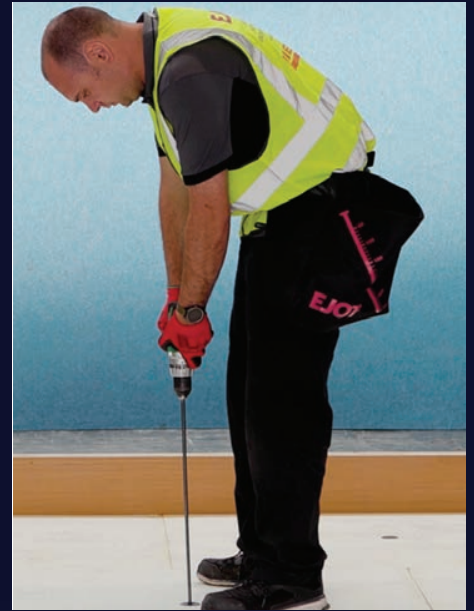


SINGLE PLY

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Dr Ronan Brunton, CEO



Foreword

SINGLE PLY ROOFING ASSOCIATION
www.spra.co.uk

The Single Ply Roofing Association (SPRA) is delighted to have the opportunity once again to contribute to this year's Single Ply Systems Supplement. The publication continues to promote and reflect the great work and exceptional standards that are being achieved throughout the single ply roofing sector by system and component product manufacturers and specialist installing contractors.

The last year provided the sector with many challenges putting pressure on all in terms of product availability, certification and changing regulations. Global events including the energy crisis and the Russian-Ukrainian conflict have had a dramatic effect not least in terms of escalating costs. However, as always, the manufacturers and contractors involved in single ply roofing continue to meet these and other challenges, proving once again the resilience and robustness of the sector.

Instability in the construction industry is something we have grown used to and the causes are often out with our control. The focus therefore should be on what we can control to ensure continual improvement within our industry sector, that is driven by the work carried out on a day-to-day basis.

The construction industry, since the Grenfell Tower tragedy, has had to come forward with a new approach to regain the confidence of government and public alike and address the issues raised in

the Hackitt Review (Independent Review of Building Regulations and Fire Safety). To this end, for a number of years now, many individuals and organisations involved in construction as well as government, and industry trade bodies (including SPRA) have been working tirelessly to effect change, a cultural change that when implemented will drive construction forward, hopefully regaining the confidence of all industry stakeholders.

Central to this change was a transparent, open, and rigorous approach to understanding the issues, and there were many identified. Key ones revolved around the issue of competence. Competence of individuals and the collective industry competence that is necessary to restore the confidence required.

We are now entering the implementation phase of change post Grenfell and we all need to be ready to ensure that we play our part by understanding the new changes to guidance and regulations and being clear about and aware of these. The digitalisation of our industry also needs to take place as that will assist in driving cultural change and assisting the 'golden thread' of information referred to in the Hackitt Review. SPRA will continue to publish important industry sector guidance on key relevant topics and issues, as well as deliver competence development opportunities for our members.

Instability in the construction industry is something we have grown used to and the causes are often out with our control. The focus therefore should be on what we can control to ensure continual improvement within our industry sector.

The spirit of co-operation has continued over the last year between construction industry bodies, including trade associations. One benefit from the challenges experienced during the coronavirus pandemic and following Grenfell, has been the need for these bodies to communicate more efficiently and collaborate effectively to drive industry change.

We view the future positively with SPRA membership growing, as more involved in single ply roofing realise the benefit and importance of access to technical guidance regarding single ply roofing and the need to be informed on relevant current issues.

From a SPRA perspective we were delighted to host our largest ever

event at our Awards Lunch in June last year. This was followed by an equally well attended and successful SPRA Golf Day in September. Getting these events up and running after the pandemic was important and very welcomed by the single ply roofing community. Our online events throughout the year also ensured our members had access to workshops and seminars on key issues.

This year, the SPRA Awards and Luncheon 2023 takes place at the Hilton Hotel in Leeds on 15th June and our SPRA Golf Day returns in September at Carden Park in Cheshire. We look forward to meeting our members and their guests at these great occasions in the roofing calendar. We will also be hosting workshop and seminar online events in the autumn that provide insight and information to members. A big thank you to all our SPRA Event Partner sponsors for helping to make these events possible.

The single ply roofing sector provides great opportunities for successful and sustainable organisational growth as well as tremendous personal development for individuals in both manufacturing and specialist contracting. Despite the challenges of recent years, the sector is in good shape to take advantage of the opportunities that will undoubtedly materialise as we move forward.

Warmest regards,
Dr Ronan Brunton

Embedding Competence Development

Dr Ronan Brunton, CEO, Single Ply Roofing Association



In September 2022, the Competence Steering Group (CSG) Working Group 12 (WG12), led by the Construction Products Association (CPA) published a white paper that set out how the entire built environment sector can unite behind a single, agreed standard to determine, demonstrate and recognise construction product competence (CPC). The white paper: *‘Built environment – proposed construction product competence standard – white paper’* represented the work of many involved within the construction products area, including SPRA and other trade associations as well as construction product manufacturers. The CSG was tasked with responding to the competence issues raised in Dame Judith Hackitt’s report *‘Building a Safer Future’* and the subsequent requirements set out in the Building Safety Act following the Grenfell Tower fire.

The white paper has been well received and is proposed to become a British Standard in due course. In the opening foreword to the white paper Paul Morrell OBE, formerly Government Chief Construction Adviser (2009-12) and Chair of independent review of the construction products testing regime (2021-22) writes:

“...Very few products function on a stand-alone basis and are reserved for a single purpose. Instead, they are almost invariably built into assemblies comprising a number of other construction products, and quite possibly for purposes different from the manufacturer’s original intent, so the possibilities of how a construction product might be used are boundless. It is therefore vital that decisions about construction product selection are informed by a full understanding of how those products will perform, individually or in combination with others, in reasonably controllable situations; how they should be handled, prepared for use and installed; and how they should be used and maintained in the finished project. Knowing this, and knowing how to communicate it properly, is a matter of training, the foundation of competence.”

Since the Grenfell Tower tragedy the UK government has brought into being the Building Safety Act 2022 which established the Building Safety Regulator (BSR) in England. The BSR will have three main functions:

- overseeing the safety and standards of all buildings
- helping and encouraging the built environment industry and building control professionals to improve their competence.
- leading implementation of the new regulatory framework for high-rise buildings

Taking the second of these, the Act enabled the BSR to establish an *Industry Competence Committee (ICC)* with a number of functions including monitoring industry competence, advising the

The WG12 white paper *‘Built environment – proposed construction product competence standard – white paper’*... is expected to be at the core of a proposed new standard applicable across all of the built environment in the near future. Adopting these principals now can assist organisations to begin to embed competency development strategy for their workforce.



BSR and industry, helping the industry to improve competence, and producing guidance to the public about assessing the competence of people in the built environment industry. The establishment of the ICC is currently in process while writing.

It is therefore clear, and enshrined through an Act of Parliament, that there is a need to address competence issues relating to all aspects of construction products. Monitoring of competence development within the construction industry through the ICC and the BSR will take place. This applies to all involved in any aspect of the manufacture,

specification, procurement, handling and installing of construction products and systems. From now and into the future, continual development of construction product competence (CPC) will be a prerequisite for all involved with construction products in the UK.

What do we mean by ‘competence’?

From the white paper the four pillars of competence have been defined as *skill, knowledge, experience and behaviour (SKEB)*. And ‘competence’ is linked in definition to the application of SKEB and defined as:

STEP 1 Publish an industry agreed CPC standard	• CPC 5 levels of core criteria + methodology • Applicable to everyone using or work with construction products
STEP 2 Commit to CPC principles	• Industries and organisations accept that those interacting with construction products must be competent to do so and commit to applying principles of CPC standard
STEP 3 Agree how to demonstrate CPC	• Organisations map against training and qualifications and/or industries agree through consensus how to demonstrate by mapping against training and qualifications • Gap analysis
STEP 4 Demonstrate CPC	• Organisations ensure that individuals are able to demonstrate CPC • Organisations ensure that individuals work only within the scope of their competence • Verification assessed by employing organisations
STEP 5 Utilise CPC	• Clients, employers, duty holders and organisations can require their workforce demonstrate CPC • Regulators can confirm the CPC of a workforce has been verified
STEP 6 Review CPC	• Periodic review of the CPC standard • Periodic review of the methods of demonstration in different industries in the built environment • Period review of individuals achieving and demonstrating CPC

Implementation of standardised CPC in the built environment sector (Figure 2 in the WG12 white paper, p8)

“Application of skill, knowledge, experience and behaviour consistently to achieve a specific outcome.”

BSI Flex 8670 v3:2021-04 Built environment. Core criteria for building safety in competence frameworks. Code of practice, 3.4

It is proposed in the WG12 white paper that the elements of SKEB should be mapped and measured against the requirements of a given function. This will allow a comprehensive assessment of an individual’s competence for that function. The mapping process will also allow an appropriate level of responsibility and/or accountability for that function to be established. Carrying out this process can also be used to help identify areas requiring improvement to meet a given level of competence (training needs) and importantly understand the limits of an individual’s competence. This really could bring clarity and transparency to the competence development needs of individuals allowing improvement of the person’s SKEB and at the same time driving better outcomes for competency within organisations.

The WG12 white paper clearly describes the five levels of core criteria and a methodology of application that can be made applicable to anyone using or

otherwise working with construction products. These are intended to be adapted to work in any specific industry within construction. The methodology enables the principals to be applied consistently. The proposed standard provides a means of mapping existing training and qualifications enabling demonstration of employees Construction Product Competence. Importantly, having this framework available, also allows any gaps in training and qualifications to be identified and acted upon.

Implementing the Standard

The white paper outlines the six steps required as a route for industries to implement the proposed standard. These steps are given in the figure above taken from the WG12 white paper.

The above gives some insight to the WG12 white paper *‘Built environment – proposed construction product competence standard – white paper’*. This is a document that is expected to be at the core of a proposed new standard applicable across all of the built environment in the near future. Adopting these principals now can assist organisations to begin to embed competency

development strategy for their workforce.

Please note, the WG12 white paper should be read in full to gain a deeper understanding and is available from the CPA website: www.constructionproducts.org.uk

While the CPC core level criteria has a focus on the individual’s competence, it is important that both the organisation, including any departmental structures, as well as the industry trade associations and other bodies, foster and support the development of CPC. Employer organisations (manufacturers and contractors in single ply roofing) are, and need to be, involved in developing and verifying competency of their employees. This applies across all functions and levels. Some have already recognised this need and are working on some of the content

contained in the white paper within their organisations. Single ply roofing in the UK has always had training and technical support by membrane manufacturers as a core requirement of SPRA, and there is no doubt that this has enhanced our reputation over many years.

Assistance

The role of SPRA as a trade association will be to continue to work with our members and assist in their competency development. There is already a wealth of skills, knowledge and experience as well as exceptional training taking place within SPRA member organisations. Mapping this properly to a proposed competency framework makes sense. This can be done by liaising with SPRA members to understand where any SKEB gaps exist. Thereafter, developing, organising, and promoting training that is necessary to allow members’ employees to demonstrate and verify competence in line with any future competency standard. Some of this can be done at sub-industry level with other trade associations in flat roofing; some will be specific to single ply roofing only.

It cannot be stressed enough that change is taking place now across the built environment concerning everyone involved in the construction process. The responsibilities placed on all to develop, verify and demonstrate competence have significantly changed. This is progress. It will take time, but we all have a responsibility to work diligently to embed competency development. It will make organisations as well as individuals more capable in demonstrating their competence, helping to restore the trust necessary by the public in the construction industry.



Contact

Single Ply Roofing Association

Call SPRA on 0845 1547188, get in touch by emailing enquiries@spra.co.uk or visit the SPRA website: <https://spra.co.uk/>



EUROWALL®+ Provides PIR Solution to Futureproof Energy Efficiency of Stunning New Coastal Residence

Recticel Insulation’s design expertise and product innovation has combined to devise an enterprising insulation solution that will thermally futureproof a stunning home being built on England’s coast.

Recticel Insulation’s design expertise and product innovation has combined to devise an enterprising insulation solution that will thermally futureproof a stunning home being built on England’s south-west coast.

The detached, four-bedroom residence is under construction in Braunton, a picturesque village with an idyllic location near to north Devon’s famed surfer beaches. For the property’s owner, Chris Potter, building a house which exceeded regulation thermal performance was a crucial requirement. Such an outcome would optimise interior comfort levels throughout the year and

negate the need for future upgrades to meet changes in legislation. To achieve this, a fabric-first approach was decided on to ensure the property’s walls, floors and roof were fitted with suitably-specified high-performance PIR insulation, hence the householder engaged with Recticel.

The property’s coastal location presented a challenge. It led to the client requiring a PIR solution that eliminated the risk of water ingress from wind-driven rain, whilst delivering an airtight performance that facilitated the required U-value.

When it came to specifying an insulation solution for the walls, the property’s coastal location presented a challenge. It led to the client requiring a PIR solution that eliminated the risk of water ingress from wind-driven rain, whilst delivering an airtight performance that facilitated the required U-value.

Chris Potter said: “My brief to Recticel was for them to design and supply me with the most efficient wall design with a minimum 50mm cavity width. They devised a 165mm system, which was ideal for the property’s coastal environment and the maximum width we could go to without incurring the additional expense of installing non-standard materials such as bespoke lintels.”

Best of Both Worlds

Following consultations, Recticel’s innovative Eurowall®+ PIR board was specified for the walls. Generally used as a full-fill product, the client was granted building regulation approval to employ the 115mm board in a partial-fill capacity. This was made possible by selecting Recticel’s insulated plasterboard, Eurothane® PL, for the property’s interior. Panels of 40mm thickness were installed, meaning the client had a best-of-both-worlds solution: the interior insulation would help ensure the walls met the targeted 0.11 U-value, whilst the Eurowall®+ board’s precision-cut tongue-and-groove joint on its four edges created an interlocking barrier against wind-driven rain.

To further protect the property against water ingress, and with it being a requirement under the

building regulations given the exposure of the coastal location, the client decided on a 50mm residual wall cavity. Again, this was enabled by the inventive use of Recticel’s Eurothane® PL insulated plasterboard on the property’s interior walls upholding thermal values. The cavity’s 165mm width necessitated the use of more thermally efficient glass fibre wall ties, rather than the standard stainless-steel variety.

For the two-storey property’s 46m² roof, Recticel’s Eurothane® GP PIR board was specified. The lightweight, high-performance board provides a thermal capability of 0.022 W/mK and fits easily between roof rafters to create a superbly flat foundation for a waterproofing finish. The boards were installed to a 200mm thickness, with the same system being used for the property’s 290m² floor area to a 160mm thickness.

Fabric First

Chris Potter continued: “Thanks to the innovative, fabric-first insulation solution designed by Recticel, the property’s thermal performance will exceed those prescribed by the building regulations. The high level of insulation means I’ve been able to keep the heat in the building and maximise the benefits of a heat recovery system, which will help maintain an ambient temperature throughout the home and increase its sustainable, cost-effective performance.”



Recticel’s communication and support throughout the project was exemplary. They provided dewpoint calculations and were extremely helpful in terms of modelling different insulation scenarios and thicknesses. The attention to detail meant they were able to arrive at the sweet spot as far as the wall’s design was concerned without breaching into a need for costly bespoke components.

With sustainability being a major focus of the home’s design, its façade includes stone that was excavated during the clearance which is being used beneath the building’s blockwork and to form a centerpiece chimney with the property’s interior.

In praising Recticel’s specification team for going ‘above and beyond’ in order to provide a solution to his property’s strict insulation requirements, Chris Potter said: “Recticel’s communication and support throughout the project was exemplary. They provided

dewpoint calculations and were extremely helpful in terms of modelling different insulation scenarios and thicknesses. The attention to detail meant they were able to arrive at the sweet spot as far as the wall’s design was concerned without breaching into a need for costly bespoke components: a 165mm cavity with 40mm insulated plasterboard.

“Recticel’s commitment and expertise will prove crucial to my period home being built to a modern standard and high specification.”

Once building works are complete – the property is due to be ready for occupation in early 2023 – the innovative fabric-first approach to the building’s design is anticipated to deliver a 0.11 U-value to the external walls therefore exceed regulation requirements. The evolutionary design of Recticel’s Eurowall®+ PIR panel will be essential to this outcome and creating a healthy, comfortable indoor environment, befitting of a home that will be perfectly suited to its desirable coastal location.



Insulating where there is no space?

Impossible



Fully encapsulated Vacuum Insulation Panel, providing ultra-high thermal performance in flat roof and terrace applications.

Say goodbye to issues when installing effective insulation on flat roofs and terraces where space is tight and where height constraints exist. With a thermal performance of the core of lambda (λ) 0.006 – the best performance in the market – Deck-VQ VIP panels allow you to achieve a U-value of 0.18 W/m²K with just 60mm thick board. **It's time to think thin.**

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Vacuum Insulation Panel fully encapsulated in PIR protective case

Ultimate insulation value λ 0.008 W/mK

λ 0.006 W/mK VIP core

FEEL GOOD INSIDE



Tooling Innovation Ensures 'Cut to Falls' Insulation is Easier and Faster to Install

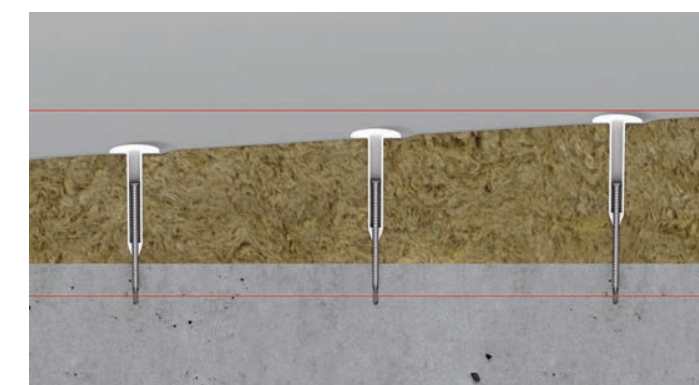
With an estimated 1 in 3 flat roofs now created using tapered 'cut to falls' insulation, many installers are understandably looking at how the installation process can be streamlined to deal efficiently with the wide variety of depths encountered with this type of insulation across the roof deck.

Attaching the insulation with mechanical fixings usually means having a variety of fastener and stress plate combinations available, optimally suited for the respective insulation thickness. This in itself is enough to make installation a slow process as each combination size/length has to be correctly identified on site before the fixing can be drilled into place. Couple this with the difficulty that some installers say they face sourcing an extremely long SDS drill for concrete that is suitable for the often deep insulation thicknesses, and the process is less than appealing for many!

It is no surprise that a preferred approach has emerged – to bond the tapered insulation to the

concrete or screed deck. Whilst this is simple in principle, it is unfortunately problematic too as it requires the deck condition to be suitable – which is often not the case in refurbishment projects – and for weather conditions to be favourable at the time of installation.

The big advantage of this system is that it is adjustable to fit the required depth of insulation, between 70mm and 500mm and it means that fewer fastener / washer combinations are needed.



Crucially, the JBS-R/EcoTek fastening system means installers do not need to think about the usual variety of product combinations on site, so the job can be done easier and quicker with an all-round better result.

An alternative to both these relatively awkward installation methods has emerged, however, which offers a single mechanical fixing approach with ingenious tooling and clever tubewasher design at its core.

An Adjustable Mechanical Fixing – one product for insulation up to 500mm deep

EJOT has developed the JBS-R/EcoTek combination, which brings together the high performing concrete screw (JBS-R 7.5) with a high-quality telescopic tubewasher (EcoTek). The big advantage of this system is that it is adjustable to fit the required depth of insulation, between 70mm and 500mm and it means that fewer fastener / washer combinations are needed. That can easily mean 25% less for a slope insulation of 120 to 260 millimetres, subject to the application and site survey findings.

Only one embedment depth is needed whatever the insulation thickness. This is because a high

degree of adjustability is possible thanks to the innovative way that the EcoTek tubewasher is driven into place using EJOT's custom tool with the fastener already in place. This makes installing quick and easy, with the flexibility required to adapt to the different insulation thicknesses without having to select different sizes of fastener and tubewasher every time.

Where the insulation is especially deep, further tooling can assist in the form of EJOT's flanged A-cone and extension. This helps to eliminate the awkwardness of drilling deep using standard SDS drills.

Easier and Quicker

Crucially, the JBS-R/EcoTek fastening system means installers do not need to think about the usual variety of product combinations on site, so the job can be done easier and quicker with an all-round better result. This one EJOT product combination also simplifies ordering and stockholding for contractors with no need to source a variety of different concrete screws and stress plates.

Long term performance is assured given the use of quality materials to manufacture both fastener elements. The JBS-R concrete screw manufactured from case hardened steel and the EcoTek tubewasher is formed from high quality polyamide plastic to provide a lasting solution.

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Roofing Solutions That Stick

Carl Bailey, regional technical manager for Elevate (formerly Firestone Building Products) explains how advances in technology are helping roofing contractors to overcome industry challenges and improve the bottom line.



Ongoing economic uncertainty, rising costs and skills shortages are presenting many challenges for roofing contractors. Although there is no silver bullet to overcoming these hurdles, manufacturers in the single-ply roofing market are stepping up to help. An increased focus on developing products that are quick and simple to install is enabling contractors to save significant time and money.

In the EPDM market, one of the biggest and most significant innovations is self-adhesive technology. This has resulted in investment across several areas to provide a variety of products all aimed at providing more roofer-friendly systems.

Self-adhesive tape was one of the first products to launch, enabling roofers to seam membranes more effectively. This product has removed the need for laborious paint-on applications, which also require additional time to clean and prepare the membrane, and to

monitor coverage rates. As well as significantly reducing installation times, this seaming method also results in stronger and more consistent seams.

Thanks to advances in technology, a steady flow of ancillary self-adhesive roofing products have since been introduced such as cured and uncured flashing accessories, attachment strips, pipe flashings and walkway pads.

Evolving Innovation

As the need for quicker and easier roofing solutions has intensified, so has the focus on self-adhesive technology, bringing further innovation into the industry.

Elevate's Secure Bond Technology, for example, is factory applied across the entire surface of an EPDM membrane. When installed, this ensures uniform adhesion from seam to seam, providing an exceptionally strong roofing system.

For contractors, this technology offers significant productivity and

cost benefits. As there is no need for seam tape, adhesive or waiting for flash off, the EPDM membrane can be installed more than four times faster than a standard system. The factory-applied adhesive also makes the membrane much easier to install making it suitable for roofers with varying levels of experience.

A further benefit of Secure Bond Technology is its versatility. It can be applied in temperatures as low as -7 °C avoiding the risk of downtime during the winter months or unexpected cold snaps. The absence of any chemicals or smells, combined with a quick installation process, also enables the EPDM membrane to be installed on occupied buildings, ensuring no disruption during the roofing process.

In the UK, Secure Bond Technology can be found on RubberGutter EPDM SA, a new product designed to provide a quick and simple solution for gutter repairs and upgrades.



Further products featuring the factory-applied adhesive are in the pipeline this year, bringing more choice and versatility for contractors working across the single-ply roofing market.

Meeting Demands

As the popularity of self-adhesive technology rises, manufacturers are continuing to innovate, providing the roofing industry with simpler, quicker, and more cost-effective solutions. Not only is this helping roofing contractors to overcome industry challenges, but providing building owners with highly durable solutions that will protect their properties from water ingress for many more years to come.

INTRODUCING



Firestone roofing, wall and lining systems are becoming Elevate. Our name may be changing, but the same people, products and standards you trust will remain.



Go to HolcimElevate.com for more information.

Approved Document B (AD B) gives practical guidance about how to meet the requirements of the Building Regulations 2010 (for England) with regards to fire safety.

AD B is published in two volumes. Volume 1 deals solely with dwellings, including blocks of flats, while Volume 2 deals with all other types of building covered by the Building Regulations.

The devolved nations of the United Kingdom (Northern Ireland, Scotland and Wales) have different requirements. Refer to Technical Handbook E (Northern Ireland), Building Standards Technical Handbooks Section 2 (Scotland) and Approved Document B (Wales) for further guidance.

Reaction to Fire and External Fire Exposure

The guidance provided by AD B refers to performance classifications detailed in British and European standards. Reaction to fire relates to the degree to which a product will contribute, by its own decomposition, to a fire under specified conditions. Products, other than floorings, are classified A1, A2, B, C, D, E or F (with class A1 being the highest performance and F being the lowest) in accordance with EN 13501-1 *Fire classification of construction products and building elements. Classification using data from reaction to fire tests*. Untested products cannot be classified in accordance with EN 13501-1.

The classes of reaction to fire performance of A2, B, C and D are accompanied by additional classifications related to the production of smoke (s1, s2, s3), with s1 indicating the lowest production, and/or flaming droplets particles (d0, d1, d2), with d0 indicating the lowest production. When a classification includes s3, d2, this means that there is no limit set for smoke production and/or flaming droplets/particles.

Performance of the resistance of roofs to external fire exposure is measured in terms of penetration through the roof construction and the spread of flame over its surface. Roof constructions are classified in accordance with EN



Approved Document B: Fire Safety What Provisions Does It Make for Single Ply Roofing?

13501-5 *Fire classification of construction products and building elements. Classification using data from external fire exposure to roofs tests*. EN 13501-5 refers to four separate roof tests as detailed in DD CEN/TS 1187 *Test methods for external fire exposure to roofs*, with Test 4 (t4) applicable in the United Kingdom and Ireland. Roof constructions are classified BROOF(t4), CROOF(t4), DROOF(t4), EROOF(t4) or FROOF(t4). The highest performance is indicated by BROOF(t4) and the lowest by FROOF(t4).

Requirement B1

Requirement B1 gives practical guidance about escape routes over balconies and flat roofs. Where a flat roof forms part of a means of

escape, it should comply with all of the following:

- It should be part of the same building from which escape is being made;
- The route across the roof should lead to a storey exit or external escape route;
- The part of the roof (including its supporting structure) forming the escape route, and any opening within 3m of the escape route, should be of fire resisting construction (minimum REI 30); and
- The route should be clearly defined and guarded by walls and/or protective barriers to protect against falling.

Typically, the minimum REI 30 rating is achieved by the ceiling finish or flat roof deck.

Performance of the resistance of roofs to external fire exposure is measured in terms of penetration through the roof construction and the spread of flame over its surface. Roof constructions are classified in accordance with EN 13501-5.



Anthony Hogan, Technical Manager, Single Ply Roofing Association

BS 8579 *Guide to the design of balconies and terraces* recommends that an access balcony should be classified BROOF(t4).

Requirement B2

Requirement B2 gives practical guidance about roof lights. Non-plastic roof lights should achieve a minimum reaction to fire classification D-s3, d2; C-s3, d2; or B-s3, d2 depending upon their location. Refer to AD B, Volume 1, Table 4.1/AD B, Volume 2, Table 6.1.

Plastic roof lights should achieve a minimum classification D-s3, d2, provided the limitations detailed in AD B, Volume 1, Tables 4.2 and 12.2/AD B, Volume 2, Tables 6.2 and 14.2 are observed.

Otherwise, they should achieve the minimum classifications applicable to non-plastic roof lights.

Requirement B3

Requirement B3 gives practical guidance about the junction of a compartment wall with a roof. A compartment wall should meet the underside of the roof covering or deck, with fire-stopping to maintain the continuity of fire resistance and be continued across any eaves.

To reduce the risk of fire spreading over the roof from one compartment to another, a 1,500mm wide zone of the roof, either side of the wall, should have a covering classified BROOF(t4). Thermoplastic roof lights that are regarded as having a BROOF(t4) classification are not suitable for use in that zone. In buildings taller than 15m, this zone of the roof should be on a substrate or deck of a material rated class A2-s3, d2 or better.

Requirement B4

Requirement B4 gives practical guidance about separation distances. Where the minimum distance from a roof, or part of a roof, to the relevant boundary is less than 6m, the roof covering, or part of the roof covering, should be classified BROOF(t4).

A roof, or part of a roof, with a covering classified CROOF(t4), DROOF(t4), or EROOF(t4) must be at least 6m from any point on the relevant boundary. A roof, or part of a roof, with a covering classified FROOF(t4) must be at least 20m from any point on the relevant boundary. Refer to AD B, Volume 1, Table 12.1/AD B, Volume 2, Table 14.1.

Regulation 7

Regulation 7 relates to materials and workmanship. Building work shall be carried out so that materials which become part of an external wall, or specified attachment, of a relevant building are of European Classification A2-s1, d0 or A1. This does not apply, however, to any part of a roof pitched at an angle of 70 degrees or less to the horizontal if that part is connected to an external wall; membranes; or thermal break materials.

The same restrictions apply to balconies attached to (and the

Approved Document B is published in two volumes. Volume 1 deals solely with dwellings, including blocks of flats, while Volume 2 deals with all other types of building covered by the Building Regulations.



A single ply membrane can be installed on a (roof) terrace connected to an external wall of a relevant building and become part of an abutment wall, as Regulation 7(2) does not apply to any part of a roof pitched at an angle of 70 degrees or less to the horizontal.

external surfaces of) external walls of buildings with a residential purpose (purpose groups 1 and 2) with a storey 11m or more in height. Purpose groups 1 and 2 include flats; dwellinghouses; hospitals, homes, schools, or other similar establishments where people sleep on the premises; hotels, boarding houses, residential colleges, halls of residence, hostels, or any other residential purpose not described above. Refer to AD B, Volumes 1 and 2, Table 0.1.

Specified Attachments and Relevant Buildings

The definition of a Specified Attachment includes any of the following:

- A balcony attached to an external wall;
- A device for reducing heat gain within a building by deflecting sunlight which is attached to an external wall; or
- A solar panel attached to an external wall.

A Relevant Building is defined as a building with a storey (not including roof-top plant areas or any storey consisting exclusively of plant rooms) at least 18 metres above ground level and which—

- Contains one or more dwellings;
- Contains an institution; or
- Contains a room for residential purposes.

Balconies and Terraces

The term ‘balcony’ is not defined in AD B, though the flat roofing industry and other relevant bodies agree that such a definition should mirror BS 8579.

Balconies differ from terraces as they do not cover habited and conditioned spaces and, usually, are attached to – or cantilevered from – an external wall. For the purposes of AD B, therefore, balconies are not deemed to be roofs.

Terraces do cover habited and conditioned spaces, therefore for the purposes of AD B, terraces are deemed to be roofs.

Practical Guidance

A single ply membrane can be installed on a balcony attached to a relevant building, as Regulation 7(2) does not apply to membranes. Despite this exemption – and as a balcony is not deemed to be a roof – the same single ply membrane could not become part of an abutment wall unless it achieved a minimum reaction to fire classification B-s3, d0 (refer to AD B, Volume 1, Section 10.21a/AD B, Volume 2, Section 12.22a). Such a detail would require a single ply upstand independent of the abutment wall with a non-combustible counter flashing.

A single ply membrane can be installed on a (roof) terrace connected to an external wall of a relevant building and become part of an abutment wall, as Regulation 7(2) does not apply to any part of a roof pitched at an angle of 70 degrees or less to the horizontal. The membrane can be turned up the external wall by 150mm above finished roof level in accordance with BS 6229 *Flat roofs with continuously supported flexible waterproof coverings. Code of practice*. Combustible thermal break materials must not span across compartment walls and should be limited in size to the minimum required to restrict thermal bridging – typically no thicker than 60mm and terminated 150mm above finished roof level. Beyond these dimensions, thermal breaks are recommended to be non-combustible.

Contact The Single Ply Roofing Association Call 0845 1547188, get in touch by emailing enquiries@spra.co.uk or visit the SPRA website:https://spra.co.uk/



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Discover more at: www.sika.co.uk/SarnafilAT





Photography: Hundven Clements

Bauder Helps CABI Commit to a More Sustainable World

Chris Lee, Single Ply Product Manager at Bauder, explains how a combination of single ply waterproofing and a green roof was the ideal solution for CABI's new corporate office.



The Centre for Agricultural and Biosciences International (CABI) is an inter-governmental, not-for-profit organisation. Its purpose is to improve people's lives worldwide by providing information and applying scientific expertise to solve problems in agriculture and the environment.

The completion of CABI's new state-of-the-art corporate office in Wallingford, Oxfordshire, builds upon its commitment to sustainability, with its innovative design leaving less of a carbon footprint amidst a landscape rich in biodiversity.

Demonstrating striking architecture by Scott Brownrigg

Architects, the building provides a modern, comfortable, and efficient working environment with a number of facilities available for use by the local community.

When it came to designing the roof, CABI's commitment to encouraging biodiversity and protecting the environment was a key design driver. The sustainability expertise and technical support from the Bauder team, coupled with the company's comprehensive guarantee package, meant we could create a solution that made a statement, whilst also blending into the surrounding countryside.

The roof slopes downward and fully integrates with the landscape; an aesthetically pleasing design, though not without its challenges. At some points, the curve of the roof reaches a pitch of over 30 degrees, meaning careful consideration had to be given to not only the type of waterproofing system and green roof finish, but also to safe installation.



Photography: Scott Brownrigg



Photography: Scott Brownrigg

The roof slopes downward and fully integrates with the landscape; an aesthetically pleasing design, though not without its challenges. At some points, the curve of the roof reaches a pitch of over 30 degrees, meaning careful consideration had to be given to not only the type of waterproofing system and green roof finish, but also to safe installation.

Firstly, we had to ensure that the roofing contractors could safely install the Bauder system to the required standard, even with the extreme pitch. To meet this challenge, retaining battens were used where the pitch was at its steepest. When fixing the battens to the metal deck, there had to be a sufficient bond to the deck to ensure they were fully secure. With the deck exposed below, mechanical fasteners needed to be used sparingly so that they were not seen.

Efficient Drainage

To achieve efficient drainage while taking into consideration the shape of the roof, BauderPIR FA Insulation was specified. This insulation is lightweight, cost effective and easy to install. Its low thermal conductivity allows for this particular insulation to be thinner compared to other insulants, and the layout scheme was also designed to produce minimal waste.

On top of this, our lightweight and flexible Thermofol PVC waterproofing system was specified. This single ply membrane has a high-grade virgin polymer formulation. The PVC formulation ensures the system is resistant to micro-organism attacks and has passed the FLL resistance to root penetration (EN 13948), making it well suited to receive a green roof.

The curve of the roof also had to be factored into the fixing of the sedum blanket. Retention strips were added to the design to hold the sedum in place securely and prevent any slippage.

The living roof itself consists of the BauderGREEN XF 301 Sedum Blanket. This is a mature vegetation blanket, sown with eleven different species of sedums. As the sedum adjusts to the building's location, the plants most suited to the climate will flourish and blend the roof naturally into the surroundings, which was part of CABI's brief.

As the sedum blanket is intended for application directly over the waterproofing system, there is no need for a secondary substrate

growing medium; this makes it the lightest self-contained sedum blanket system available.

The curve of the roof also had to be factored into the fixing of the sedum blanket. Retention strips were added to the design to hold the sedum in place securely and prevent any slippage. These were spaced at 1m intervals to ensure a strong and secure install. Going forward, the maintenance of the roof will be facilitated by the access walkways and safety systems that remain in-situ,

providing safe access for watering, fertilisation, and general maintenance. Additionally, rooflights were incorporated to provide natural top light, reducing the demand for electric lighting and helping to lower the site's CO₂ emissions.

Since completion in 2020, the project has won various awards, including Building Project of the Year under £10 million at the Constructing Excellence SECBE Awards 2021, and Project of the Year at the OxPropFest Awards 2021. It was also a finalist at the UK Roofing Awards 2021 in the Green Roof category.

It's been fantastic to see the project being recognised for its commitment to sustainability, and we are incredibly proud of having been a part of its journey.



Photography: Hundven Clements

Do you have a question about Bauder or any of our products and services?
Email info@bauder.co.uk or give us a call on 01473 257671, we're here to help!
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Fire Classification of Bonded Insulation Materials

A ROCKWOOL
Technical Bulletin

Introducing the new Technical Bulletin from ROCKWOOL, designed to support compliance for bonded construction materials and composite products.

'Fire Classification of Bonded Insulation Materials' covers and clarifies:



Application-specific details of the 2018 ban on combustible materials



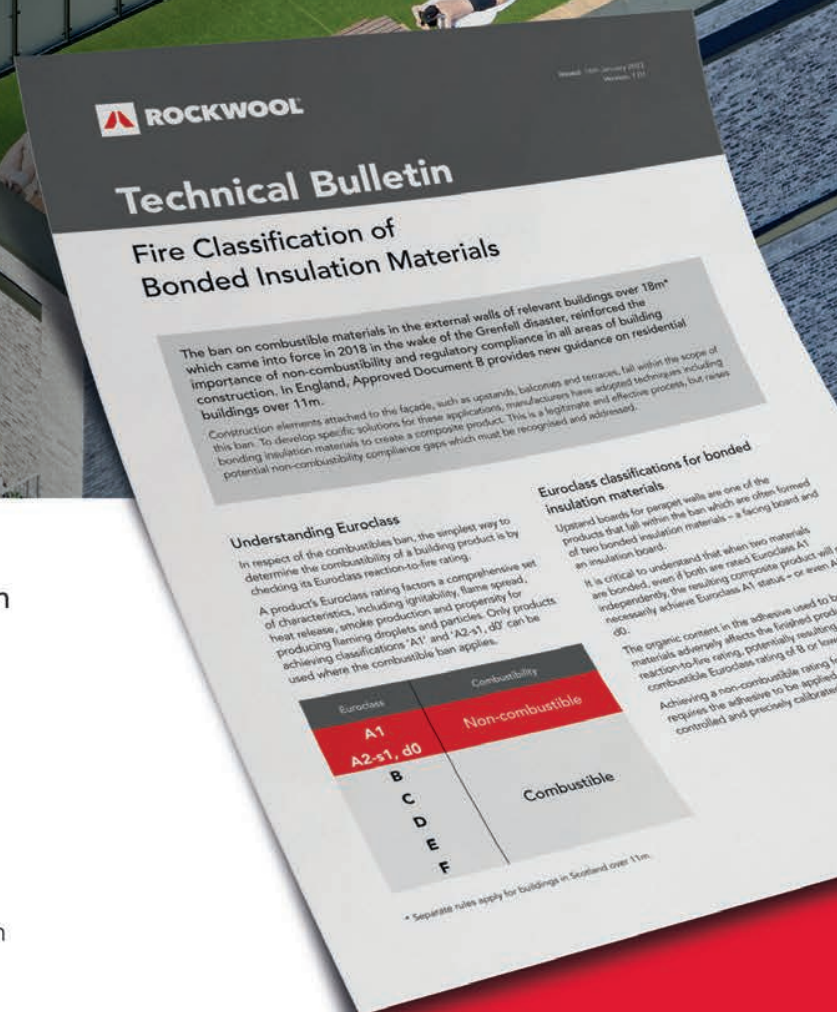
Euroclass reaction-to-fire classifications



Fire implications for bonded insulation materials and composite products



Best practice for ensuring fire safety in critical areas of building construction



Download the
Technical Bulletin:



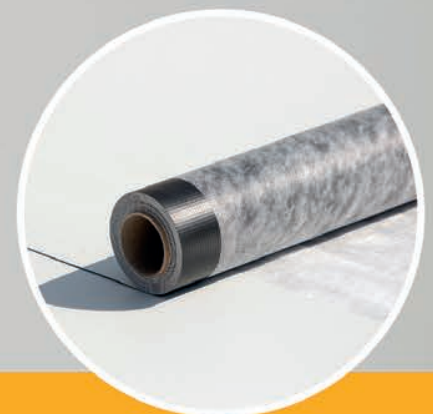
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Sarnafil® AT

What is Sarnafil® Advanced Technology?



SUSTAINABLE



FLEXIBLE



DURABLE



NO OILS



VERSATILE



EASE OF APPLICATION



CERTIFIED



NO PLASTICISERS

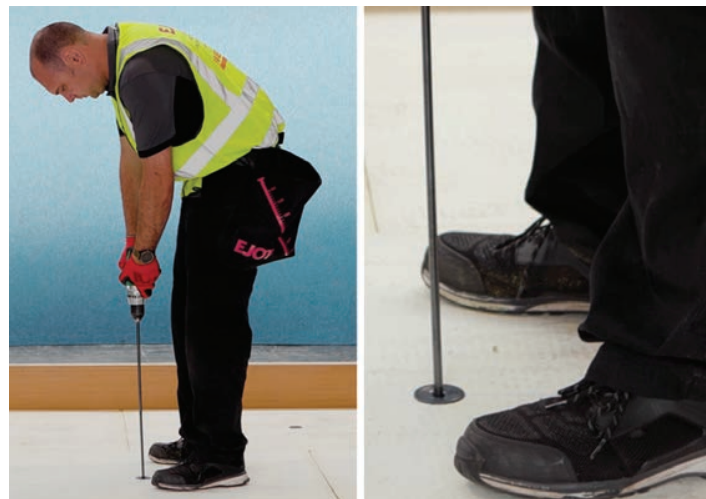
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BUILDING TRUST





EJOT UK Launches Latest Best Practice Videos for Flat Roof Installation

EJOT UK has released two short videos with the aim of helping flat roofing installers to achieve the highest quality results when installing flat roofs using mineral wool (stone wool) and PIR insulation.

Produced as part of EJOT's ongoing programme to support the use of mechanical fixings throughout the roofing and cladding sector, the new videos provide important tips for installers and advice on the correct fastener combinations to use when installing warm roofs. The videos were developed in conjunction with leading nationwide roofing contractor IPS Group, who were happy to collaborate with EJOT to create valuable resources for use in their own installer training programme.

Each of the videos follows the flat roof build-up process, starting with attaching the mineral wool or PIR insulation boards to the deck. Here, EJOT explains the ideal tools to use, highlighting the fact that the same type of screw can be used for both timber and metal decks, and what diameter tubewasher is needed according to whether the membrane will be mechanically fixed or adhered.

As the video illustrates, the number of tubewasher and fastener combinations needed, and the fixing pattern to use, are always determined by industry standard wind load calculation software – in accordance with the guidance of SPRA.

The video goes on to show which size tubewasher to use where the membrane is to be mechanically fixed and the considerations for fixing around the parapet edges, as well as on to the parapet itself.

By sharing its knowledge and experience in this way, the EJOT team seeks to help installers make a few minor changes to the installation process with confidence that will ultimately make a huge difference to the overall quality and lifespan of the flat roof.

Kevin Rackley, Flat Roofing Product Manager at EJOT UK said: "Many of the most common problems associated with warm roofs can be easily avoided by following the correct process for installing the insulation and membrane. Whether that is using an EJOT tubewasher and fastener combination or those from other suppliers, it is vitally important to follow the fixing pattern

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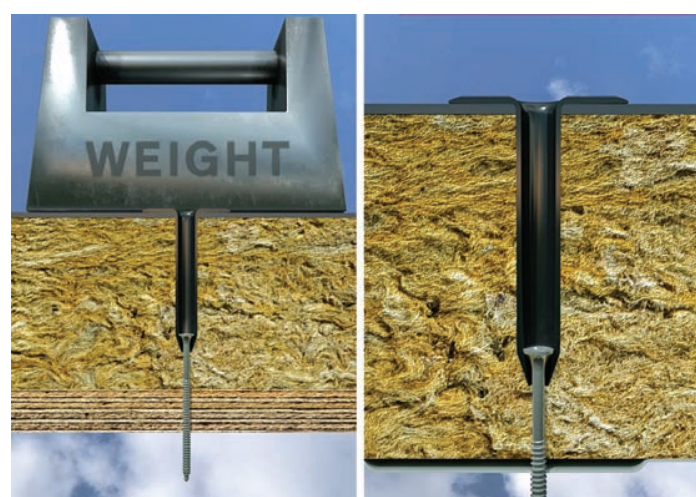
determined by the wind load calculation software, so we wanted to bring this to the industry's attention once again.

"SPRA has some excellent guidance on this topic on its website, so we would recommend spending some time reading this too. One of the most important things to note is to use the correct tubewasher diameter – it is usually a 50mm, but a 75mm tubewasher must be used to fix the insulation into place when adhering the membrane."

EJOT's range of products for flat roofing includes many different types of tubewashers, all

manufactured in high grade plastic for optimised performance, along with carbon steel and stainless steel fasteners suitable for timber, metal and concrete decks.

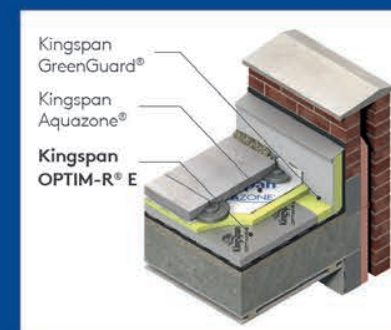
Importantly, EJOT also offers ready to use tubewasher and fastener combinations to help installers save time on site. Combinations such as the TKR carbon steel fastener plus HTK 2G 50 tubewasher, come ready assembled which means installers do not need to spend time putting them together on-site – saving a few seconds with every fastener insertion can save hours on an extensive flat roof project!



To see the full range of flat roofing fasteners and tubewashers, please visit the EJOT UK website:
www.ejot.co.uk.

Additional advice on the correct tubewasher and screw combination to suit the insulation, membrane and deck material can also be accessed by contacting EJOT UK on 01977 687040 or email info@ejot.co.uk.

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Kingspan®

Health and Safety Must Remain at the Heart of Competence in Roofing

Anthony Hogan BA (Hons) MIO, Technical Manager, Single Ply Roofing Association



'Roofers Jailed after Worker Fell to Death.'

'Two Contractors Fined £380k after Rooflight Fall.'

'Company Fined after Rooflight Installation Fall.'

At the time of writing, these are the headlines of three articles published on the Roofing Today website within the past two months.

When only the articles categorised 'Health & Safety' are displayed, those listed above appear on the first 2 of 39 web pages dating back to 2018. It is not all doom and gloom, certainly, but it is indicative of the competence (or lack thereof) of some of those with a legal obligation to ensure that work at height is properly planned; appropriately supervised; and carried out in a manner which is – so far as is reasonably practicable – safe.

This is borne out by Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) data, which records that for the period 2017/18 to 2021/22, falls from a height were the cause of 51 percent of fatal injuries to construction workers. The data is not separated by individual trades, although the current guidance about roof work on the Health and Safety Executive (HSE) website emphasises that it is high risk, citing that 'almost one in five deaths in construction work involve roof work,' and 'the main causes of death and injury are falling from roof edges or openings, through fragile roofs and through fragile rooflights.' Furthermore, the HSE Health and safety in roof work (HSG33, 5th edition) document states that 'roof work accounts for a quarter of all

deaths in the construction industry.' Of the annual average number of 36 fatalities to construction workers for the 5-year period, therefore, it is fair to assume that between 7-9 per year involved roof work.

In addition to fatalities, the Labour Force Survey recorded an average of 59,000 non-fatal injuries to construction workers per year for the period 2019/20 to 2021/22. RIDDOR data for the same 3-year period indicates that 19 percent of them were caused by falls from a height – equivalent to over 11,000 per year. If a fifth to a quarter of these involved roof work, as above, this would equate to 2,000-3,000 non-fatal falls from roofs per year. Worryingly, the

It is known that non-fatal injuries are substantially under-reported, especially for the self-employed,' so the real figures could be substantially higher. This is staggering and makes for uncomfortable reading.

HSE *Construction statistics in Great Britain, 2022* document notes that, "RIDDOR information for non-fatal injuries needs to be interpreted with care since it is known that non-fatal injuries are substantially under-reported, especially for the self-employed," so the real figures could be substantially higher. This is staggering and makes for uncomfortable reading.

Of course, falls from roof edges occur on both commercial and domestic projects and on new build and refurbishment jobs. As the HSE points out, however, "many deaths occur each year involving smaller builders working on the roof of domestic dwellings." Going back to the note

about non-fatal injuries being substantially under-reported, one wonders how many of them involve falls from the roofs of domestic dwellings.

There is some sympathy for builders and roofing contractors of all sizes. They operate in a competitive market exacerbated by the ongoing cost of living and energy crises. Consequently, far too often the lowest bidder comes out on top. But when the lowest bid is achieved by insufficient arrangements for health and safety (either due to client pressure and/or an attempt to increase margins), construction workers are faced with the risk of falling back down to the bottom.

To allow for safe access, scaffolding, edge protection and/or the protection of fragile surfaces to facilitate safe work at height would not necessarily break the bank; yet to exclude them could leave a construction worker with a broken back – or worse. It may sound insincere, but sadly this is the harsh reality for thousands of construction workers every year.

There may be an unscrupulous few who fail to make such arrangements because of a naive assumption that an accident will not happen and/or they will not be caught.

Maximum Penalty

By definition, an accident is a separate, identifiable, unintended incident, which causes physical injury. Where they are proven to be caused by a breach of the Health and Safety at Work Act etc. 1974 (HSWA), the maximum penalty is an unlimited fine and/or imprisonment. By comparison, the cost of identifying hazards and preventing or controlling risks to employees is insignificant.

Nobody is above the law and ignorance of it is not a defence. The HSWA is the primary piece of legislation covering occupational health and safety in Great Britain. It sets out the general duties that employers have towards employees and members of the public; employees have to themselves and to each other; and certain self-employed have towards themselves and others.

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The Management of Health and Safety at Work Regulations 1999 require employers to put in place arrangements to control health and safety risks.

As a minimum, employers should have the processes and procedures required to meet the legal requirements, including a written health and safety policy; suitable and sufficient risk assessments; arrangements for the effective planning, organisation, control, monitoring and review of the preventive and protective measures that come from risk assessment; instruction and training for employees in how to deal with the risks; and ensuring there is adequate and appropriate supervision in place.

The purpose of The Work at Height Regulations 2005 is to prevent death and injury caused by a fall from height. Employers and those in control of any work at height activity must first assess the risks, then make sure work is properly planned, supervised and carried out by competent people. This includes using the right type of equipment.

Employees have general legal duties to take reasonable care of themselves and others who may be affected by their actions, and to cooperate with their employer to comply with their health and safety duties and requirements.

The Construction (Design and Management) Regulations 2015 (CDM 2015) are the main set of

regulations for managing the health, safety and welfare of construction projects. The regulations identify five duty holders – Client, Principal Designer, Designer, Principal Contractor and Contractor – and describe their roles.

CDM 2015 applies to all building and construction work and includes new build, demolition, refurbishment, extensions, conversions, repair and maintenance.

Preaching to the Choir

At this stage, I should acknowledge that I am preaching to the choir. Undoubtedly, the vast majority of – if not all – readers and their employers fulfil their duties as required by the legislation daily. Contractor members of the Single Ply Roofing Association, for example, are required to register with the Construction Industry Training Board; register with a Safety Schemes in Procurement member scheme; provide health and safety training to all employees and maintain records; and comply with all applicable health and safety legislation as a condition of membership.

For similar reasons, the accident rate for members of the National Federation of Roofing Contractors for 2020/21 was 8 times less than the construction industry average. Unfortunately, there is a minority that deems working at height safely to be an optional administrative burden, which risks the lives of thousands and costs the lives of dozens of construction workers annually.

For this to change, health and safety must remain at the heart of competence in roofing. Only then will there be fewer accidents, fewer fatalities, fewer injuries and, ultimately, fewer tragic headlines.

CONTACT SPRA

Call SPRA

on 0845 1547188,

or email

enquiries@spra.co.uk or

visit the SPRA

website: <https://spra.co.uk/>



SPRA is the voice of the single ply roofing industry.

The trade association was established in 1992. Its mission is to achieve growth and sustainability in all sectors of the single ply roofing industry by raising the awareness of single ply technology, its value, and ensuring that manufacturing and installation standards remain high.



MEMBERSHIP

Membership of SPRA is open to manufacturers and distributors of single ply roofing systems; manufacturers and suppliers of ancillary products; and single ply roofing contractors.



TECHNICAL

The SPRA Technical Committee meets regularly to write up-to-date guidance and discuss the latest amendments to legislation and British and European standards.



TRAINING

As a CITB Approved Training Organisation, SPRA provides Specialist Applied Skills Programme (SAP) and On-Site Assessment Training (OSAT) courses for workers.



EVENTS

The annual SPRA Awards Luncheon recognises excellence in single ply roofing, while the annual SPRA Golf Event allows members and their guests to network and share ideas.

SPRA is an influential voice in the roofing sector.
Why not join the conversation?

Find out more at www.spra.co.uk