

News on the Block

Canadian Concrete Masonry Producers Association
Region 6 of the National Concrete Masonry Association
CCMPA Building Strength

Issue # 3 for 2016
Published quarterly

Welcome to the third issue of News on the Block. We welcome your feedback and story suggestions — please send them to: info@ccmpa.ca.

CCMPA May newspaper ad

Finding Fault after Fire

While Fort McMurray has put the fear of fire front and centre in the minds of Canadians, the fact is that fire, both natural and man-made, wreaks havoc all the time across the country. A couple of months ago, a house fire in Calgary killed five people. A White Rock, B.C. blaze flattened an apartment building under construction — thankfully, no one was hurt, though 70 units were destroyed. In February, a fire in a Toronto Community Housing complex killed four people.

The Toronto fire, however, has been different in that it has prompted Toronto Fire Services to lay charges against Toronto Community Housing (TCH). The fire department learned there was combustible material — two synthetic, highly flammable chairs — in the fifth-floor hallway where the blaze started. The chairs were not supposed to be there. Many residents also smoked in common areas.

Further, the building is home to a large number of seniors, but wasn't legally designated a seniors' residence. The fire department has charged that staff there were not properly trained in fire safety.

TCH is contesting the charges, which carry a potential fine of $100,000.

While it's not unheard of, it is unusual for fire services to point a legislative finger in this way. It raises questions — once again — about who's at fault when a building catches fire.

And we're not talking about an act of God, as in Fort McMurray. (We won't get into climate change and El Niño — that's a conversation for another day.)

We're talking about where the onus lies when a seemingly controllable fire burns out of control.

For example… Last year, in Edgewater, New Jersey, a luxury condo residence caught fire. A couple of workers had been doing some plumbing and their blowtorch got out of hand. Unfortunately, they called their supervisor when they probably should have called 9-1-1.

That delay in calling fire services is cited as a key cause of the fire. But how did it end up a five-alarm inferno? One that destroyed the building, forced the evacuation of thousands of people in the area, and left 1,000 residents homeless? It's a miracle no one was killed.

Media footage of the blaze showed blackened walls caving in under fire hoses like charred paper. The images bring to mind one word: *combustible.*

It's common knowledge that the combustibility of modern, lightweight building materials contributes to the intensity and speed of fires today. And as experiences like Edgewater show, sprinklers alone often are not enough to stop fires from ripping through these new buildings. These structures meet all the latest building codes, yet can be razed to the ground.

In the same vein, the TCH facility also was built to code — the Ontario Building Code; however, it pre-dated 2007 legislative changes mandating sprinklers. While more sprinklers in the building might possibly have saved lives and reduced the damage, the fire's tragic outcome makes one wonder about the flammability of the structure.

We live in an age when there is a growing emphasis on transparency and accountability. When a tragedy like fire strikes, those affected are much less willing to quietly grin and bear it. Often, they take action. They post on social media. They circulate petitions. They lobby for legislative change. They launch lawsuits.

This cultural shift is one reason why those of us in the construction industry — including those who draft building codes — need to take safety-related factors like fire into greater account.

Another reason is the impact of fire on hard costs like insurance.

Comparing concrete with wood, for instance, a recent study from the Concrete Council of Canada shows that in addition to fire insurance being 7 to 11 times higher for wood structures, builders' risk insurance is higher.

And that's aside from factors such as moisture damage and the effects of climate change; the study points out that payouts from extreme weather have more than doubled every 5 to 10 years since the 1980s, and "are now a leading cause of property insurance claims."

Combustible materials. Higher insurance costs. And a population that is empowered and less willing to take perceived negligence sitting down.

These are the dynamics impacting today's construction market.

As a result, those of us in this market need to be ready to meet higher standards of quality, safety, and accountability. If, for example, we knowingly build structures that cost more in insurance, isn't it logical to think that we might be aware those buildings pose a greater safety risk — and that we could be held responsible for consequent damage or injury?

More and more, whether it's fire services taking a property manager to task over a regulatory breach, as in the case of TCH, or residents banding together to launch a class-action lawsuit against a developer, as in the case of Edgewater, New Jersey, those ultimately responsible for building safety — the owners and builders — will indeed be held responsible.

FIRE INTRUSION MOLD INSECT

Learn more about the benefits and safety of building with concrete block.
www.ccmpa.ca

Contact the Canadian Concrete Masonry Producers Association.
info@ccmpa.ca

CCMPA's most recent ad, pictured to the left, focuses on the safety advantages of using concrete block. Particularly when it comes to fire. As we within the association know the safety benefits of using block are numerous. It's this message that needs to be continually messaged to the consumer.

Feedback and suggestions for future ads are welcome: info@ccmpa.ca.

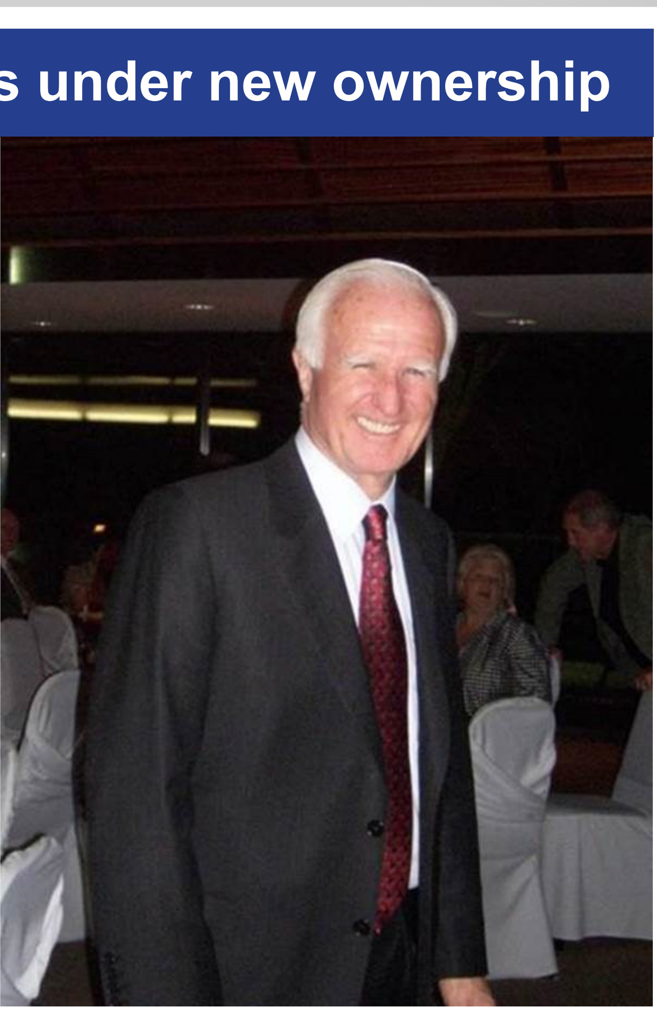
13th Canadian Masonry Symposium

Written by CMDC Staff:
Bennett Banting, Ph.D., P.Eng.
Joe Wierzbicki, M.A.Sc., P.Eng.

CMDC staff are currently busy with organizing the 13th Canadian Masonry Symposium (CMS) to be held in Halifax, Nova Scotia on June 4-7, 2017. The CMS is a part of a series of masonry conferences which are all held on a four year cycle, alternating year to year with the International Brick and Block Masonry Conference, The North American Masonry Conference and the International Masonry Conference, respectively. Ensuring that one of the four major masonry conferences are hosted in Canada is a major boon for local industry and research talent by providing a forum to meet and exchange ideas with leading experts from around the world. Since the inaugural CMS hosted in Calgary, Alberta in 1976, the past twelve Canadian Masonry Symposia have been major international venues for the exchange of information on masonry science, engineering, architecture, construction, manufacturing, evaluation, and repair. While Canada is clearly the smallest country by population of these international venues, the past Symposia have always had a reputation of excellence, attracting strong support and international attendance.

The CMS provides us with a great opportunity to gauge what new products or innovations are being developed around the world and provides networking opportunities to help bring some of these novel advances to masonry to Canada. The 13th CMS is being jointly hosted by Dalhousie University and the Canada Masonry Design Centre with CCMPA playing a major role as our lead Platinum sponsor. We anticipate to have numerous papers that cover a range of topics related to the block industry with students and professors presenting on the recent innovations in blast resistance engineering, fire safety, earthquake engineering etc. Many of the research papers we anticipate on receiving have only been made possible through the partnership in research between CCMPA and CMDC. This symposium will serve as our first official welcome for some of our newest researchers to the masonry family with new connections with Concordia University, University of Waterloo, York University, University of Toronto and University of Alberta being welcomed to join our long list of research partners at Universities across Canada. It is our hope to make the 13th CMS a successful conference and venue to share the latest and greatest in masonry research in Canada and from around the world.

Century Concrete Products is under new ownership



Century Concrete Products is under new ownership as of August 3, 2016. With a history dating back to 1928, the firm originally named Century Concrete Vault is located in the Leaside area of Toronto. In 1953, the company's offerings expanded to include concrete blocks and the name was changed to Century Concrete Products (CCP).

Martin Stuart purchased the business in 1967, having immigrated to Canada from Scotland in 1961. In his quest to produce the finest quality materials.

After nearly 50 years of ownership and wanting to ensure the foundation and future success of the CCP, Stuart has sold the company to Peter Ntakos.

Ntakos has 30 years experience in the building trade and has successfully grown his company, Kreitmaker, by providing high quality products and reliable customer service. In addition, Ntakos has been a long-time customer of CCP.

"I look forward to meeting everyone and continuing to build on the strong foundation that Martin has created over the past 50 years. With the talented team we have in place, I feel confident that we will continue to serve with the same professionalism, customization and creative solutions that customers have come to expect from Century Concrete Products Ntakos said.

The CCP team including David Roseborough, Marc McEachnie, Cindy Wang, Chris Keast and the company's Customer Service Representatives, will all remain in place, while Linda Stuart will be available on a consulting basis.

We at CCMPA wish to thank Martin for all his contributions over the years and wish him a Long and Happy retirement.

When Will The Sawdust Settle in Building Codes?

The sawdust has not even settled from the last code cycle for the National Building Code of Canada (NBCC) and already new proposals are being placed in the hopper to further increase the height of buildings using wood materials. The difference this time is the newest proposals are to permit taller buildings when the structural system uses heavy timber members such as cross-laminated timber panels referred to in the building community as CLTs (See Figure 1). And these proposals seek to permit these buildings of CLT panels to be built in the range of twelve (12) stories, up from the present code permitted height of six (6) stories. Buildings above six stories are required by the building code to be constructed primarily of noncombustible materials for the structural frame. Suggesting that taller buildings of heavy timber wood materials will perform like similar buildings of noncombustible materials such as masonry, concrete and steel is significant.

Figure 1

As a reminder for the reader, when the Canadian Commission on Building and Fire Codes (CCBFC) completed the last update from the 2010 edition to the 2015 edition, they approved proposals that increased the code permitted height of residential and business occupancy buildings of light-frame wood construction from four (4) stories to six (6) stories. The justifications given for these increases included what was referred to as "compensatory measures" that enhanced the fire safety features of the buildings. With the added fire safety value the light-frame wood buildings would of similar risk at two stories higher as that of buildings of noncombustible construction like load-bearing masonry and hollow core floors. Some of the "compensatory measures" were:

- Limiting the roof height
- Expanding sprinkler protection to balconies and within concealed combustible spaces
- Providing fire department access to 25% of the building perimeter, and
- Providing longer running time for emergency power sources serving exit lighting, markings and fire alarms.

Though written comments were submitted by some in the building community, including the fire service and CCMPA, that questioned the true fire safety added value of these measures, the Commission approved the 2-story building height increases.

With the start of the code development cycle for the 2020 edition of the NBCC, the Canadian Wood Council (CWC) has submitted a series of code chance proposals to increase the height of heavy timber buildings up to twelve (12) stories. Like the 6-story light-frame wood proposals, the proposals focus on height increases for business and residential occupancy buildings. CWC's counterpart in the United States, the American Wood Council (AWC), submitted a similar proposal for taller CLT buildings to the International Building Code (IBC) in 2015 except that the proposal limited the building type to only residential construction and only 9-stories. During the IBC code hearings on the proposal the discussion showed more technical documentation and justification was needed before such a change should be approved. The concept in the US has been referred to a newly formed AD-Hoc Committee on Tall Wood Buildings by the International Code Council (ICC). The ICC is responsible for the development of the IBC.

The Table shows a brief summary and comparison of the CWC proposals for the NBCC and the AWC proposal for the IBC. From the table you can see the proposals would require the structural frame of the CLT building (i.e. load-bearings walls and floors/roofs) to have a 2-hour fire resistance rating. In addition to this fire resistance rating, the interior surfaces of the CLT panels are required to be covered by fire rated gypsum board. Covering the wood would become a new term in the building code to be called "encapsulation". Encapsulation serves several purposes. One, it would minimize the potential for the wood to contribute to a fire event within a room of the CLT building. And two, the encapsulation reduces the effects a fire in a room would have on the CLT member.

FEATURE	NBCC	IBC
No. of Stories	12	9
Occupancy	Residential and Business	Residential
Structural Fire Resistance	2-hour	2-hour
"Encapsulation" See explanation	Two layers 5/8-inch Type X Gypsum Board	Two layers 5/8-inch Type X Gypsum Board
Exposed Wood Surfaces	Limited amount of exposed surface for walls and ceilings	Not Permitted

Encapsulation is a new concept to eliminate exposure between the wood surfaces of the CLT members and the room. The intent is to limit the contribution of the wood to the fire intensity within the room and reduce the effects of the fire exposure to the wood element.

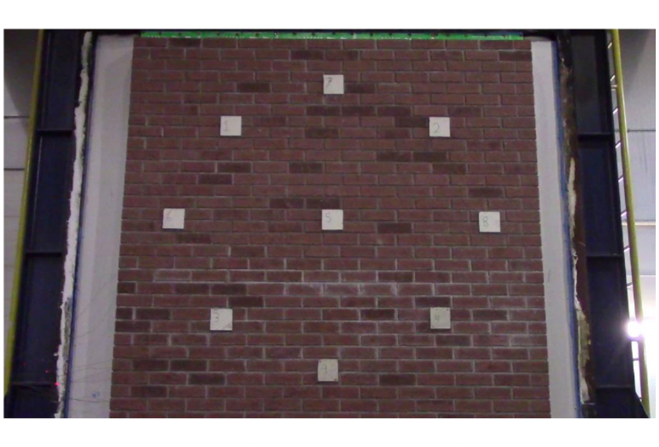
As these proposals have begun to be discussed in the technical committee meetings for the Canadian codes (and the US) it is apparent that there are many more unanswered questions that must addressed before such changes in the building code should be approved. Those questions include what fire tests have been done to document meeting fire resistances in the same manner as masonry, concrete or steel have been subjected to meet the building code? What is the technical documentation and justification that support a position that suggest a combustible material like wood, under fire conditions in a building, has the same performance as traditional, time tested noncombustible materials like masonry? What is the effect on fire conditions within a room that exposed wood structural members may have, and what new challenges do these conditions pose for the fire service who respond and place themselves at risk on floors higher above ground than previously permitted for buildings of heavy timber construction.

It is very premature to place any MT provisions in the NBCC until more testing is performed, technical data examined and proper vetting of what the appropriate provisions (if possible) should be for taller MT buildings. Hopefully the technical committees for the Commission and the Commission itself will take the time to properly evaluate these new proposals.

The Plastics, Clay Brick, and Concrete Masonry Industries Work Cooperatively on Issues of Fire

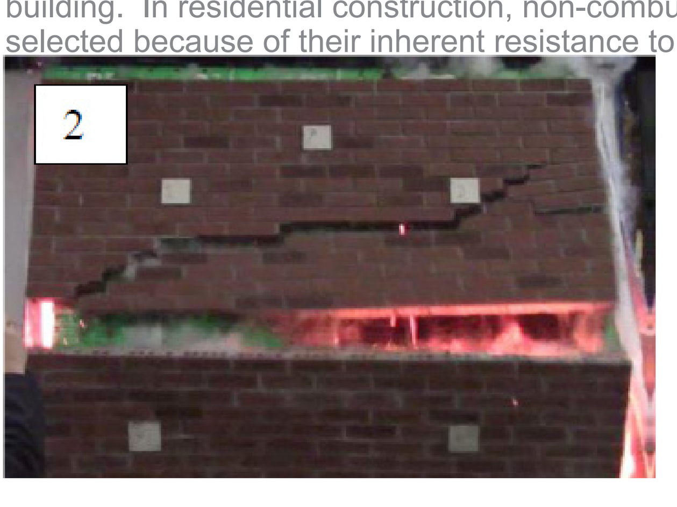
Written by: Gary Sturgeon, B.Eng., MSc., P.Eng.

Observing that fire safety and acoustics were coming to the forefront of technical issues before the various Standing Committee of the National Building Code (NBCC), the Joint Task Group (JTG) on Fire-Resistance and Sound Transmission Class Ratings was struck by the Canadian Codes Centre in the spring of 2014. It consists of a small group of Standing Committee members chosen from Part 3 (Fire), Part 5 (Environmental Separation), and Part 9 (Housing and Small Buildings) of the NBCC. Sturgeon serves on this JTG, representing Part 5.



One of its first tasks was to review various proposed changes to Tables A-9.10.3.1.A and B. These tables are prescriptive in nature. They assign fire-resistance ratings and acoustics ratings to a variety of commonly used wall and floor sections.

Among their many functions, exterior wall systems must prevent the spread of fire to adjacent structures and to other parts of the building of which they form a part. They must do so where the fire originates from the exterior or from the interior of the building. In residential construction, non-combustible claddings such as masonry are commonly selected because of their inherent resistance to fire. Depending upon the distance of the wall from the property line, a 45 min. fire-resistance rating is required for the wall system.



Proposed changes, including better descriptions for the type of insulation required to be included between the wood studs, the types of sheathing that must be used, the type of cladding, wood stud spacing, and loadbearing vs. nonloadbearing applications led to a full re-examination of the fire-resistance ratings in the 2010 NBCC stated for exterior wood stud walls both loadbearing and nonloadbearing (wall systems EW1a, EW1b, and EW1c in Table A-9.10.3.1.A). One commonly used wall system in Eastern Canada uses masonry over insulation (foam plastic) sheathing that is attached directly to the face of the wood stud backing. In particular, this wall system became a focus for the JTG. Some members proposed that this wall system indeed could not provide the required 45 min. FRR without the use of a gypsum or wood sheathing immediately beneath the foam plastic sheathing, citing the absence of test data to substantiate fire performance using only the foam sheathing, and the belief that neither the foam sheathing nor the masonry secured to wood studs by masonry ties could provide sufficient lateral resistance (bracing) against buckling of the studs (in the weak axis direction) under fire conditions. These discussions led to clarifications to EW1 walls (those which contain plastic foam sheathing) and to the development of new EW2 walls (that make use of glass fiber between the studs and plastic foam sheathing). These changes are now contained in the 2015 edition of the NBCC. EW1 and EW2 descriptions suitably identify the cladding as "masonry", permitting the use of concrete masonry, clay brick or calcium silicate units.

To demonstrate fire performance, the plastics industry, clay brick industry and the concrete masonry industries partnered to undertake direct fire-resistance testing. In January, 2016, a fire test in accordance with CAN/ULC S101 (ASTM E119) was conducted at Intertek (Vancouver) on a loadbearing wood stud wall system having fiberglass batt insulation in the stud cavity, foam plastic sheathing attached directly to the face of the wood studs, an air space, and a masonry cladding. As required, the fire source was on the interior of the wall system (the masonry was on the unexposed face). A 45 min. fire-resistance rating was achieved. A listing will be issued shortly by Intertek.

BLOK-LOK Limited First Annual Masonry Expo

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News Release:

Our extreme thank you to all those that attended our open house and BBQ. You all made it a tremendous success. It was a fabulous day as more than 150 masonry people, brick and block manufacturers, cement people, masonry contractors, general contractors, hi-rise developers, engineers, architects, specwriters, consultants, masonry school students and even some family members enjoyed a great day, beautiful weather (thank you God), good music, great food and of course some tremendous wall assemblies showing off Brick, Stone, Block and yes even Steel Stud. We were able to showcase our variety of veneer anchors, re-inforcing, weepers, peel n stick flashing, spray on air barriers, window wrapping, stone anchors, masonry cleaners and sealers, restoration anchors and more. A personal note of thanks to Sean of Daubois/Quickrete and Joan of Hilti who set up their displays to partner with us, we also want to thank Dave and Tony of Brampton Brick, Dean of Quickrete, Brian from Dow Insulation and John/Jack from Senso Building Supplies, for their donation of materials for our wall assemblies. Thanks to Tim Maxson and his young mason who did a great job in laying the brick and block wall assemblies. Kudos to the whole BLOK-LOK staff for their tireless work in preparation and tear down and clean up. Special thanks go to the coordinators of the event Anthony DiCerbo and Grant Knox who sweated anxiously night after night in preparation.

As much as this was a BLOK-LOK function, it was definitely a "masonry industry" function as you can see by the thank yous above. We came together to put on and enjoy a "Masonry Event"!

WhoooHooo see you next year!

Important announcement

Please note that Marina de Souza, CCMPA's Executive Director will be on an extended leave starting October 3rd, 2016. All calls and emails will be responded to in the same standard timely fashion.

Update on the National Concrete Masonry Association

Members, become apart of the NCMA community, it's a great resource. And it takes less than 5 minutes to register online.
www.ncma-community.org

SAVE THE DATE

CCMPA Christmas Luncheon
Friday, December 9th, 2016
More details to follow.
We look forward to seeing you there!

DROP US A LINE

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