



TB 15

June 2003

COMPOSITE SANDWICH PANELS

Steadily over the last few years the existence of composite sandwich panels (CSPs) in commercial construction has given rise to concern in the insurance industry both from the claims and underwriting perspectives.

This Bulletin seeks to explore the growing problem and the implications for adjusters.

What are CSPs?

Over the past 25 years, local authority building control officers have sought a minimum level of insulation in cladding to improve thermal efficiency in structures. The test for thermal insulation has been just that, not a measurement or categorisation of combustibility.

Composite or sandwich panels have been the most economic means of meeting these thermal insulation requirements and so have been used widely in replacement roofs, wall cladding, and internal partitions. These panels consist of two metal faces on either side of a core of rigid, thermal insulating material. The three elements are firmly bonded and act compositely when under load.

The insulating material that forms the “sandwich filling” between the two metal faces is the key to this issue. Initially, expanded polystyrene (EPS) or polyurethane (PUR) were the primary materials used for lightweight cores. Such materials have excellent insulating properties and are pest resistant, but they are also flammable if fire penetrates to them.



The Problems

Practical experience has demonstrated that hot gases given off in close proximity to composite panels prior to actual ignition may indeed cause acceleration of the fire by flash ignition and acting as a fire bridge between structures, which are not fully compartmentalised. Balanced against this, the Parliamentary Select Committee in addressing potential fire spread in buildings via external cladding reported that there was no evidence to suggest that the majority of external cladding systems in use in the UK posed a serious threat to life or property. They suggested that “all reasonable steps” should be taken towards minimising the risks. Whilst recommending improved materials and with testing methods currently under review, such improved tests are not yet in place.

Attention came to bear on composite panels in the UK after two fire fighters died in a poultry processing plant fire in Hereford in 1993. A report published in 1999 by the UK Home Office on firefighting options for fires involving sandwich panels lists a series of incidents in the UK and France. Almost all of these incidents occurred in food processing or storage buildings. The use of hygienically surfaced "poly" filled structures to sub-divide preparation areas undoubtedly was also a factor.

The Home Office report stated that fires involving sandwich panels presented a special problem for fire crews. “This special problem is primarily one of speed; the development and spread of a fire and the general build-up of dangerous conditions in a building containing sandwich panels. These fires are in most ways the same as any other fire – but much faster.”

Without risk to life and with limited knowledge of the fire history or process within the building, the general approach of fire fighters will be to "stand back and contain". Fire officers have a natural inclination to try to enter the building and contain or extinguish the fire.

Senior officers often have to order their fire fighters out of buildings. In reality, therefore, with virtually all clad buildings, a stand back and contain order must be issued. It does not matter what the cladding is, and whether it is good, bad or indifferent. It does not matter what the process is - be it an unheated stone mason's building or a cigarette lighter plant. Without additional information about the extent of fire protection, the quality of housekeeping or risk level of the cladding, the fire brigade on the ground cannot differentiate between buildings.



The consequence is inevitably increased overall damage both to the structure and the contents together with a knock-on effect on business interruption losses.

Current Regulations/Guidance

On 14 December 1999 the Environmental Select Committee recommended that all external cladding systems should be non-combustible or proven through full scale testing to be not of an “unacceptable risk”.

On the same issue, change has been sought in “Approved Document B” of Building Regulations with proposals being put forward for British Standards to be amended.

The Fire Precautions (Workplace) Regulations 1977 (as amended) place a statutory duty upon employers to ensure that in most environments they make a risk assessment of the workplace and ensure that employees are "as safe as possible". This assessment is to include the safety of fire fighters.

It would seem that although revised Building Regulations came into force in July 2000, many Local Authorities have not yet adopted these.

In response to the issues surrounding composite panel buildings, a group of food industry trade associations has produced generic guidance on best practice, entitled Fire Risk Minimisation Guidance. The aim of Fire Risk Minimisation Guidance is to encourage food companies to manage their existing risks proactively and also to target hazardous processes for remedial action.

The guide is the work of the Food Industry Panels Group (FIPG), a broad consortium of trade associations led by the Chilled Food Association (CFA), the U.K. Association of Frozen Food Producers (UKAFFP) and the Cold Storage and Distribution Federation (CSDF).

On the question of combustible composite panels, Fire Risk Minimisation Guidance recommends their replacement over time with non-combustible alternatives. In this way, the FIPG believes, construction standards can be improved without expensive disruption.



Insurance Position

Insurance of buildings containing composite internal and external insulated panels, particularly cold stores and food production factories, and acceptability of structures and their use is currently causing considerable concern. Some brokers have indicated that in view of the present limited reinsurance capacity, they must regard some of their clients as “currently uninsurable”.

Probably over 90% of all composite clad buildings fall below insurers/reinsurers’ currently desired specification. The result is that the insurance market has hardened insurance rates, increased deductibles and treats some property as “uninsurable at any price.” Food processing and storage plants have been the focus of attention but many other buildings contain composite panels.

There is great lack of clarity over what materials insurers do find acceptable. One firm of architects in course of building a large extension to a factory referred to professional indemnity insurers and the response was that they must not recommend any form of composite panel. At least one manufacturer is producing "acceptable" material and there are already non "poly" type products, but stripping out and replacing panels has considerable cost implications and could be very disruptive, especially in factories working 24 hours a day, seven days a week.

Insurance of such risks, review of rating and acceptability of structures and their use is currently causing considerable concern. Brokers and Insurers appear confused with the situation driven by the decision of reinsurers and the overall current market capacity. It is indeed rare that a common stance is almost universally adopted within the market but such appears to be the situation at present with regard to reinsurers' attitude.

Claims Perspective

Adjusters in dealing with the reinstatement of substantially damaged buildings must be alive to the fact that the Reinstatement Memorandum in compliance with the Local Authority requirements may restrict insurers' liability. The contribution, which can be authorised under the terms of an insurance policy, may not comply with insurers/reinsurers current desired specification.

Consequently, buildings, which have been reinstated (within the policy performance),



may not be insurable in the future even by the same insurer in view of the altering Underwriting stance.

The specific performance under the Reinstatement Memorandum of a Standard Fire Policy, which will be the Insured's entitlement, needs to be considered. It must be remembered that reinstatement invoking the Public Authorities Clause only relates to the damaged parts and then only to the requirement of the controlling authority and not the preferred solution of insurers/reinsurers. The current standard test for approved materials involves a much simpler and lower specification than that currently looked for by reinsurers.

Example Scenarios

Visualise a fire in a cold store, which is a total loss and where reinstatement cover is present with an adequate sum insured. The architect specifies the most cost-effective replacement cladding panels complying with the requirements of the local authority. The building is reinstated and insurers make payment in accordance with the recommendations of the adjuster, complying with the Reinstatement Memorandum and taking into consideration and meeting the costs of the local authority requirements. Insurers are likely to decline renewal due to the non-availability of reinsurance for the particular class of replacement panels used.

If the example given was only a partial loss then only a percentage of the panels will have been renewed under the policy in compliance with the local authority requirements. The remaining panels may continue to be the originals, which will concern the insurers. Even if they have been replaced by the Insured as an uninsured loss, to local authority requirements, it remains the case that insurers, for the same reasons, will not offer renewal.

Take now the scenario where the cold store is again a total loss but the architect enquires from insurers their preferred specification of panels. He is guided by their response and implements a scheme to comply with the requirements of the insurers. This results in costs of some 30% above complying with the lesser local authority requirements. With reinstatement effected the adjuster in measuring the insured loss will be required to restrict payment available under the policy to the reinstatement cost compliant with local authority requirements. This will fall well below the actual cost of reinstatement and create substantial uninsured losses although in a total loss situation renewal of cover will likely follow.



In a partial loss the uninsured losses will increase to include the full cost of replacing the undamaged panels. The Insured is unlikely to meet this even greater cost given the increased uninsured BI losses but if he fails to do so then he is likely to face non-renewal of the policy.

It can be seen therefore that to try and maintain continuing insurance following a loss, despite an adequate sum insured, the existence of a Reinstatement Memorandum and the Public Authorities Clause policyholders will be required to expend considerable unrecoverable costs and suffer likely increased uninsured BI losses.

Recommendations

Members must be alive to these issues in any instructions issued or in specifications which are agreed to. Failure to highlight the possibility of difficulty in placing cover at a future date could perhaps lead to a PI claim being considered against the Adjuster or the firm concerned.

Until specific direction is received from Insurers adjusters must advise policyholders that strict application of current policy wordings may, in certain circumstances, affect reinstatement of a building but not attain the required standard to allow cover to be placed. The best advice issued by Adjusters must be to “seek guidance from Insurers prior to reinstatement”.

PI Insurers of adjusters are likely to insist that they do not make any recommendations with regard to composite panels or the required specification.

The bottom line, from an Adjuster’s point of view, is that the attention of all parties concerned must be drawn to these issues but regrettably without further direction decisions rest with insurers and reinsurers.

Michael Burnett and Chris Miller

Footnote: The recent case, Sahib Foods Ltd. (in liquidation) v Paskin Kyriakides Sands (2003) highlights the problem [Details can be found at www.2templegardens.co.uk]