

# STROMA IN SCOTLAND

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*Building Sustainability & Compliance*



[www.stroma.com](http://www.stroma.com)

# INTRODUCTION

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## **A co-ordinated approach to building sustainability and compliance**

Operating throughout the UK and Ireland, Stroma specialises in measuring and improving building performance across the residential, commercial and public sectors.

Whether for new build or retrofit projects, we can identify and deliver the optimal planned or remedial measures for achieving legislative compliance, meeting carbon reduction and energy efficiency targets, and improving occupier comfort levels.

Services include:

- Sustainable architecture & refurbishment design
- Compliance testing and consultancy to satisfy Sections 3,5 and 6
- Building fabric protection and enhancement
- Energy management and carbon reduction consultancy
- EcoHomes and BREEAM assessments
- Energy assessor certification and training

We hope you find this brochure informative and look forward to being of assistance on your next project.

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# ENERGY ASSESSMENT & ADVICE

Stroma Technology delivers a comprehensive range of energy assessments for the commercial, residential and public sectors. Irrespective of contract type or scale, our fully employed team of energy assessors has the capacity to meet your energy performance needs nationwide.



"Delivery of the highest quality and timely service is critical to our clients. The Stroma Technology team has ensured that these requirements are consistently met in the provision of commercial EPCs, from quotation and inspection through to final lodgement. A helpful and efficient staff means I can rest assured that the requirements of my clients are always met."

**Gregory Dix,**  
Associate Director, Savills (L&P) Ltd

■ Stroma has extensive experience in carrying out the CO<sub>2</sub> emission calculations required to demonstrate compliance with Section 6 of Building Regulations.

We are also one of the UK's largest providers of Energy Performance Certificates and Display Energy Certificates, as required under the European Energy Performance of Buildings Directive (EPBD). Services include EPCs, DEC\*s\* and air-conditioning surveys for:

- New and existing non-domestic buildings
- Public buildings
- New and existing dwellings

\*DECs do not apply in Scotland; EPCs are widely used as an alternative.

Using our knowledge of buildings and applicable regulations, we offer free initial consultations, whether for single building engagements or large property portfolios and major construction projects.

Our client portfolio ranges from government ministries, sovereign wealth funds and corporate recovery specialists to private landlords, letting agents and general practice surveyors, not to mention builders and contractors. We can provide an energy assessment strategy for any building, irrespective of size or complexity.

### The benefits of our energy assessment services include:

- A team of fully accredited energy assessors.
- Nationwide coverage (Scotland, England and Ireland).
- Simple, competitive fee structures.
- Fast and responsive turnarounds.
- A single, national point of contact and straightforward administration.
- Advice on and implementation of the building fabric improvements or renewable energy systems required to secure better energy ratings.

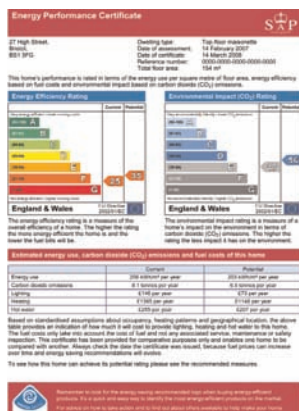
### Air-Conditioning Inspections

Stroma's certified inspectors are qualified to conduct air-conditioning inspections for all types of system using the CIBSE TM44 reporting methodology which is in accordance with the requirements of BS EN 15240.

We carry out an extensive survey of the air-conditioning system(s) on site and produce an advisory report which is both issued to the building owners and lodged on the Non-Domestic Energy Performance Certificate Register.

### Improving Ratings in Existing Buildings

Stroma is leading research into cost-effective methods to improve the energy performance of existing dwellings and buildings, through fabric improvements and use of more efficient building services. This expertise is available for building owners that are keen to improve the energy performance of their buildings. As energy costs continue to rise and building buyers or tenants demand greater energy efficiency (and thus lower running costs), the case for improving existing buildings is increasingly gaining momentum. We can also offer advice on funding options to minimise the capital cost.



# ENERGY MANAGEMENT & CARBON REDUCTION CONSULTANCY

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Stroma offers a range of key consultancy and reporting services for energy management, carbon reduction and the feasibility of renewable energy technologies.



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■ Whether for new build developments, existing building stock or refurbishment projects, our multi-disciplinary team can provide the necessary calculations, consultancy and reports to assist organisations in measuring, monitoring and managing energy consumption and carbon emissions. Moreover, we can assist with the development of practical and financially-viable improvement strategies.

Current clients include housing associations and local authorities; major housebuilders, contractors and developers; M&E consultants; and national property consultants and managers.

## Energy Management

Stroma evaluates existing building stock, develops metering strategies and monitors usage to identify areas in which energy consumption can be reduced and thus, financial savings be made. We can also assist landlords and proprietors of multi-purpose buildings in setting up split metering systems, to ensure that responsibility for energy consumption is distributed accordingly.

Stroma, exclusive partnering consultant with SystemsLink, offers training for installing and using energy monitoring and targeting software. Moreover, drawing on our specialist skills and experience, we can undertake detailed data analysis, produce energy management reports and offer practical improvement strategies.

*Of the local authorities currently using the SystemsLink software nationwide, 23% are Scottish authorities.*

## Carbon Reduction

Our multi-disciplinary team of consultants can guide organisations through the mechanisms of compliance with the Carbon Reduction Commitment Energy Efficiency Scheme (CRC) as a minimum, but can also formulate a bespoke strategy for reducing the CO<sub>2</sub> emissions of existing building stock incorporating all, or a combination of, the following:

- Early action metrics advice
- Due diligence energy report (CRC)
- CO<sub>2</sub> emissions forecasting
- Carbon Trust Standard assessment
- Condition survey
- Life cycle costing
- Energy audit/survey
- CO<sub>2</sub> benchmarking
- CRC consulting
- Funding advice



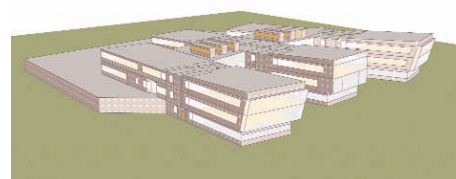
## Reports

### Planning Compliance Report

To ensure that a development is on target to meet the relevant local authority criteria, we can evaluate proposed construction details and, where warranted, recommend practical measures for meeting requirements.

### Feasibility Study and Report

Undertaken during the initial stages, feasibility studies can assist our clients in making the most practical and cost-effective decisions for their project. Stroma identifies and carries out a detailed analysis of the various factors expected to affect the project. This can include constraints of location and geography; technical or practical difficulties; legislative requirements and targets; and environmental and financial considerations. We then issue a comprehensive report which explores the viability of various options, establishes those most appropriate for the project and proposes strategies for implementation.



### EcoHomes and BREEAM Feasibility Report

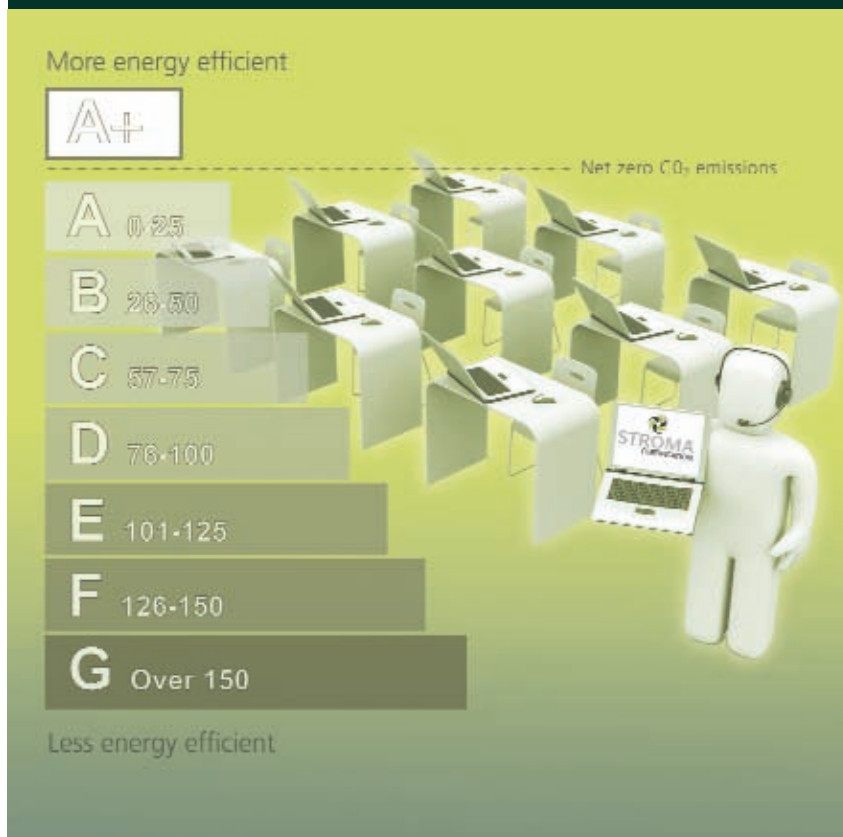
To assist a development in meeting the required EcoHomes and/or BREEAM standard, Stroma can undertake a feasibility study and offer impartial advice on the most practical and financially-viable approach for achieving the reduction in carbon emissions required, whilst also meeting Pol. 4 or Ene 5 criteria.

### Energy Audit Report

We carry out energy audits on existing building stock and produce detailed reports indicating, where necessary, practical measures for reducing energy usage and, consequently, running costs.

# TRAINING & CERTIFICATION

Stroma Certification is approved by the Department for Communities and Local Government (CLG) to train and certify the assessors and inspectors needed as a result of legislative developments and changing industry requirements.



“We felt [the trainers] were both knowledgeable and helpful in explaining the complexities of the Code and its implications on our projects. Each section... was explained in detail and our questions were answered in a professional manner.”

**Darren Schofield, Technical Manager  
Bellway Homes Ltd.**

■ Stroma Certification has rapidly risen to the forefront of the accreditation sector through a combination of quality training, user-friendly calculation tools, readily available technical support and competitive fees.

We can offer a route to certification to suit the experience of the candidate and now have over 4,300 members across our range of certification schemes, all of whom benefit from ongoing CPD and technical support provided by our experienced energy assessors.

Stroma Certification has signed a Protocol Agreement with the Scottish Building Standards Agency (SBSA), enabling our registered assessors to generate Energy Performance Certificates (EPC) for existing domestic and non-domestic buildings throughout Scotland.

## Training

For those with limited or no prior experience in energy assessment, our range of training courses enables candidates to reach National Occupational Standards (NOS):

- Existing domestic energy assessment
- Domestic air-tightness testing (BINDT accredited)
- Non-domestic energy assessment
- Air-conditioning inspection
- Carbon management
- BPEC Part P domestic electrical installation
- Renewable technologies

Each of our courses is taught by an established expert who guides candidates through the material, ensuring full preparation for the examination and written assignments. All the necessary course material is provided.

Courses are held at a variety of locations throughout Scotland, England and Ireland. We can also arrange private courses at a venue of choice for groups of four or more candidates.

This flexibility makes us the ideal option for those working to meet deadlines.

**Please note:** A full list of our training and certification diplomas can be found at [www.stroma.com](http://www.stroma.com).

## Accreditation of Prior Experiential Learning (APEL)

We can also assist those who qualify for 'Accreditation of Prior and Experiential Learning' (APEL), an accelerated route for experienced assessors already working in the sector. We assess APEL applications, confirm suitability for accreditation via this route and recommend a bespoke solution for the individual.



## Certification

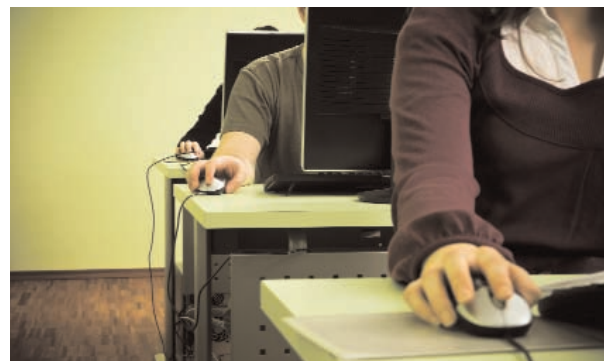
All energy assessors must register with an approved certification body which undertakes regular quality assurance to ensure that assessments conducted meet the required standard. We provide a full range of corresponding schemes for our training programmes.

Our schemes are designed to provide our assessors with membership unrivalled in terms of both its cost and its benefits, which include:

- A dedicated helpline manned by qualified assessors and IT professionals
- Support via our website members' area
- Regular technical updates and ongoing CPD
- Lodgements through any approved software
- Highly competitive lodgement rates
- Use of the accredited company logo

Also available, is subscription to the Stroma CPD (continued professional development) Channel which provides members with unlimited access to an ever-increasing online catalogue of topical CPD sessions.

[www.stroma-cpd.com](http://www.stroma-cpd.com)



# SUSTAINABLE DESIGN & COMPLIANCE

In addition to traditional architectural services, RIBA Chartered Practice Stroma Design specialises in sustainable design, compliance consultancy and EcoHomes assessments and advice.



“DRP, as developer and contractor, has worked with Stroma Design on a number of occasions. The service they offer is comprehensive and competent. The input from other companies in the group provides a level of expertise not normally associated with an architectural practice. Attention to their client and the task in hand is a great asset.”

**Richard Light**  
**DRP Construction Ltd.**

## ■ Architecture and Sustainability

Stroma Design understands how to deliver sustainable, compliant and appealing solutions which incorporate innovation where required. We realise that social, physical and economic demands can be allowed to form the built environment.

The members of the Stroma Design team bring experience in the residential and commercial sectors, as well as practical experience in the delivery of efficient buildings. The location of buildings to form spaces and living environments which are both desirable and practical is respected as the starting point.

Though not exclusive to a specific sector, we have accumulated experience and expertise in social housing, gaining a thorough understanding of the financial and design constraints that inform the process and determining how best to negotiate them technically. We are also aware of the funding issues and procurement methods that are a part of this process.

## EcoHomes

We have extensive experience in delivering the design advice and assessments required to achieve target EcoHomes and Code for Sustainable Homes (CSH) levels. *In England and Wales, EcoHomes has now been superseded by the CSH, which has become a mandatory standard for housing south of the border. In Scotland, EcoHomes remains a voluntary standard, although one which is increasingly being made a condition of funding.*

We encourage our involvement from the initial stages of design development, when we can identify cost-effective and appropriate measures which can then be incorporated seamlessly into the construction process. Thus, we provide sensible, integrated solutions which minimise risk and potential expenditure.

## Existing Buildings

Refurbishment and retrofit offers significant potential gains given current social, environmental and economic criteria.

We have been involved in refurbishment of existing houses on behalf of housing associations, retrofit of existing council housing stock and benchmarking, improvement reporting and post-improvement analysis in association with our in-house energy assessors.

*Stroma has recently been appointed by the **Technology Strategy Board (TSB)** to act as leading consultant for several envelope retrofit projects. In particular, Stroma will address the energy efficiency of existing housing stock and develop bespoke improvement strategies for meeting government CO<sub>2</sub> emission targets.*

## Research

We believe that a collaborative approach is the key to developing appropriate solutions for current environmental and economic concerns, and have actively engaged:

- Housing associations
- HCA
- The RIBA at a regional level
- Other research bodies including RDAs and the Princes Foundation for the Built Environment

## BREEAM Assessments

BREEAM is an environmental assessment procedure for evaluating the sustainability and energy performance of a commercial or public building. Stroma Design can provide BREEAM assessments for all categories.



# COMPLIANCE TESTING & CONSULTANCY

Leading UKAS accredited testing body and member of ATTMA and BINDT, Stroma Technology provides all the testing, calculations and consultancy required for compliance with Building Regulation Sections 5 & 6 throughout Scotland.



“We wish to express our appreciation for the professional manner, developed from experience, demonstrated by Stroma in executing a building air test at our construction site in Harrogate. The help and assistance given to our staff in ensuring that the building was correctly air-sealed was paramount in providing a positive test result.”

**John Ablett,**  
M&E Co-ordinator, HACS Construction

■ Stroma has earned an enviable reputation in the delivery of testing and consultancy services associated with:

- Air-tightness & room integrity compliance
- Acoustic compliance
- Thermography
- Co-heat

Our preferred approach is to participate from the outset to ensure that compliance is considered at design stage and therefore achieved comfortably and economically. By studying and providing constructive commentary on the proposed construction details, we can frequently have a pivotal influence over the eventual testing outcome.

## Air-Tightness Testing & Consultancy

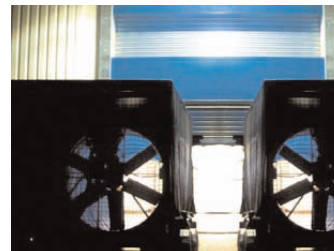
Although not currently a mandatory requirement in Scotland, air-tightness testing is being phased in through Section 6 of Building Regulations, which stipulates the following deadlines:

- For building warrant applications made on or after 1 May 2011, testing will be required on flats, maisonettes and all non-domestic buildings.
- For building warrant applications made on or after 1 October 2011, testing will be required on all other dwellings.

Having carried out air permeability testing and consultancy on over 8,500 buildings throughout the UK and Ireland, ranging from dwellings to educational establishments, hospitals, superstores, office buildings, factories, warehouses, cinemas, etc., Stroma boasts a formidable degree of experience in this specialist field.

### Our service offering includes:

- **Design Reviews:** A comprehensive review carried out by experienced air-tightness consultants who will study and comment on the relevant drawn details.
- **Design Workshops:** A simple but effective method of interrogating the air-tightness strategy and key drawn details in the presence of relevant members of project teams on site.
- **Training Seminars:** Short training presentations aimed at both designers and construction staff which can be invaluable in raising awareness among those most able to influence the eventual outcome.
- **Pre-Test Inspections:** An inspection, prior to the test, carried out by our consultants who scrutinise the 'air barrier' details throughout the building and record all observations to be conveyed in a detailed, illustrated report.
- **Sample Area or 'Comfort' Testing:** A 'dress-rehearsal' air test carried out on a representative area to establish how the whole building will perform and what the key leakage issues will be.
- **Final Acceptance Air Leakage Test:** The final test includes all necessary building envelope calculations and is carried out using multi-point testing methods to ensure even pressure distribution and, thus, reliable results. In large, complex buildings, this approach, along with our ability to depressurise the building, can be vitally important.
- **Post-Test Leakage Diagnosis:** As required if a building fails to achieve the target permeability rate upon testing, Stroma technicians will generally employ localised, internal smoke testing methods to identify the remedial works required. Findings are then conveyed in an illustrated report.



Stroma is UKAS accredited for carrying out air permeability tests to the required methodologies and a member of the recognised bodies i.e. the ATTMA (Air Tightness Testing & Measurement Association) and the BINDT (British Institute of Non-Destructive Testing).

# COMPLIANCE TESTING & CONSULTANCY

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“Having now successfully completed [the project], we believe your early design review input and ongoing interaction with the site team played a pivotal role in ensuring the stringent target was met at the first attempt. Having engaged your company on several projects, I have come to value your expertise and I look forward to working with you again in the near future.”

**Peter Gleave, Contracts Manager,  
Pochin Contractors Ltd**

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## Acoustic Testing and Consultancy

Every building must be designed and constructed to limit the transmission of source noise from normal domestic type activities through a wall or floor, between a room and internal space where noise is likely to occur. This helps to ensure occupant comfort and privacy.

The 2010 edition of Section 5 has been revised to include the following deadlines:

- From October 2010, acoustic testing will be required for all newly built and converted houses.
- From May 2011, all flats and maisonettes will require sound insulation testing.

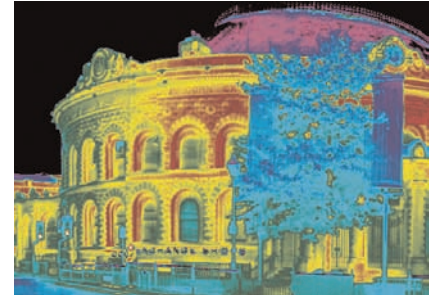
Stroma's UKAS accredited acoustic testing and consultancy division offers a complete acoustic consultation service, assisting from design through to completion. With a nationwide team of engineers, we are able to perform design consultations, environmental noise surveys and testing to satisfy Section 5, EcoHomes and Building Bulletin 93 etc.

Our early involvement can assist the design team in meeting the design criteria from the outset. Moreover, we keep our lead times to a minimum and offer highly competitive fees.

## Thermography

Thermography is a diagnostic technique employed increasingly to survey and record the thermal properties of buildings. Sophisticated thermal imaging cameras are used to reliably determine surface temperatures through detection of electromagnetic radiation in the infrared spectrum.

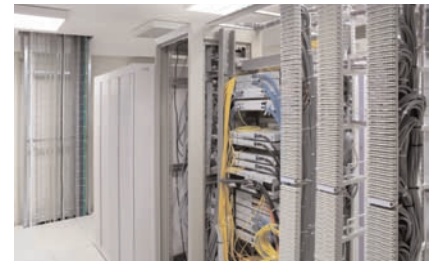
Working in accordance with recognised methodologies, such as BS EN 13178:1999, we can interpret the features presented in thermographic images. Consequently, our surveys are a powerful tool for diagnosing typical weaknesses in the thermal integrity of a building.



## Room Integrity Testing

Our experienced team of engineers carries out room integrity testing to the required NFPA 2001 or ISO 14520 methodologies.

We test all types and sizes of enclosure, from server rooms in offices to gas-turbine halls in power stations. In each case we carry out the initial volumetric calculations and use calibrated Retrotec test fan systems to deliver an immediate on-site result.

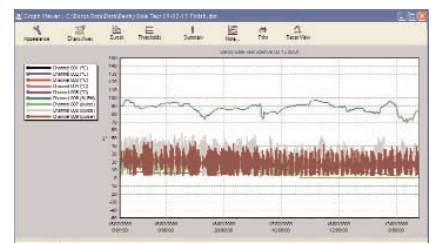


## Co-Heat Testing

This process enables calculation of the as-built thermographic properties of a building (macro U-value). The methodology involves data logging a series of temperature probes (internal & external) and power gauges, to determine the amount of energy required to reach and maintain the pre-set internal temperature of the property. To be effective, the structure must be completely controlled (i.e. the property must remain empty, with no-one allowed to enter, for the duration of the test); otherwise the results will be compromised. The longer the duration, the more representative the test will be. The minimum duration is three days.



This form of testing allows (relatively) quick evaluation of the effectiveness of proposed improvement works by comparing the energy required to heat the property before and after the works have been completed.



## Institute for Sustainability

Stroma is currently working with a number of public and private sector partners on a pioneering research project within the Thames Gateway region, addressing the energy efficiency of existing housing stock and identifying improvement strategies for meeting government targets. The scheme aims to establish practical and financially viable solutions for the refurbishment of poorly-performing dwellings, which can be replicated on a large scale within a rolling programme of works.

# CONTRACTING SERVICES

Stroma Contracting facilitates first-time compliance with Section 3 of Building Regulations through fire stopping, passive fire protection, air sealing and the installation of acoustic barriers. We can devise and deliver a complete package of works to meet your specifications efficiently and cost-effectively.



"We acknowledge the positive contribution Stroma Contracting made to the successful completion of our BSF project in Leeds. [Stroma's] effort and commitment was exemplary and we look forward to future endeavours together"

**Richard Harrison,**  
Commercial Manager, Interserve Ltd

■ Stroma Contracting are experts in the supply and installation of all forms of passive fire protection, fire stopping, air sealing and acoustic sealing. Working closely with our testing and consultancy division, we provide pragmatic and cost-effective packages to meet the specific needs of most construction projects.

- Fire Stopping
- Passive Fire Protection to Structural Steelwork
- Intumescent Coatings
- Structural Steel Encasement
- Acoustic Compliance
- Thermal Insulation to Soffits
- Air Sealing

With a proven track record on numerous projects and using the highest quality products on the market from manufacturers such as Rockwool, Hilti, British Gypsum, Nullifire, Jotun, Firetherm and Knauf, we can offer a cost-effective approach to compliance to suit specific project requirements.

## Fire Stopping

Under the Regulatory Reform (Fire Safety) Order 2005 (RRO), fire risk assessments must be carried out annually in non-domestic buildings; our team of qualified assessors can carry out these assessments. Furthermore where inspections reveal the need for remedial works, Stroma Contracting is a BRE accredited specialist in providing and installing these services.

Working to rigorous standards, we undertake fire stopping to all service penetrations and/or voids in fire compartment walls to ensure compliance with the specified fire strategy and Part B. Our engineers identify the appropriate market-leading materials for meeting the fire, smoke and acoustic requirements. These include mineral fibre boards with ablative and intumescent coatings, pillows, collars, wraps, intumescent mastics and compound barriers.

All works are uniquely tagged and recorded in triplicate books and issued to site daily. All installers are suitably trained including PASMA and IPAF and carry the necessary CSCS cards. An experienced visiting or resident contracts manager is allocated to each project.

## Passive Fire Protection to Structural Steelwork

Stroma offers economical solutions for all structural fire protection requirements, both from Bills of Quantities and performance specification enquiries. We are approved installers of all the recognised products currently used to provide the required fire rating.

Our experienced installers and site managers have CSCS, IPAF and PASMA registration and, through Stroma's continued commitment to training, consistently exceed client expectations with regards to quality, budget and programme.

## Intumescent Coatings

Intumescent coatings are thin film 'paint' applications which provide a durable and attractive finish to structural steel. In the event of a fire, this coating expands to many times its original thickness to provide an insulating covering which protects the steel.

Stroma is an approved applicator of most recognised forms of thin film intumescent coatings including Nullifire, Leighs, PPG, Jotun, Protega, Firetherm and International Paints. Our team of experienced installers and technicians can assist with initial design and deliver a high-quality solution to all fire protection requirements.

## Structural Steel Encasement

Encasement systems provide a robust, high-quality cladding to steelwork and can deliver up to four hours fire protection. Stroma can install encasement systems in semi-rigid mineral fibre boards, rigid GRG (glass reinforced gypsum) and calcium silicate boards.

We can assist with initial design and provide a full installation service for compliance with Section 3 which is tailored to suit specific site requirements.



# CONTRACTING SERVICES

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Continued from page 17



“We would like to express our appreciation for the professional and efficient way Stroma Contracting carried out the Fire Protection works on our Central Spine project in Manchester, consistently going over and above the call of duty.”

**Dave Pierpoint**  
Contracts Manager, Carillion Building

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## ■ Acoustic Compliance

Sound insulation compliance is required for many project types. Whether a client-driven specification or stipulated by legislation, we facilitate the achievement of the required sound reduction and decibel (dB) rating through the installation of acoustic blankets, barriers and seals. For example, we carry out works on partition walls in apartments and hotel rooms, between classrooms, in doctors’ surgeries (to ensure confidentiality) and between offices and boardrooms.

We also have a team of experienced acoustic testers, enabling us to offer a co-ordinated approach to final compliance testing.

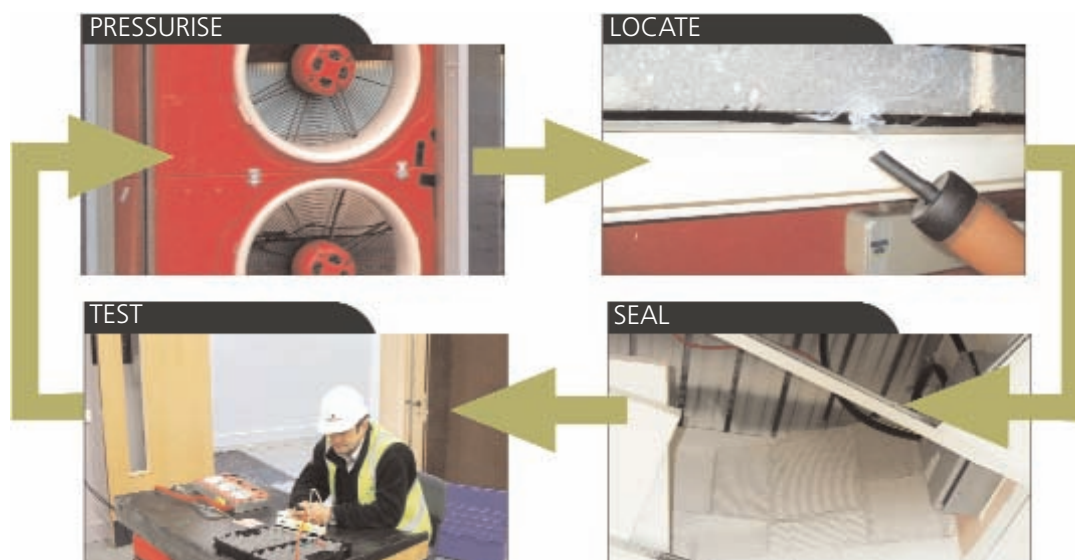
## Thermal Insulation to Soffits

Commercial and residential properties constructed above exposed and semi-exposed car parks often experience cold bridging through the separating structural slab. Stroma offers a full design and installation service, calculating the type and thickness of insulation required to achieve the relevant U-value and delivering a solution which meets both performance criteria and aesthetic requirements within budget.

## Air Sealing

As a sister company to one of the UK's leading air-tightness specialists, Stroma Contracting can justifiably claim to be ideally placed to air-seal buildings. With experienced management and installation teams, we can offer rapid assistance in the event of an air test failure. Our range of air-sealing services can also extend to building temporary airtight screens and undertaking fire enclosure sealing and testing, e.g. in server rooms. Often working in tandem with our air-tightness testing division, we can enable the air leakage in a building to be quantified, by means of testing, and identified, by means of localised smoke testing.

We employ experienced air-sealing operatives who install appropriate, robust materials to seal the myriad leakage sites that can occur, often in awkward, difficult-to-access areas such as roof voids, above suspended ceilings and in finished and furnished buildings. Preferably our work is planned, and at an early enough stage to maximise clear access and minimise costs. We frequently undertake targeted air-sealing as an extension to passive fire protection and fire stopping works as, in certain situations, the two procedures overlap. Targeting of air-sealing work is vital to reduce the risk of incurring unnecessary cost. Our experience is key to achieving this. However, it is further enhanced by our ability to deploy testing fans, required to enable localised smoke testing to be carried out (smoke testing only works when a differential building pressure is created).



Engaging our co-ordinated approach on a given project also delivers commercial gain. If we are involved on a project, in any capacity, there are discounts available on the necessary air-tightness consultancy, inspections and testing services (pro-rata to the contracting works value).

# STROMA SERVICES

*A co-ordinated approach to building sustainability and compliance*

## **Energy Brokering & Bureau Consultancy Services**

- Electricity & gas procurement (direct agent of all major energy companies)
- Co-ordination of the contract process through to 'go live'
- Invoice validation and co-ordination of refunds
- Provision of smart metering
- Client contract renewals

## **Energy Management & Carbon Reduction Consultancy** (Existing Buildings)

- Carbon Reduction Commitment (CRC EES) consultancy
- Energy management & consultancy
- Energy audits, funding & feasibility consultancy
- aM&T software training & sales (SystemsLink)
- Air-conditioning surveys
- Residential & commercial Energy Performance Certificates (EPCs)
- Display Energy Certificates (DECs)
- Level 5 DSM (Dynamic Simulation Modelling)

## **Energy & Sustainability Consultancy** (for New Build)

- BREEAM assessments & advice
- Code for Sustainable Homes (CSH) assessments & advice
- Code for Sustainable Homes Ene 7 reporting
- SAP calculations & EPCs (for residential developments)
- SBEM/DSM calculations & EPCs (for non-residential developments)
- Daylight calculations
- Thermal bridge calculations
- Flood risk assessments
- Ecological reports

## **Sustainable Design Services (Stroma Design)**

- Traditional architectural services
- Sustainable retrofit design and advice
- Independent planning (Merton Rule) & compliance consultancy
- Planning compliance consultancy
- Provision of client design advisors
- Design for CSH compliance

## **General Consultancy & Testing Services**

- Air-tightness testing and consultancy
- Sound insulation & acoustic testing and consultancy
- Server room fire integrity testing
- Thermographic surveying
- Fire risk assessments & RRO compliance
- Asbestos surveys
- Product performance testing
- Legionella risk assessments
- Environmental assessments

## **Stroma Contracting Services**

- Passive fire protection to structural steelwork
- Fire stopping to service penetrations
- Whole building air-sealing
- Server room fire integrity sealing
- Acoustic compliance (installation of acoustic barriers)

## **Certification & Training**

- Energy assessment (commercial, residential & public building)
- Code for Sustainable Homes (CSH) assessment
- Home Energy Advisor (HEA)
- Air-conditioning inspection
- Fire risk assessment training
- BINDT approved air leakage testing training (plus sale of UKAS calibration & air-tightness testing equipment)
- Carbon management
- BPEC domestic electrical installation
- Renewable technologies
- CPD Channel – online subscription to CPD service

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**For further information, visit [www.stroma.com](http://www.stroma.com).**

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