

SANDWICHPANELS and INSURANCES

Enhance the confidence

Applications

- Industrial and commercial buildings other than Foodindustry
- Office buildings (not many)
- Residential buildings (so far not many)
- Foodindustry (most important risk)

Food Industry

- Coldstores , positive and negative temperatures
- Hygienic environments
- Ovens, deep frying, bakeries,refrigeration equipment, refrigeration gases..higher risk environments.
- Need for excellent thermal insulation
- >>> necessarily more panels with combustible core materials are used,

Risks

- Damages to envelopes (walls and roof)
 - Storm : Mechanical properties, erection (fixation)
 - Tightness : Vapour barriers, loss of energy, freezing open of joints, .. (mostly covered by guarantees from erection company)
 - Condensation within the panels with cores that have high vapour transmission allowance
 - Wrinkles : bad design of panels, mostly for dark colored panels, low temperature stores. (mostly covered by guarantees from producers and erection companies)

Risks

- **Exploitation Losses**
 - Some insurers can cover exploitation losses due to certain kinds of damage that occurs, like storm, fire,...
 - Exploitation losses can be huge, many times the loss of a building or installation itself.
 - Some insurers will limit insurance to replacement or to repair of the damaged parts of installations/buildings.

Risks

- Fire
 - By far the highest risk in food industry is fire.
 - Other applications than food industry have often other regulations for the buildings at the basis ,
 - Authorities with building regulations and codes
 - Insurers with different insurance premiums depending on execution of the buildings
 - Fires in the past decades in the food industry have made the insurers more attentive
 - Fires in the past decades have made Panelproducers more alert

Insurers

- Made up rules to evaluate the risks of certain buildings
 - See presentation of mr. Reiske
 - See presentation of mr. Hill
- Increased premiums for bad cases, or refuse to insure
- Examin more than ever what is being used in the buildings
- Ask for clarity about used materials in existing buildings and new ones (labeling > see mr. Reiske)

Insurers

- Influence on Insurers acceptance :
 - Certification schemes (in the food industry) for Sandwichpanels :
 - UK and international : LPCB (LPS 1181_1 and 2 ; LPS 1208)
 - US and international : FM (FM 4480, 4481, 4471,...design criteria)
 - France : APSAD (Pa1, Pa2, ... design criteria T14,..)
 - UK and international : Lloyd's Type Approvals (not specific to fire only)

Producers

- Influence on Producers products:
 - Improve reaction to fire by improving core materials and jointing.
 - Thermoplastics tend to disappear because of burning droplets
 - Improve resistance to fire by improving or modifying/changing core materials and fixation systems,
 - PIR foams become more and more important
 - Where the risk is high, mineral wool cores are used.
 - Improve risk factors by logical erection design instructions
 - More attention to offer the right product for the right application (for as far as they are involved)

Erection companies

- Influence on Architects and Erection Companies
 - They are confronted with fire safety engineering in some countries
 - More attention to the erection details in order limit fire risks
 - Improve risk factors by logical erection design
 - More attention to offer the right product for the right application, if not by request of the customer or insurer, then for their own interest.

Needs for the future

- Some systems are in place and seem to function quit well (e.g. FM approvals)
 - The insurer is ready to cover exploitation losses
 - The insurer made up clear rules and controls the works
 - The insurer has his own risk analyses
 - The insurer can offer insurance premium based on better risk assesment

Needs for the future

- Most insurers limit the risk assesment on material properties of sandwichpanels
 - Reaction to fire
 - Resistance to fire
- In many cases there may still be a lack of fire engineering and attention for the erection details that must realise in practice the reaction and resistance to fire.
- Though the situation has improved a lot lately, there is still a lot of scepisis on the insurers' side when looking at sandwichpanel-constructions.
- The industry can come with convincing arguments to the insurers, but some effort would be much helpful to reach the goal : MORE confidence in sandwichpanel-constructions.

Needs for the future

- Improve checking of respect of regulations and standards, direct and extended application rules of given classifications (e.g. EN15254 part 5 etc.)
- More checking how the reaction to fire of a panel has been tested (rev.1 of EN14509 will solve the problem > exclude F core materials)

Needs for the future

- Labeling of used materials as proposed by mr. Reiske is a help : doublecheck of the declared reaction to fire classification.
- A response of the Sandwichpanel industry would be very helpful
 - Invest in fire engineering focussing on use of panels
 - Invest in education about rules of good practice

Needs for the future

- A response of the Erection companies would be very helpful
 - Education concerning many details to respect during erection
 - Limit fire risks during erection, by well established coordination with other companies before, during and after panel installation. Though an obligation, in many cases not enough done in practice

Needs for the future

- After – erection - intervention files for (new) buildings to be more complete and more elaborated
 - Not only to limit fire risks, also to limit other insurance issues like protecting life (walkability of ceilings, collapsing structures,..)
 - Eventual instructions for maintenance etc.
- Eventually certification schemes for Erecting companies (voluntary) IF the insurance industry responds positively to such.(Premium advantage)

Should/Could be done

- Make formats for after-erection-intervention files
- Create unified labels for indicating risks of different natures, not only a reaction of resistance to fire (walkability, etc.)
- Bring together in an ultimate, CENTRAL (but evolving) library and condensed book with rules of good practice for installation and maintenance of Sandwichpanel – constructions.

Should/Could be done

- Hold *education sessions* , also for design institutes and architects.
- Create a forum to investigate serious cases of damages and take lessons from it, which should be distributed to all stakeholders
- Make a certification scheme for Erection Companies – or grant education attestations

Why

- To increase the confidence of insurers in Sandwichpanel constructions
- To further improve the image of Sandwichpanels and encourage the use
- To establish close cooperation with insurance companies
- To finally obtain Premium advantages based on education attestations or certification and qualitylabeling with third party control.

How

- By simplifying specific-to-site design work due to having many solutions ready in the rules.
- By bringing together the useful knowledge and experience from the past and from different sources/countries.
- By realising it is in the benefit of all our industry to do such necessary efforts
- By excluding bad habits and works

How

- By spreading *correct* information on the products as well as how and where to use it – or not to use it.
- By increasing the requirements (threshold values) for qualitylabeled products compared to other non controlled ones.
- (e.g. already no EPAQ label possible for F-core materials)
- By market surveillance where needed

Who and When

- EPAQ created a working group “good practice”
- Work is being done to bring together existing documents about good practice from different countries, authorities, associations, companies, etc.
- Opening is being created towards close collaboration with Erection Companies

Who and When

- This presentation is a call to the Sandwichpanel industry, to join in the work to be done
- It is a large workitem, will have to be done in phases.
- It is not to be limited to Food Industry applications (though this may be priority)

Who and When

- You have it already all yourself ? No need to collaborate ?
- Question : what is better ?
 - not collaborate is better for yourself (protect own knowledge ?). Choose for protectionism?
 - Collaborate is better and leads to benefit of all
- The answer will always be in between, but unite existing “public” knowledge, choose the best of it and educate is already a gain !

Work already done

- Work has been done already in different countries, but independent from each other:
 - Epic manuals
 - Apsad rules, Risk assesment rules from different sources
 - IACSC manual
 - French “guides”
 - Design criteria (different books and publications, R. Koschade, M.Davies, K.Berner,Is Mainz, SNPPA, ...)
- It should be brought together.

Work already done

GUIDE DE PREVENTION INCENDIE DANS LES ENTREPOTS FRIGORIFIQUES

Allianz Risk Consultants Network Guidelines SANDWICH PANELS Fire Hazards And Best Practice
February 2004 edition

Specifications for the Protection of cold areas
CEA 4050: October 2005 (en)
(EFSAC endorsed)

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Secretariat: AFNOR

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une seule fonctionne bien.
Utilisez des cables adaptés dans les installations refroidies : par le cables qui deviennent fragiles.
Ne fixez pas directement dans les panneaux des douilles de chauffent. Utilisez une plaque incombustible de protection en panneau.
Installez éventuellement un paratonnerre (dépendant de l'implantati

Sécurité des Bâtimens
Mise en sécurité des bâtiments existants !
Régulation, ERP, Bureau, Industrie, IGA, ...

Abécédaire de la Sécurité Incendie
Bâtiments

SONMAIRE

1 Domaine d'application
2 Références normatives
3 Définitions
4 Objectifs
5 Panneaux sandwich de bardage à l'extérieur
6 Panneaux à fixation apparente
7 Panneaux à fixation cachée
8 Panneaux à fixation par cranspous
9 Panneaux isolés
10 Lameilles
11 Plaque
12 Profilés

Work already done



Are Insurers asking this?

- The insurers are very interested in such work. It can give them more confidence
- Some stick to their own certification schemes, which however can be extended from products to erection, and collaboration is possible.
- For the customers : It can on the long run result in more interesting premiums for works completely done according rules

DO YOU WANT IT ?

- Does the sandwichpanel industry want a boost for the use of their products? Nowadays we experience competition from e.g. concrete industry with arguments which can be discussed.
- Did you hear that insurance companies show confidence in third party controlled quality labels
- Are you aware that such strong basis can lead to less needs for national voluntary approval systems ?
 - E.g. the french technical approval, a voluntary scheme, is there because insurers feel more comfortable to give polisses to installers which are obliged to have 10 year guarantee insurance.

DO YOU WANT IT ?

- The central library should even go further, give necessary guidance for specific requirements in different countries concerning whatever topic. It can be about waste treatments of different kinds of panels and core materials, as well as about ecodesign.
- Does the sandwichpanel industry wants such “library” ? My experience is that there is a need for a central library and condensed “book” indeed. Many sandwichpanelproducers and installers have many questions on which they cannot always easy find the answers.
- Good association work with joined forces can be a benefit for this industry. EPAQ will keep you informed about the possibilities that she can hopefully discover.

Thank you for your attention

- We will listen to mr. Colin Hill, who will present FM certification schemes, which do not cover only fire properties.
- We are establishing contacts with FM concerning a research program whether they can use design by calculation of panels which benefit a quality label, eventually with special calculation parameters that fit them.

Thank you for your attention

