

CODE WATCH

NEED-TO-KNOW CODE, STANDARD AND REGULATORY UPDATES



THE BASELINE ENERGY CODE, ASHRAE 90.1-2019, WAS PUBLISHED IN OCTOBER 2019. THE INTERNATIONAL ENERGY CONSERVATION CODE ALIGNED WITH ASHRAE 90.1, AND CHANGES MADE IN THE 2019 VERSION OF ASHRAE WILL ALSO GO INTO EFFECT IN THE 2021 IECC.

ENERGY

Updates to watch in ASHRAE 90.1-2019 and 2021 IECC

- Another 5 to 17 percent reduction in U-factor
- Minor adjustments to SHGC requirements, but new criteria for fixed vs. operable SHGC
- In many cases, very roughly a “zone shift” between 2016 and 2019: what was required in Zone 7 will move to Zone 6, Zone 6 to Zone 5, etc.
- New climate zone map with shifting boundaries
- Push for improved framing, warm-edge spacers, argon gas fill, and fourth surface low-emissivity coatings, while still being cost-effective and practical
- Stronger daylighting requirements, including demand for more controls and toplighting
- NOTE: Updates did not include reductions in window area.

Items to watch in the next cycle

- Increased attention to thermal bridging
- Fewer opportunities for performance trade-offs
- Envelope backstops. Envelope backstops require a minimum level of envelope performance no matter what else is added to the building for performance. They will not be in ASHRAE 90.1-2019 or 2021 IECC, but are being enacted in certain locations: New York City, Massachusetts and Washington state
- New prescriptive requirements for on-site renewable energy, including rooftop solar and BIPV.

THE ONGOING THREAT OF ACTIVE SHOOTERS AND INTRUDERS IN SCHOOLS, BUSINESSES, CHURCHES AND MORE HAS DRIVEN CODE AND STANDARD BODIES TO DEVELOP STANDARDS TO KEEP OCCUPANTS SAFE.

Security glazing standards

- No codes, standards or test methods exist specifically for active shooters or intruders. However, there are about 40 already-existing standards for security glazing—from impact standards to forced entry standards, blast standards, burglar-resistance standards and more.

Action items

In-process code and standard activities for intruders and active shooters.

- NFPA fast-tracked a standard, NFPA 3000, that identifies and ranks building hazards; provides resources for first responders to use during an incident; and offers support to communities following an event
- ASTM is working on a test standard to address mitigating armed attacks on buildings, with a focus on schools
- ICC established a committee on building safety and security, which will undertake a building code to protect building occupants from intruders, active shooters and other life-threatening hazards. Development is in early stages, and the code likely won't be finalized for 3 to 6 years
- NOTE: A key challenge in developing intruder-resistance and active-shooter building standards is lack of knowledge of full product systems.

SEVERAL CODE AND STANDARD BODIES DICTATE FIRE-RATED GLAZING REQUIREMENTS: THE INTERNATIONAL CODE COUNCIL'S INTERNATIONAL BUILDING CODE, ICC INTERNATIONAL FIRE CODE AND ICC INTERNATIONAL EXISTING BUILDING CODE. ANOTHER CODE TO WATCH IS THE NATIONAL FIRE PROTECTION ASSOCIATION'S LIFE SAFETY CODE, NFPA 101.

Most common test standards

- ASTM E119, the fire-resistance test
- NFPA 80 installation and maintenance standard for fire doors and other opening protectives
- NFPA 252 fire-rated door test
- NFPA 257 fire-rated window test.

New fire-rated code developments to watch

- Approval to use all-wood construction up to 18 stories, opening the door for timber curtain wall in taller structures
- Removal of sprinkler variances. Glass industry code advocates have worked with a number of industries for more than 10 years to rewrite IBC 703.4, removing sprinklers as an alternative methodology to fire-rated building materials. In order to permit sprinklers as an alternative, owners must receive express permission from the authority having jurisdiction.

CODE WATCH

BETWEEN 365 AND 988 MILLION BIRDS ARE KILLED EVERY YEAR IN THE UNITED STATES DUE TO COLLISIONS WITH GLASS; IN CANADA, THE ESTIMATE IS 16 TO 42 MILLION. MOVES TO ADDRESS THE PROBLEM ARE COMING FROM REGULATIONS, CERTIFICATIONS AND THE COURTS.

Bird-safe regulations

- Jurisdictions in California, Illinois, Maryland, Minnesota, Michigan, New York, Oregon and Washington have adopted some form of bird glass regulations, voluntary or required
- In Canada, requirements are in effect in British Columbia, Calgary and Ontario
- Cities including Toronto and San Francisco have created bird-friendly codes
- The Canadian Standards Association published a bird-friendly glass standard for new and existing buildings
- In the U.S., the proposed Federal Bird-Safe Buildings Act would require bird-safe glass for GSA projects.

Green codes

- Green certification programs are also driving demand for bird-friendly design. The U.S. Green Building Council's Leadership in Energy and Environmental Design program includes Pilot Credit 55 for the use of glass with bird-friendly patterns.

Lawsuits

- Lawsuits over bird deaths are also becoming a greater concern, particularly in Canada. In several high-profile cases, owners have been sued for violating the Environmental Protection Act and the Species at Risk Act.

FOR DETAILED INFORMATION ON CODE, STANDARD AND REGULATORY UPDATES, LOOK TO THE FOLLOWING RESOURCES.

GLASSDOCS

glassdocs.com/codes-standards

I-CODES, INTERNATIONAL CODE COUNCIL

iccsafe.org

ASTM INTERNATIONAL

astm.org

NATIONAL FIRE PROTECTION ASSOCIATION

nfpa.org

ASHRAE

ashrae.org

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