

**INTERNATIONAL
ASSOCIATION
FOR COLD
STORAGE
CONSTRUCTION
(European Division)**

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COOL COMMENTS

Issue 16

May 2006

Editorial

As you will appreciate from the last issue, Cool Comments now has a new Editor following the retirement at the beginning of the year of Jimmy Bittles from his position as Executive Secretary to the Association.

I trust we will maintain the previous high standards and look forward to members' active responses and contributions to future editions of Cool Comments to make it a topical and worthwhile read to members of our industry.

Included in this issue is the Agenda for our forthcoming Conference in June and we hope to see as many of you as possible in attendance, for what promises to be yet another interesting meeting.

I look forward to meeting with you all in June.

David Thompsett
Executive Secretary

NVQ Scheme moves on

The first cohort of qualified cold room installers from leading contractor ISD Coldstores will gain their new CITB/C&G backed 'Specialist Installation Occupations-Insulated Enclosures' Level 2 NVQ in the next two weeks.

Gloucester-based ISD Coldstores has played a key role in the development of this new qualification with other IACSC member companies in a three-year programme designed to train 800 installers in proficient, safe working in the temperature-controlled building sector, by 2008.

Assisted and supported by the CITB, leading contractors working as members of the Standards Setting Body of the IACSC, have developed detailed training modules to support this ground-breaking NVQ. Their work began 18 months ago on the discovery that no less than 200 trades continue to operate without appropriate qualifications.

Unlike other trades, the cold store contractors have taken a tough line by excluding industry accreditation from the qualification, preferring to issue different CSCS cards dependent on current experience and the route followed in gaining the NVQ.

Craftsmen and experienced worker candidates will receive blue CSCS Experienced Worker cards, 'Trade of Insulated Enclosures, including ambient rooms' and be expected to achieve NVQ status within a year; whilst red CSCS cards, offer trainees a three-year window to complete training.

"Clearly cold store installation is a skilled trade, but without any definitive qualification it has been placed at a disadvantage", remarked ISD Coldstores Technical Director, Adrian Smith, who with P&M Group Health and Safety Adviser Graham Hill, are active members of the IACSC group on the development of the NVQ since August 2003.



On behalf of the Standards Setting Body, Graham Hill is confident that the new qualification will deliver improvements with the required standards being set on the high side pointing out that 'there would be little point if

everyone could easily achieve this NVQ'. With 100% qualification rather than relying on experience alone, the contractors aim to ensure workers reach higher levels of proficiency and safety and have the qualification to prove it.

"We saw this new qualification as an important route for IACSC members and installers to further improve Health and Safety standards on every site", added Smith, "it is in all our interests as a means to ensure that we can continue to win major contacts from Tesco, ASDA and Northern Foods. That is what they have rightly come to expect from our organisations".

Though the cold store installation has an excellent safety record, the companies are reminded that despite the action of the Main Contractors Group, official records still show 72 fatal accidents in 2004, the latest annual figures that are currently available.

Graham Hill from the P&M Group, one of four trained, accredited assessors has been piloting the NVQ with three time-served installers from Tysoe Installations, currently onsite at a new cold store, who will be among the first to gain this new qualification.

Speaking for his installation company, Simon Tysoe, sees vital benefits in the scheme. "Annually, we undertake 25 major projects on main contractors' sites, where safety is of paramount importance. Taking the lead in the application of this NVQ is vital to retaining top-class onsite safety. It reflects on all those companies involved in installation and I highly recommend it".

However, there is still significant promotion of the new NVQ and the CSCS card scheme to be undertaken as particular sites, including Wembley Stadium, the second largest construction site in the UK after Heathrow Terminal 5, CSCS is not recognized. Apparently, Multiplex is not part of the Main Contractors Group, who were inspirational in launching the original carding schemes.



In view of the anticipated demand for the NVQ, several assessment centres are currently being established with the first now in operation at IFC Certification Ltd in Princes Risborough and with other centres to follow.

The final word goes to Graham Hill, "Our goal is to match the achievements of the Refrigeration Contractors' City & Guilds in raising overall standards and highlighting skills gaps".

Cold store erectors and their employees interested in registering for their new Blue Experienced Worker Card should contact the Construction Skills Certification Scheme on 01485 578777 and those interested in obtaining the new qualification should contact the IACSC on 01844 275500 for further information.

Editors Note: The fully skilled NVQ card at level 2 has replaced the old CRO cards which are no longer valid. CSCS will exchange any outstanding CRO cards free of charge once entry requirements have been met. Contact CSCS at 01485 578777 for further details.

IACSC Publications

Guidelines for the Specification, Design and Construction of Cold Store Floors (published 1993).

Non members £55 + £5.00 p&p

Members £50 + £5.00 p&p

Design, Construction, Specification and Fire Management of Insulated Envelopes for Temperature Controlled Environments (published 1999).

Non members £120 + £5.00 p&p

Members £100 + £5.00 p&p

Fire Stable Certification Scheme for Insulated Panel Systems and Structures (published 2000; revised 2001).

Non members £45 + £5.00 p&p

Members £40 + £5.00 p&p

Model Building Specification for Design, Installation and Commissioning of Insulated Envelopes and Insulated Floors for Temperature Controlled and Ambient Environments (published June 2003).

Non members £65 + £5.00 p&p

Members £50 + £5.00 p&p

To order, forward your remittance made out to IACSC (European Division). On receipt of your payment the publications will be sent by return of post.

20 Park Street, Princes Risborough,
Buckinghamshire
HP27 9AH. Phone: +44 (0)1844 275500

New Member

We are very pleased to welcome the following new member to our association.

S Tysoe Installations Ltd
Unit 18, Leaside
Merrylees Industrial Estate
Desford
Leicester, LE9 9FS

Tel: +44 (0) 1530 231111

Fax: +44 (0) 1530 231122

e-mail: simon.tysoe@s-tysoe.co.uk

Mr Simon Tysoe, Managing Director

INTERNATIONAL
ASSOCIATION FOR
COLD STORAGE
CONSTRUCTION **Update**

We look forward to this company's contribution and support for the aims of IACSC and encourage our members to offer a warm welcome to its representatives.

IACSC (European Division) Seminar 28/29 June 2006

The Seminar this year will again be held at The Haycock Hotel, Wansford, near Peterborough on 28/29 June 2006. As is normal, a dinner will be held on the evening of 28 June for twenty-four hour delegates. Forty rooms have provisionally been booked for the night of 28 June. Please make your reservation early to avoid disappointment.

As usual 28 June is designed to be the low key/fun day – an Ad-hoc Stableford competition at Thorpe Wood golf course.

The theme is “IACSC 2006 - Controversial Issues Facing the Industry - Decisions, Decisions, Decisions!” and the presentations focus on the external factors which continue to drive our industry and include some technical issues which have been requested by our members. The planned Agenda for 29 June 2006 is as follows:

08:00 - 09:20	Registration and Coffee	Ballroom - Haycock Hotel
09:20 - 09:30	Opening Address	Mr D Thompsett - IACSC (European Division)
09:30 - 10:15	Revise of Approved Document 'B' Fire Safety Reform Order	Mr A Burd - ODPM
10:15 - 10:45	Contractual Obligations under the Fire Safety Reform Order	Mr S Hunt - Greater Manchester Fire and Rescue Service Mr D Berry Ex-ODPM (Fire Policy)
10:45 - 11:15	Coffee	
11:15 - 11:45	Extended Applications - LPS 1208	Mr T Day - BRE/FRS
11:45 - 12:15	Are current fire tests for insulating panels adequate?	Mr P Jackman - International Fire Consultants Ltd. (IFC)
12:15 - 13:00	A Broker's View of the Cold Storage and Temperature Controlled Food Industry	Mr M Chalons-Browne Managing Consultant Risk Consulting Practice - Marsh UK Ltd
13:00 - 14:15	Lunch	
14:15 - 15:00	Progress of IACSC NVQ Scheme	Mr R Brittain (Internal Verifier - IACSC) Mr J Quayle - IFC Certification Ltd
15:00 - 15:30	The General Pitfalls of Contracting	Mr B Quinn - J R Knowles Ltd (Specialist in Contracting Law)
15:30 - 16:00	Contractors' Issues	Mr R Daley - Hemsec Ltd
16:00 - 16:30	Open Forum	

We shall be issuing a booking letter shortly to members and hope you will be inviting designers, construction engineers, architects and facility managers with whom you have close contact. We will also be sending out a flyer to previous external attendees at our conferences and we look forward to an enjoyable and stimulating meeting. For convenience a copy of the booking form is also on the following page.

If any member would like copies of the "flyer" to encourage associates from other industries to attend please let the Secretariat know.

**IACSC (European Division) Annual Conference 28/29 June 2006
at the Haycock Hotel, Wansford, Peterborough**

BOOKING FORM

Please complete and return the Booking Form no later than 19 June 2006.

1. Company Name/Address

Name:
 Company:
 Address:

 Post Code:
 Tel No: Fax No:
 E-mail:

2. I wish to book the following:

Day Delegate (Name/s):
24-Hour Delegate (Name/s):
Company Stand:

3. I would like to take part in the Golf Competition: Yes No

4. If you require a vegetarian meal (evening 28 June and/or lunch 29 June) please tick the box:

5. I enclose my remittance in payment for the above reservation, totalling:
 £..... (Ex. VAT)

<i>Note:</i>	Day Delegate Fee:	£150 + VAT (Total £176.25)
	24-Hour Delegate Fee:	£300 + VAT (Total £352.50)
	Company Stand:	£350 + VAT (Total £411.25)

Post to: Executive Secretary
 IACSC (European Division)
 20 Park Street
 Princes Risborough
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“Walkability and safety of sandwich panel ceilings is not a core issue”

by Richard Price, Technical Manager, Eurobond.

The January 2006 issue of Cool Comments printed an item that had just appeared on the food industry section of the Health and Safety Executive [HSE] website. Under the headline, *Composite sandwich panels [with mineral fibre core] – safety issues*, the item implied that concerns about safety issues with walk-on access to ceiling panels [walkability] were confined to those with mineral fibre cores. To justify this it quoted a single incident investigated by the HSE and the results of the ASPAN research done to support the proposed standard prEN14509.

HSE withdrew original safety warning

The HSE was informed that the guidance in the item was unbalanced, misleading and as such could be life threatening. It was immediately removed and replaced with new balanced guidance.

This states that there is no particular risk from mineral fibre cored panels. It emphasises that care must be taken during installation and maintenance as **all** ceilings are designed for occasional access limited by manufacturer’s recommendations. The new HSE text says that manufacturer’s guidance must be followed during installation and maintenance, to include the use of independently supported walkways or load spreading boards over ceiling panels. All reference to the ASPAN research was removed.

In view of the HSE’s reaction IACSC rightly withdrew issue 15 of Cool Comments and

republished it with the new balanced and what can be considered safe guidance.

ASPAN results presentation

The current controversy can be traced back to the presentation of the ASPAN research by Emeritus Professor J Michael Davies at the PANAMA 41st General Assembly. He outlined the results of ASPAN Work Package 5: Impact Resistance Testing and linked the results to the single incident investigated by the HSE. During the presentation phrases including – “*There is real danger to life*” “*This danger is not theoretical, it is real*”- were used and many delegates saw it as an attack on the mineral fibre panel industry.

Perhaps the one positive to come from Professor Davies’s presentation is that the safety issues around access to sandwich panel ceilings during installation and maintenance has moved up the agenda. The HSE have accepted that safety issues with walk-on ceiling panels had to some degree “slipped below their radar” during the introduction of new working at height regulations and a campaign to reduce falls through fragile roofs.

However it is scare mongering to suggest that there are thousands of mineral fibre ceiling panels in the UK about to collapse. It may be Professor Davies’s opinion but I believe the facts do not support this view.

Ceiling panels with foamed plastic cores have been widely used in the UK for over 25 years because they offer speed of construction, insulation, occasional access, low maintenance and flexibility. Mineral fibre ceiling panels were developed to offer a product that could give in excess of one hour fire resistance and a non combustible core. There are thousands of ceilings many with panels having a lower strength than current products, fixings and

supports that do not follow current manufacturer recommendations and the likelihood that they have been overloaded and abused over time. But still there is no evidence of any wide spread failures. The plain fact is that if a ceiling panel of any core construction is not properly installed and then abused there will be a consequence and maybe a risk of collapse. The same would apply to virtually any other building component or system.



Typical abuse to ceiling panels from leaks and spills

Remember a ceiling is a ceiling and not a floor!

The one reported incident

Much of Professor Davies's comments on mineral fibre follow the **one** incident investigated by the HSE. The case is still subject to possible prosecution by the HSE so I cannot be too specific. However the ceiling panels involved did have a mineral fibre core and were many years old. The ceiling sat on 33mm x 33mm x 1.8mm aluminium angles. These angles were only fixed to the face of the wall panels, in some cases only two 3mm rivets secured the angle to the wall. Some of the rivets were badly placed and had in fact sheared or were missing. The method of supporting the ceiling panels was not in line with the IACSC

guidelines. The HSE investigation on the cause of the collapse has focused on inadequate structural design and fixings, failures in maintenance and failures in safe working practices – not a failure of the mineral fibre cored panel.

The ASPAN research and prEN14509

The ASPAN research was done to support the proposed standard prEN14509, which is a product standard aimed at the manufacturer. As I said earlier in this article, a product standard cannot concern itself with the way that the product is used in end-use application. Nevertheless, in the proposed standard the drafters do address walkability in notes to clause 5.2.3.2. These notes are:

Note1. The span capabilities of a ceiling panel and support system should be checked before access is allowed.

Note 2. Ceiling panels are generally unsuitable for regular foot traffic.

Note 3. Panels should be protected when used on regular walking routes or working areas both during installation and in end use. For maintenance purposes, only one person at a time should be allowed to walk on a panel.

For applications where there will be more frequent access than occasional foot traffic the standard describes a test procedure in A.9.2 .

So far so good for the standard with clear notes on the limits to walkability and a test procedure – albeit a small scale test with obvious limitations on how the results can be applied to predict the failure modes of full scale ceiling structures loaded, supported and fixed in an infinite number of different ways.

Following on from this I am not clear why the ASPAN team spent a lot of time and public EU money to develop what I view as questionable tests to look for problems when a product is abused and used for something the standard specifically states it was not designed to do. Ceiling panels are for ceilings with limited and occasional access – they are not load bearing floors. The only obvious result is to provide quasi-scientific evidence for the foam plastic industry to attack the mineral fibre industry.

Looking at the ASPAN results in more detail

For whatever reason, the public availability of the ASPAN report was delayed for about one year, and this prevented rigorous and timely discussion. I am not aware of the results having been subject to detailed peer review. On reading the section of the ASPAN Final Report July 2004 on impact resistance testing it raises many questions. I will raise just four questions that I think casts doubt on the results.

1. What mineral fibre cored panels were tested by ASPAN?

It is not clear at all. The only description of a slab stock mineral wool panel says it was 60mm thickness. No detail of facing thickness, manufacturing method nor grade of mineral fibre. There is no mention if it is a specific ceiling panel. All the report says is that the same types of panels were used throughout the various tests. Mineral fibre cored ceiling panels manufactured by Eurobond and other manufactures differ from wall panels. Ceiling panels have a thicker steel top face, the top glue line is thicker and stronger and a grade of mineral fibre with increased compressive, tensile and shear strength properties is used. If ASPAN used the same panels for all tests, some inappropriate panels were certainly used.

2. What mineral fibre was used for the core?

The tests report dramatically high tensile strengths for mineral fibre of 358 KPa [ASPAN final report page 102] and 413KPa [ASPAN final report page 99]. These are 3 to 4 times higher than any mineral fibre product known to Eurobond and Rockwool. So just what was being tested?

3. Why is there no explanation of anomalous results?

There are many unexplained anomalous results. For example the tensile strength of one mineral fibre panel decreases by 73% after 40 impacts and then increases over threefold to near start value after 1200 impacts. [ASPAN final report page 99]. Professor Davies describes the failure mechanism as brittle fracture in compression of the fibres below the high load cause by the heel impact – so what was happening in this test? There is no attempt to explain the anomalous results and combined with the very limited number of tests carried out it would be irresponsible to read too much into conclusions of the ASPAN work.

4. Was the test method representative?

Ceiling panels usually span 6m plus and their flexibility helps to absorb impact loads by elastic deformation. In the ASPAN tests the panels were rigidly fixed to supports at 1m centres. This is not representative of the way panels would be fixed on ceilings.

Eurobond approach to walkability testing

Eurobond has always recognised the need to test the walkability of its ceiling panels so that it can give safe recommendations for the installation, maintenance and access. Over the years it has manufactured and tested panels

with foamed plastic and mineral fibre cores. Small-scale tests can be used to determine panel tensile strength and the effect of impact loads. The test detailed in prEN14509 is typical and current Eurobond panels have passed this test.

However the question remains – How does local damage compromise the strength of a large ceiling panel and cause failure? A question that was not addressed by the ASPAN research.

Eurobond's approach has been to simply reflect the actual use and loading of a real ceiling panel. A test has been developed called the EB500 test. In this a full width panel is simply supported over a 6m span with a 450mm high step at centre span to mimic pipework above a ceiling. In the test two men, minimum 70kg weight start walking from each end and meet in the centre and step over the obstruction producing maximum load at centre span. The men continue to each end, turn and repeat for a total of 500 cycles.



EB500 test. Panel is simply supported over 6m span



EB500 test. Two men cross over 450mm high step at mid span

Having completed the 500 cycles the panel is loaded at the centre until it fails. This point load is used to calculate the bending moment capacity after the test. This figure is compared with the theoretical bending moment capacity of the panel before the test based on material

constants. The panel is deemed to have passed the EB500 test if the bending moment capacity after the test is at least 80% of the theoretical untested capacity.

Eurobond regularly tests samples of its production panels and has tested several other manufacturer's ceiling panels with both mineral fibre and polyisocyanurate plastic foam [PIR] cores. We have also tested the effectiveness of protecting the surface with plywood.

So what were the results?

- All correctly specified ceiling panels comfortably pass the EB 500 test
- The bending moment capacity of the panel

after the test generally exceeds the theoretical bending moment capacity

- Using plywood to protect the surface from heel impacts is extremely effective. Even after 3000 passes there is no visible damage to the panels.
- PIR is less susceptible to impact damage.

The end result of the full-scale tests is that Eurobond has great confidence in its recommendations for installation of mineral fibre core panels for ceiling panels with occasional access.

Eurobond approach to safety

The erection of insulated panel ceilings or subsequent maintenance and access operations come under health and safety law and this requires hazards to be identified and, where possible, eliminated. Any residual risks should be assessed and safe systems of work developed to minimise them. Having a safe system of work when undertaking work on a ceiling is a legal duty and should be a co-operative effort between Client, Contractor and Designer.

Eurobond provides detail guidance to designers, contractors and the building occupier. This covers the following areas:

- Controlling access to, and movement over the ceiling
- Provision of access to maintain the ceiling
- Design and installation of the ceiling
- Post construction maintenance

In addition Eurobond has written a *Best Practice Guide for work on ceilings constructed with steel faced insulated composite panels*. This is a source of

essential information for all involved with working on insulated panel ceilings during construction or subsequent maintenance and access operations. It draws on existing good practice, which is already being followed by informed clients, competent designers and panel installation companies. The recommendations in this document are intended to reduce the level of accidents by encouraging clients, designers and panel installers to recognise their responsibilities and co-operate, to make all working on ceilings a less hazardous occupation. It makes no reference to the type of panel core.

Editors comment: We are grateful for Eurobond's article on this contentious issue and for illuminating this subject.

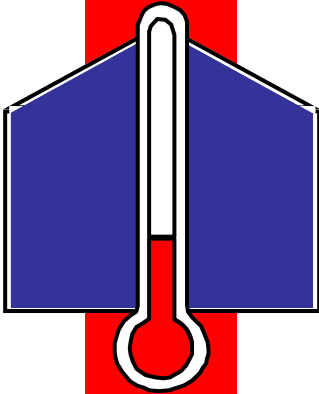
42nd General assembly of Panama International

18/19 May 2006 in Prague

For those who may wish to make a late booking, papers to be included in the programme which might whet your appetite.

- Composite Sandwich Panels-Safety Issues by Peter Jones independent consultant
- Revision of the SBI test by Silvio Messa from Italy
- Papers on the need for a large scale fire test from Mr Bjorn Sundstrom
- the request to the EC for a large scale test from Eurima

Details can be obtained by E-mail from coolpanel@skynet.be



Up and Coming Events

The list below provides an overview of the forth-coming events in 2006, which will be of interest to our members.

Readers are also asked to put in their diary that the annual IACSC conference has been scheduled for the 28th June to 29th June 2006 at the Haycock Hotel, Wansford, near Peterborough.

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UPdate

May 2006

Forty-second GA of Panama International

18 May 2006 to 19 May 2006

Prague, Czech Republic

Contact: coolpanel@skynet.be

Tax planning on construction projects

23 May 2006, Manchester

24 May 2006, London

Tel: 020 7695 1600

Email: events@rics.org

June 2006

Risk Management and Insurance in Construction

June 5

ICE, London

Tel: 020 7665 2318

Email: conferences@ice.org.uk

How does the Regulatory Reform (Fire Safety) Order 2005 affect product marketing?

8 June 2006

The Causeway Stadium, High Wycombe

Email: training@intfire.com

Tel: 01844 275500

Fire Safety Engineering Design

20 June - 22 June 2006

CIBSE HQ, London, SW12

Email: courses@mid-career-college.ac.uk

Health and Safety Awards 2006

22 June 2006

London Hilton, Park Lane, London

Tel: 0208 755 4441

MMC for Architects

Designing outside the box: understanding your role in challenging the principles of design freedom vs. modularisation

27 June 2006

Cavendish Conference Centre, London W1

Online: www.ajmmc.co.uk

Tel: 0845 056 8069

Email:

constructconferences@emap.com

2006 Planning Convention

28 June - 30 June 2006

Westminster, London

E-mail:

services@rtpiconferences.co.uk

Tel: 0845 120 9602

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