weber's well-established product range includes monocouche renders, external wall insulation systems, tile fixing systems including adhesives, grouts and wet-room and acoustic solutions. Weber were Ireland's 1st NSAI certified external wall insulation system.
www.weber.ie

We will always go the extra mile to limit the environmental impact of our manufacturing processes, protecting our employees' health and safety, and managing our business in a socially responsible manner.

Making a difference... Sustainably

Our commitment to green principles drives our sustainable development culture. Rather than simply complying with regulations we take a proactive approach to limit the environmental impact of our manufacturing processes, protecting our employees' health and safety, and managing our business in a socially responsible manner. We seek to enhance and improve the environment by factoring in sustainability at every stage of our operations. Within our manufacturing plants we have environmental management systems, including waste management and recycling, reduced consumption of raw materials and the efficient management of natural resources – helping us to reduce energy consumption and our environmental footprint. The World's natural resources need to be conserved and we work hard to ensure that we source raw materials in the most responsible manner.

IN PRACTICE

The following are just a few examples of how our values are demonstrated in practice:

Gyproc's manufacturing site in Kingscourt, Co. Cavan is ISO 14001 (Environmental Management System) and ISO 15001 (Energy Management System) standard accredited. Currently, 50% of water used in the manufacturing process is recycled, with a target to increase this in future years.

Ecophon offers high recycled product content and environmental product declarations for all its products. Ecophon products meet class E1 for compliance to VOC standards and are manufactured with a formaldehyde free, plant-based renewable binder.

Isover's manufacturing site is ISO 14001 standard accredited, and its mineral wool has a recycled content of up to 86% – the theoretical limit of recycled glass content. Isover mineral wool insulation has a generic A+ rating in the BRE Green Guide.

All **Weber** sites are certified to the ISO 14001 standard and weber.pral D external coloured render has a BRE Green Guide A+ rating.

The smarter choice for designers and builders...

Technical Expertise
Saint-Gobain businesses collaborate to create robust designs and provide Ireland's best training facilities.

Unique Approach
No other business provides such a comprehensive range of solutions and technical support.

Enhanced Warranties
Robust detailing and interfaces yield opportunities for longer-term performance guarantees.

Efficient Approaches
Fewer contacts means a quick design process.

Reduced Risk
Reduced risk to the design and build process by choosing tested systems from established & credible brands.

Design Guidance

Whether it is assistance with pre/post tender design specifications or on-site support during the construction phases of a project where our systems are being installed, with teams of locally based technical, specification and sales personnel representing each of their respective Saint-Gobain brands, we are in a position to offer an unrivalled level of local support to all your project requirements.

We've included some case studies to show that it can be done, and point you in the right direction, but most importantly we offer ourselves as the point of contact for any questions you may have. A lot of your queries will be project specific and you will need spefiic answers so it helps to know where you can go for further assistance. Consider this guide as an introduction to us and the information we can provide....so please do get in touch when you need assistance.

Performance Requirements

The long term success or our new and existing educational buildings can be achieved with the provision of facilities which create sustainable, healthy and welcoming environments that help to promote intellectual and creative learning, social interaction and physical activities which are conducive with facilities aims, philosophy and ethos.

In Ireland the key design requirements of most educational facilities which are either part or fully funded by the Government are set out in the Technical Guidance Documents (TGD's) written and published by the Department of Education and Skills. These documents, essentially divided to cover primary and post-primary facilities, set out the requirements for a wide range of the key design and performance attributes.

Design philosophies outlined within the guidance documents aim to provide designs which offer buildability, flexibility and sustainability. With respect to those key performance

attributes required to achieve high standards of sustainable educational built environments, such as energy efficiency, thermal performance, air-tightness, acoustic functionality, fire safety, robustness etc. Saint-Gobain lifetime guaranteed products and systems can help to meet and exceed these standards. Helping to reduce whole life maintenance costs, they have the strength and durability needed to cope with intensive uses throughout a buildings life.

Successful educational buildings can be achieved with the provision of facilities which create sustainable healthy and welcoming environments.

Energy Efficiency

Thermal Performance and Passive Energy measures

The energy performance design of the building fabric (walls, roofs, floors, windows and doors) is vital to controlling the overall level of thermal comfort for its occupants. This can be enhanced further with the provision of adequate day-lighting and natural ventilation. An integrated passive strategy maximises the efficiency of the design and minimises energy consumption.

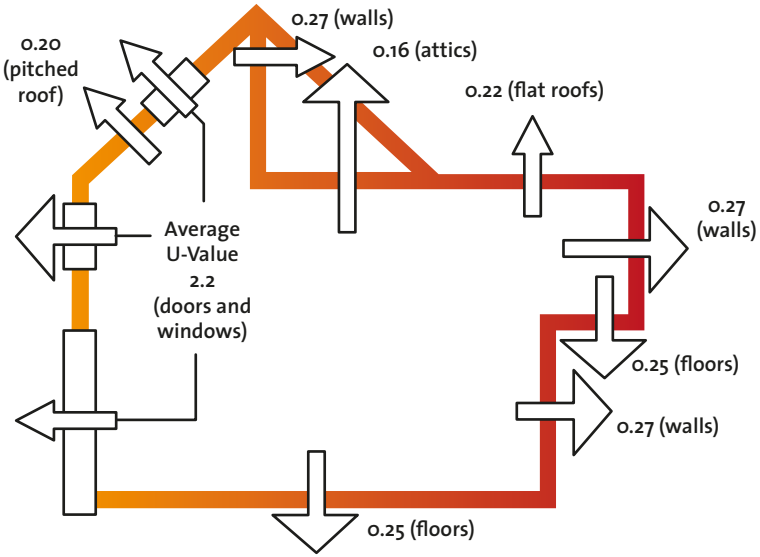
The elements which form the envelope of the building should be designed and specified to at least meet the current standards set out in Ireland's national Building Regulations (Part L – Conservation of fuel and energy – Buildings other than dwellings). However, minimising the whole life energy costs with a 'Fabric First' design approach should be regarded as a high priority design characteristic of the building. The provision of elements which exceed the standards can help offer much higher levels of internal thermal comfort.

SAINT-GOBAIN Recommends

- ✔ Weber External Wall Insulation systems
- ✔ Isover high performance wall and roof insulation systems
- ✔ Gyproc insulated dry-lining systems

BEST PRACTICE

Achieving U-values of between 0.12 and 0.15 W/m²K



Air-tightness

It is recognised that the control of unwanted air infiltration into and out of buildings is a major factor in controlling heat loss. Offering good quality air-tightness solutions helps to maximise an integrated energy strategy.

The Department of Education and Skills design guidance typically sets the air-tightness requirements for educational facilities at levels which exceed the national building regulations standards. Where extensions and new build projects exceed 1000m² a requirement of 5 m³/h/m² of the measured area at a test pressure of 50Pa should be achieved. With more recent projects the target air-tightness figure has been set at 3m³/h/m² of the measured area at a test pressure of 50Pa.

SAINT-GOBAIN Recommends

- ✔ Isover Vario air-tightness membranes and tapes
- ✔ Gyproc plasters to seal masonry backgrounds

BEST PRACTICE

Airtightness levels below 3m³/h/m² at 50Pa

Acoustics

The control of sound within a building has been acknowledged as one of the most important comfort and functional criteria to achieve a successfully operating educational facility. The requirements within the guidance documents aim to

- Facilitate clear communication of speech
- To provide suitable environments for study activities

Conducive study environments can be achieved by adhering to the respective standards for both **Sound Insulation** and **Speech Clarity.**

- Sound Insulation – To maintain internal ambient noise levels by minimising the infiltration of external noise (e.g.rain and traffic) and also the airborne and impact sound transfer within the building.
- Speech Clarity – To give suitable consideration to the materials used within a room to offer sound absorption and sound reflection to control reverberation.

The most recent specific guidance provided within the Department of Education and Skills TGD document (February 2013) is more complex and in depth than previously requirements. It essentially sets out specific criteria for sound for individual rooms, classified by the functional type e.g. general classrooms, music rooms, sports activity areas, circulation areas etc. The requirements also consider the relationship between two such rooms due to the differing potential levels of ambient noise in each. Some examples of the design requirements are shown in the following tables.

For the purposes of Sound Insulation

Sound Insulation – To maintain internal ambient noise levels by minimising the infiltration of external noise (e.g.rain and traffic) and also the airborne and impact sound transfer within the building.

Type of Room	Upper limit for the indoor ambient noise level, $L'_{Aeq,30min}$(dB)
Primary School: Classroom, general teaching areas, small group rooms	35
Post-Primary School: Classrooms, general teaching areas, seminal rooms, tutorial rooms, language laboratories	35

SAINT-GOBAIN Recommends

- ✔ Gyproc GypWall, Robust and Extreme metal stud partition systems
- ✔ Gyproc CasoLine MF Ceiling systems
- ✔ Gyproc GypLyner wall lining systems
- ✔ Isover Optima wall lining system
- ✔ Isover acoustic mineral wool insulation
- ✔ Weber External Wall Insulation Systems using mineral wool

BEST PRACTICE

Offering partitions and ceilings that achieve above 50 RwdB

Minimum $D_{nT}(T_{mf,max})$,w (dB)	**Primary School:** Classroom general teaching areas, small group rooms	Post-Primary School: Classrooms, general teaching areas, seminar rooms, tutorial rooms, language laboratories	Music	Lecture Rooms (<50 people)	Lecture Rooms (>50 people)
Primary School: Classroom, general teaching areas, small group rooms	45	n/a	n/a	n/a	n/a
Post-Primary School: Classrooms, general teaching areas, seminar rooms, tutorial rooms, Language Laboratories	n/a	45	55	45	55
Music	n/a	45	55	45	45
Lecture Rooms (<50 people)	n/a	45	55	45	45
Lecture Rooms (>50 people)	n/a	50	60	50	50

The sound insulation requirements $D_{nT}(T_{mf,max})$,w (dB) in the table above refer to post completion, on-site sound insulation performances. Designers should build in tolerances to account for potential site conditions when specifying against laboratory tested RwdB sound insulation performances which are tested in the absence of flanking path conditions.

For the purposes of Speech Clarity

Sound Clarity – To give suitable consideration to the materials used within a room to offer sound absorption and sound reflection to control reverberation times.

Type of Room	Mid-frequency reverbation time, T_{mf}1 (seconds), in finished but unoccupied and unfurnished room
Primary School: Classroom, general teaching areas, small group rooms	<0.6
Post-Primary School: Classrooms, general teaching areas, seminar ooms, tutorial rooms, Language Laboratories	<0.8
Music	<1.0
Lecture Rooms (<50 people)	<0.8
Lecture Rooms (>50 people)	<1.0

The designer should consider that sound reverberation times (seconds Tmf) recorded in an environment will not only be influenced by the products and material used to line the surfaces of the room, but they will also be influenced by the nature of the furnishings, the number of windows, doors and the shape and size of the room.

SAINT-GOBAIN Recommends

- ✔ Ecophon ceiling and wall panels systems
- ✔ Gyproc Gyptone and Rigitone ceiling systems used in conjunction with Isover insulation.
- ✔ Gyproc Gyptone Instant wall panels

BEST PRACTICE

Rooms with reverberation times below 0.6 seconds.

Tables sourced from Technical Guidance Document TGD-021-5 Acoustic Performance in Schools, 1st Edition, February 2013 published by Department of Education and Skills.

Build Quality & Durability

Regardless of whether the materials selected are to perform a function internally or externally. The finishing materials selected must demonstrate suitable levels of durability which can stand up to the impact and weathering to which they will be subjected throughout the life of the building.

SAINT-GOBAIN Recommends

- ✔ Weber External Renders and External Wall Insulation Systems
- ✔ Gyproc metal framed systems lined with Gyproc Duraline or Gyproc Rigidur impact resistant grade plasterboards.

Fire Safety

The fire safety strategy for the educational facility will be determined by a fire risk assessment which will be undertaken in accordance with the permitted forms of assessment as allowed by National Building Regulations.

Under such assessments suitable levels of fire separation between adjacent areas will be defined. There will also be requirements which set out the suitability of the materials used within the building. Suitable materials are typically those that offer high levels of fire safety without causing health and safety issues relating to smoke emmisions and toxicity.

SAINT-GOBAIN Recommends

- ✔ Gyproc fire rated partition and ceiling systems
- ✔ Isover A1 fire rated insulation
- ✔ Weber External Wall Insulation Systems using mineral wool

Health & Environment

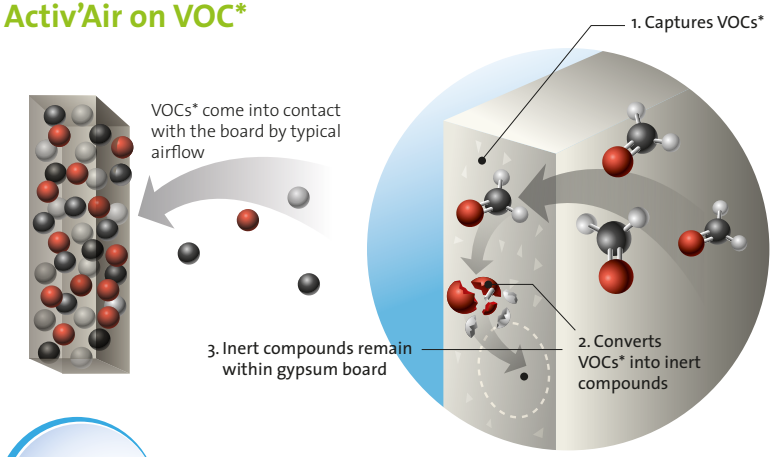
Studies have shown that the quality of internal air has a direct impact on our ability to sustain concentration. Air quality also has a direct impact on other problems such as allergies and asthma. Therefore, the provision of passive (Gyproc Activ'Air products) or active systems that can help significantly reduce the level of VOC's and other potentially harmful irritants from the internal air can help improve the air quality promoting healthier living, learning and working environments.

Activ'Air – A revolutionary range from Gyproc that uses an innovative technology to improve indoor air quality by taking VOC's out of the air and keeping them out.

SAINT-GOBAIN Recommends

- ✔ Gyproc Activ'Air plasterboards
- ✔ Gyproc Gyptone ceiling tiles and boards

Effectiveness of Activ'Air on VOC*



ACTIV air

Gaelscoil Ui Riordáin

☑ New Build
☑ Steel Frame (Rapid Build)

The high standards of finishing of the various Gyproc and Isover systems within the school ensure that the pupils of Gaelscoil Ui Riordain can enjoy their daily activities in a robust and comfortable environment.

Case Study

Construction for Gaelscoil Ui Riordain under the Rapid Build School Programme was completed in July 2013 catering for 530 pupils and more than 26 teachers on a new 3 acre site in Carriganarra, Carrigrohane, Ballincollig, Co. Cork,

Due to the rapid build procurement nature of the school, Gyproc lightweight partition systems were deemed to be the most effective solution for construction of the internal separating walls and as lining systems to the external wall elements.

The general day-to-day activity within in a school environment necessitates robust and impact resistant walls and lining systems.

Because of this, the specification for the internal separating walls consisted of Gypframe stud frameworks which were lined with Gyproc 12.5mm WallBoard as the inner layer to both sides of the stud frameworks, with Gyproc 13.5mm DuraLine plasterboard as the face layers in order to provide optimum levels of robustness and impact resistance. Isover 50mm Acoustic Insulation was installed in the cavity of the partitions to ensure high levels of sound reduction between classrooms and general purpose areas.This specification also facilitated the required fire performance criteria in terms of compartmentation.

In line with the performance standard requirement for reverberation times for the relevant areas within schools contained in the most recent Department of Education SKIUS Technical Guidance Document, Gyptone Quattro 47 was installed in the General Purpose areas in order to provide comfortable levels of acoustics, whilst also having an aesthetic appeal

The high standards of finishing of the various Gyproc and Isover systems within the school ensure that the pupils of Gaelscoil Ui Riordain can enjoy their daily activities in a robust and comfortable environment.

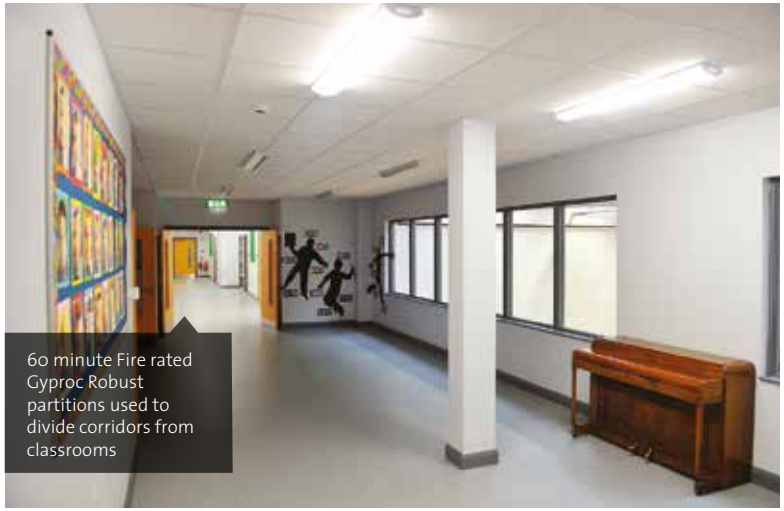
Main Contractor
- Glenman Corporation

Dry-lining Sub-Contractors
- Ceiling and Allied Ltd.

Gyptone wall linings to help control sound reverberation

Isover Acoustic insulation within Gyproc Robust partitions offer high levels of sound separation

Gyproc Robust metal stud partition systems provide increased impact resistance



60 minute Fire rated Gyproc Robust partitions used to divide corridors from classrooms

Gyptone boards used at high level only in assembly hall

Abbeyfeale Community College

☑ New Build
☑ Traditional ‘fair face’ Block Build

To ensure speech clarity and a comfortable acoustic environment, Gyptone Quattro 46 perforated plasterboard with Isover insulation was installed on the ceilings in class-rooms and common areas.

Case Study

Abbeyfeale Community College, which opened in September 2011 is a brand new state of the art Community College and is part of the second bundle of Public Private Partnership (PPP) Schools. The school is an amalgamation of St. Ita's College, St. Joseph's Secondary School and Vocational School to provide 850 pupil places.The new school is situated on the main street in Abbeyfeale and the two storey building accommodates 23 classrooms, 29 specialist classrooms, special needs unit, library, staff/administration areas, sports hall, store areas, toilets and ancillary areas with a total floor area of 9065m².

Due to the reflective nature of the materials generally used in school construction such as desks, hard chairs and ‘fair-faced’ block-work, the concern for the designers was the internal acoustic quality due to potentially high reverberation. To ensure speech clarity and a comfortable acoustic environment, Gyptone Quattro 46 perforated plasterboard with Isover insulation was installed on the ceilings in class-rooms and common areas.

In total between over 4000m² of Gyptone Quattro 46 plaster-boards were installed on a Gypframe MF ceiling framework with Isover 25mm Acoustic Insulation above the grid frame-work to provide not also an aesthetically pleasing finish to the ceilings but also to provide optimum levels of sound absorption resulting in a comfortable day to day acoustic environment for the staff and pupils of the five schools.

Contracting Company
- John Sisk and Sons Ltd

Sub Contractor
- HeartHill Interiors


Gyptone ceilings provide high levels of acoustic absorption


Gyproc CasoLine MF framing facilitates change of level details to enhance the lighting strategy


Combined with standard Gyproc WallBoards to allow flexibility in aesthetic effects


Gyproc CasoLine MF bulkheads allow for natural lighting of building


High levels of design flexibility can be achieved

St. Joseph's National School

☑ Refurbishment
☑ Existing Masonry Block Cavity Wall

The retrofit not only improved the overall comfort of the classrooms but also reduced the space heat demand by approximately 50% saving the school on running costs.

Case Study

The case study retrofit project on St. Joseph's National School, Glenealy, Co. Wicklow was completed in August 2011. MosArt Architects reviewed the various options of retrofitting the building within the given budget. It was decided that the money would be best spent by tackling the lowest performing part of the school. In this case this was the 2 classrooms to the rear of the school which comprised single glazed windows poorly fitted within a cavity wall construction.

The proposed retrofit works comprise building fabric upgrades along with the installation of an energy efficient heat pump and low temperature radiators to serve the two classrooms. The works not only improved the overall comfort of the classrooms but also reduced the space heat demand by approximately 50% saving the school on running costs.

Sisk, the contractor, were looking for a low maintenance tough and durable finish for the outside of all of their schools projects and they chose a Weber specification, applying 2500 sqm to this building.

The building fabric upgrades included replacing the existing single glazed windows with triple glazed Passive Standard Windows, the existing cavity walls were pumped with blown bead insulation and external wall insulation (EWI) was fixed to the façade of the existing building and rendered using the Weber system. The roof insulation was upgraded by installing Isover mineral wool insulation. Existing thermal bridges were improved by overlapping of window frames with insulation and joining the eaves insulation with the roof insulation. This upgrade improved the U Values, reduced the space heat demand and improved the external façade of the building, giving it a fresher and more modern appearance.

Sub-Contractor

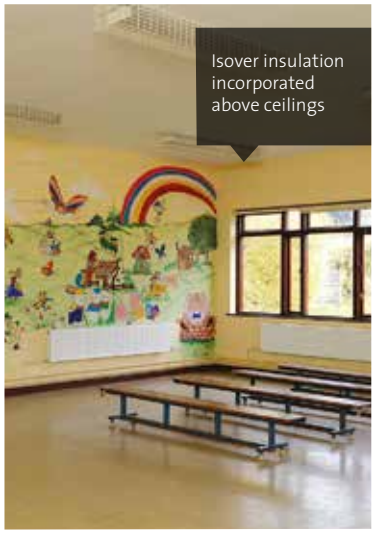
- James Doran & Sons Ltd

Weber EWI façade offers new durable finish with improved insulation performances

Enhanced levels of thermal comfort achieved within classrooms

Triple glazed windows complement the energy efficient wall strategy

Weber EWI systems do not effect the existing internal floor space of the building.



Isover insulation incorporated above ceilings

Bangor Grammar School

☑ New Build
☑ Class 'A' Acoustic Ceiling

Case Study

In 2012 Saint-Gobain Ecophon added Bangor Grammar School to its growing list of education projects in Northern Ireland, delivering an acoustic solution to meet BB93 standards and Class A sound absorption levels.

Products selected from Ecophon's range of acoustic suspended ceilings were installed in the classrooms, music rooms, recording booths, toilets, kitchens and changing rooms. The importance of good acoustics within the wide range of facilities within a school setting cannot be overstated and the tailored solutions offered include Gedina™, Advantage™ E and Combison™ tiles - with each choice based on the specific needs of the room.

Ecophon Gedina™ is a dependable classic that offers an excellent choice when functional requirements are high and this was proved with the installation in the school's toilets, kitchens and changing areas to meet the specific hygienic requirements. This system is easy to install and demount while it also has a recessed visible grid and a tegular edge design, creating a ceiling with a shadow effect that accentuates each tile and partially conceals the grid system.

Installed in the classroom areas, Ecophon Advantage™ guarantees good value-for-money while meeting essential requirements regarding acoustics, moisture resistance and mechanical strength.

The school's new music rooms and recording booths required a specialist acoustic solution and for this challenge Ecophon used the many benefits delivered by Combison™. Offering a dual function of attenuation and absorption, Combison™ tiles not only provide an acoustic barrier to the room but also achieve Class A sound absorption inside the room. This is a unique solution as most other systems either stop sound transmitting from room to room or absorb sound inside a room – not both.

Bangor Grammar is a fantastic new school with innovative facilities and the Ecophon products installed provided both value-for-money and an excellent acoustic solution.

Main Contractor
- Farrans
  in conjuction with CB Contracts

Ceilings Contractor
- CCL Interiors

Specialist Project - Cork School of Music

Ecophon Advantage, installed in the classrooms

Open plan break out area

Ecophon Texona Wall Panel, installed in Music room

TECHNICAL ACADEMY

Our investment in education ...the skills for tomorrow

To succeed in creating a more sustainable built environment, not only do we need the right products and technologies, but we must also have the technical expertise and skills to deliver them.

Sustainable products and systems are already available. However, there is a widening skills gap around application and installation which needs to be urgently addressed. We are accelerating our training programmes to meet this challenge, both for our own people and for the wider industry, helping our customers and partners to embrace green principles and master new skills, techniques and applications.

To address this need, we opened a dedicated training facility for the construction industry, and with this Technical Academy we educate and train specifiers and trades people alike.

To book a course contact us at:

Email: tech.ie@saint-gobain.com
Free Phone ROI: 1800 744 480
Free Phone NI: 0845 399 0159

YouTube Saint Gobain Technical Academy Ireland

To succeed in creating a more sustainable built environment, not only do we need the right products and technologies, but we must also have the technical expertise and skills to deliver them.

TECHNICAL ACADEMY

Get the know-how with the Saint-Gobain Technical Academy

Saint-Gobain Technical Academy offers regular training courses to upskill and educate trade professionals in the theory, practice and application of systems for new build and retrofit.

Courses, External CPD's and Practical demonstrations available on a wide range of construction industry topics, including:

- Renovation solutions
- Internal and External Insulation systems
- Plasters & Renders
- Air-tightness & Moisture Management
- Passive House principles
- Fire & Acoustics solutions
- 'SpecSure' – Site supervision of installed systems

Limited **FREE** spaces available BOOK TODAY!

Contact us:

Email: tech.ie@saint-gobain.com
Free Phone ROI: 1800 744 480
Free Phone NI: 0845 399 0159

When you need a hand...

We're here to help!

ROI - 1800 744480
NI - 0845 3990159

Our Technical Support Team...

PROVIDES ADVICE ON:

- Building Regulations
- Thermal, Fire and Acoustic performance
- U-Values and Airtightness

Gyproc SAINT-GOBAIN
ISOVER SAINT-GOBAIN
weber SAINT-GOBAIN

Contact us...

Email
Email: tech.ie@saint-gobain.com

Telephone
Free Phone ROI : 1800 744480
Free Phone NI : 0845 3990159

Website
www.gyproc.ie
www.isover.ie
www.weber.ie

Contact us:

Evan O'Keeffe

Email:
evan.okeeffe@saint-gobain.com

Phone: +353 (0) 87 258 2493

Gyproc SAINT-GOBAIN ISOVER SAINT-GOBAIN

Barry Hennessy

Email:
barry.hennessy@saint-gobain.com

Phone: +353 (0) 86 838 7827

Gyproc SAINT-GOBAIN ISOVER SAINT-GOBAIN

Tony O'Keeffe

Email:
tony.okeeffe@saint-gobain.com

Phone: +353 (0) 86 805 8117

weber SAINT-GOBAIN

Alan Crampton

Email:
alan.crampton@saint-gobain.com

Phone: +44 (0) 7979 703421

Ecophon SAINT-GOBAIN

Ecophon SAINT-GOBAIN www.ecophon.com

Gyproc SAINT-GOBAIN www.gyproc.ie

ISOVER SAINT-GOBAIN www.isover.ie

weber SAINT-GOBAIN www.weber.ie

SAINT-GOBAIN