

LEEDS: Canada vs. USA

To: Architects, Engineers, Builder Developers/Contractors/Owners/Fire & Building Officials



From The Masonry Advisory Council

www.masonryadvisorycouncil.org

The design of architectural structures slowly changes in style, type, social acceptance, and principles on a decade by decade basis. In the 70's it was energy efficient design and passive solar energy concepts. In the early 80's, with the interest rate of 20%, it was try to survive until '85! In the 90's it was re-interpreting successful older designs into more contemporary modern designs. In the 1st decade of the 21st century, it appears recycled or green materials will lead (or should I say LEED™) the design concerning energy and environmental usage. Visit our website and [ASK MAC](#) to assist you in designing with masonry for its energy and environmental benefits.

While much of the green dialogue has revolved around issues such as energy efficiency, water conservation and indoor air quality, one issue at the heart of sustainability has been significantly downplayed. The question- "How long will the material last?"- needs to be asked and answered in regard to any material we are going to label "green".

The answer with masonry is at least 100 years, during which virtually no maintenance (i.e., repainting or repairing) will be needed. One of the country's preeminent architects of educational facilities Christopher Huckabee, sees this issue as key to the future identification of green building materials. According to Huckabee, sustainability, by definition, cannot be evaluated unless you consider the fundamental issue of how long the materials use can be 'sustained' without repair or replacement. A material which uses a modest amount of energy and is highly efficient on a building is still not 'green' if it needs to be painted with toxic products every few years and replaced every ten. In the case of the nations' mold epidemic in schools, untold millions of dollars are being spent to replace new buildings which were not built with the right material to start with.

Canada's LEED™ program recognizes masonry's durability and sustainability for additional LEED™ credits. The USA's LEED™ program does not. Hopefully this knowledge will melt or trickle down to the lower 48.

Attributes forgotten that need to be mentioned more often:

- Concrete and masonry can stop the spread of fires.
- To provide the best protection for occupants and afford the greatest opportunity to live, ride out a fire and/or escape, the local Masonry Advisory Council always recommends that codes for buildings require a balanced design made up of four key elements:
 1. fire detection
 2. suppression
 3. education
 4. containment

Fire detection including the installation of smoke detectors and fire alarms. Active fire suppression includes the use of sprinkler systems. Education involves the fire prevention services with annual inspections (fire drills, training of personnel including occupants/building owners). Finally, the fourth element is fire containment. Fire containment includes, fire barriers, firewalls, exterior walls, floors and roofs of noncombustible fire resistant materials such as concrete and masonry.

Masonry walls can reduce or eliminate the spread of fire and provides precious additional protection and time for occupants to exit or ride out a fire. But today, new model building codes and fire codes have strayed significantly from the discussed balanced design approach to fire safety. The public and design professional should know about this dilution of fire safety and demand redundancy in fire safety. You should never trade off compartmentation or detection for just suppression. Fire safety involves two types of systems—active and passive. Compartmentation is built into a structure, suppression and detection systems can be deactivated, or not properly maintained.

What we do need for fire safety in the 21st century is – Balanced Design!