


thirsty THURSDAY
Quench your thirst for knowledge!

Code Regulations for Existing Buildings



Thom Zaremba
Roetzel & Andress
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Standards for Laminated Glass
Dec 9, 2021 at 1 pm ET | Zoom


NGA Glass Conference: Long Beach
Jan 24-26, 2022 | Long Beach, CA


BEC Conference
Mar 27-29, 2022 | Nashville, TN

GPAD | Glass Processing Automation Days
Mar 29-30, 2022 | Nashville, TN

1







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glass.org/nga-glass-conference-long-beach

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2



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4



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5



What Comes After the Champlain Tower Collapse?

Source: Amy Beth Bennett/South Florida Sun-Sentinel via AP -<https://www.hawaiinewsnow.com/2021/06/24/multi-story-building-near-miami-has-partially-collapsed-authorities-say/>



6

On June 24, 2021, Champlain South Tower collapsed in Surfside, Florida, killing 98 people.

The National Institute of Standards & Technology (NIST) immediately began an investigation.

So far, a total of five other buildings have been evacuated in Florida due to safety concerns.



With the sudden collapse of Champlain Towers South, many residents of other condo complexes in South Florida have raised questions about the safety of their buildings, and political leaders have ordered audits of older structures.

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7

Where Does the Authority of Building Code Officials Begin and End?

Typically, the authority of building code officials ***begins*** with the submission of construction drawings – and ***ends*** when a ***Certificate of Occupancy*** is issued after inspections are complete.



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Source: <https://spectrum.ieee.org/nsf-surfside-investigation>

8

Is Florida the Same?

- **Yes and No.** Because of **two** Florida construction disasters **before** the Champlain Tower collapse, Florida's Building Codes are somewhat different.
- **First**, on March 27, 1981, the Harbor Cay Condominiums in Cocoa Beach, Florida collapsed due to numerous construction errors that deviated from approved construction drawings.
- This resulted in the addition of a "**threshold inspection law**" to Florida's Building Codes.
- Florida's "threshold inspection law" requires all structural elements of large occupancy buildings (500 or more) to be inspected by a **third-party** "threshold inspector" to ensure compliance with approved construction drawings and Florida's building codes.
- However, once everything is built, **nothing in Florida's "threshold law" extends the authority of the Building Code Officials past the issuance of the Certificate of Occupancy.**



Source: <http://retronewser.com/2021/03/27/11-killed-27-injured-in-harbor-cay-condominium-collapse/>

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9

Is Florida the Same?



- Florida's **second** defining event occurred on August 24, 1992, when Hurricane Andrew struck, destroying more than 25,000 homes:

"Hurricane Andrew revealed loopholes in the building code and exposed lax enforcement ... [It] forced a reckoning that resulted in Florida enacting some of the **toughest storm-specific building codes** in the United States"

- Bryan Norcross interview with the *Washington Post*, 2017

- Although Hurricane Andrew resulted in significant increases in the stringency of storm-specific building code requirements, it did **nothing** to require post-occupancy building inspections.
- Miami-Dade and Broward Counties in Florida are the only places I know that require 40-year recertification inspections.

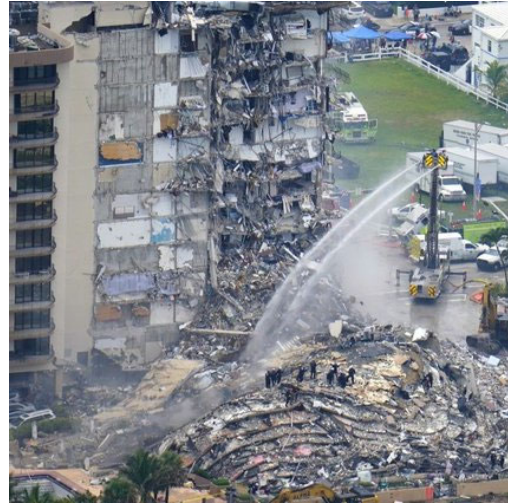
<https://www.wlrn.org/aftermath/2017-08-20/hurricane-andrew-25-years-later-driving-through-the-destruction>

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10

What's Next?

No one knows for sure, but ***recertification inspections***, coupled with specific compliance periods and potential penalties for non-compliance, seem likely.



Source: AP - <https://www.scmp.com/news/world/united-states-canada/article/3138861/what-made-12-storey-florida-condominium-collapse>

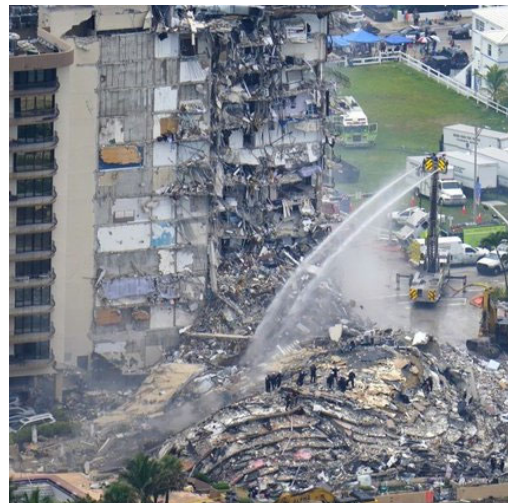
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11

What's Next?

The Florida Bar Association created a task force to develop proposed legislation to address the Surfside collapse.

It has issued its report:



Source: AP - <https://www.scmp.com/news/world/united-states-canada/article/3138861/what-made-12-storey-florida-condominium-collapse>

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12

Florida Bar Association Recommendations:

Regular inspections. Only two Florida counties — Miami-Dade and Broward — require local officials to recertify that a building is safe, and that provision applies only after a building reaches 40 years old. But Florida has more than 1.5 million residential condos, and of those, nearly 600,000 are at least 40 years old, with an estimated 2 million people living in condos 30 years or older. In other words, a big universe of Floridians live in these aging buildings. The Bar task force recommends structural inspections every five years. That should provide timely notice of any significant deterioration and give condo associations time to budget for repairs.

Strengthening reserves. Condos typically fund major repair projects by using reserves or levying a special assessment on property owners. But existing loopholes allow condo associations to waive or reduce their reserves, which may be more financially palatable to residents but which can defer much-needed repairs. The task force recommends tightening the law to provide more money for long-term maintenance. And it would make it easier for condo associations to adopt assessments or to borrow money for major repairs, which could fund essential rehab projects and prolong the life of a building.

Increase transparency. The Bar task force would also increase transparency so that condo boards, residents and government building officials would all be more informed about the structural integrity of a building and the plan for keeping it safe. Florida law currently has no requirement for reporting and tracking a condo's maintenance records. The task force recommends a standard template for inspection records and more document-sharing between local governments, condo associations and property owners and buyers. Having more eyes on the state of these buildings, and in real time, could keep more needed repairs from falling through the cracks.



<https://www.tampabay.com/opinion/2021/10/21/after-surfside-building-collapse-a-needed-focus-on-condo-safety-editorial/?outputType=amp>

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13

BREAKING NEWS from Architects & Engineers Task Force:

These recommendations come from a TASK FORCE of seven of the state's leading engineering and architecture associations ...

1. the Florida Engineering Society
2. the American Council of Engineering Companies of Florida.
3. Florida Structural Engineers Association and
4. the American Society of Civil Engineers
5. the International Concrete Repair Institute
6. the Building Officials Association of Florida.

Florida should require nearly all large buildings be inspected for structural problems within their first 30 years, **with follow-ups every 10 years**, according to recommendations by the state's engineering associations made in the wake of the Surfside condominium collapse.

For buildings **within three miles of saltwater**, such as the beachside Champlain Towers South that suddenly collapsed in June, inspections should be done within the first 20 years of occupancy, **with follow-ups every seven years**.

These inspections would apply to condominiums, office buildings and other structures that exceed 10 occupants and are greater than 2,000 square feet that are covered by the state's building code. One- and two-family dwellings and townhouses three stories or smaller would be exempt.

Phase 1 inspections would be visual observations under the direction of a licensed professional engineer or architect. At a minimum, they would include random inspections of garages, pool decks, roof parapets, common areas and accessible exterior areas of the structure, including at least 33 percent of the balconies and handrails.

If structural distress is found during Phase 1, a Phase 2 inspection would be done by an experienced engineer or architect. The inspection would be far more thorough and potentially include destructive testing and the use of outside specialists.

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14

If Building Codes Don't Apply, What Code Governs Changes to Existing Buildings?



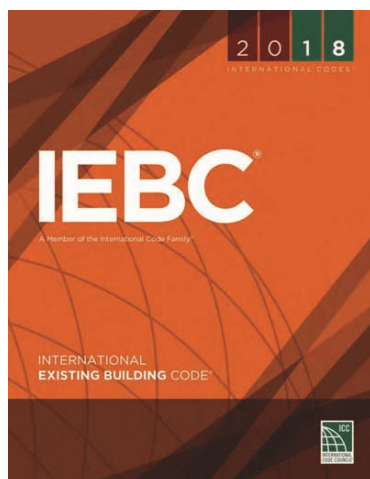
The ***Existing Building Code*** governs construction changes to existing buildings. ***Sometimes they require changes to be constructed to current code - but sometimes they don't.***

Source: Lynne Sladky, AP - <https://www.npr.org/sections/live-updates-miami-area-condo-collapse/2021/06/30/1011918032/champlain-towers-condo-board-hires-a-crisis-pr-firm-after-the-surfside-collapse>



15

IEBC Chapter 4: Repairs



SECTION 402 BUILDING ELEMENTS AND MATERIALS

402.1 Glazing in hazardous locations. Replacement glazing in hazardous locations shall comply with the safety glazing requirements of the *International Building Code* or *International Residential Code* as applicable.

Exception: Glass block walls, louvered windows and jalousies repaired with like materials.

SECTION 403 FIRE PROTECTION

403.1 General. *Repairs* shall be done in a manner that maintains the level of fire protection provided.

SECTION 404 MEANS OF EGRESS

404.1 General. *Repairs* shall be done in a manner that maintains the level of protection provided for the means of egress.



16

Although they vary by jurisdiction, the *International Existing Building Code* classifies work on existing buildings as:



- **Repairs** - less than “substantial structural damage” may be restored to predamage condition.

- **1. Prescriptive Path** – the first of three work area methodologies.

- **2. Work Area Alterations:**

- Alteration **Level 1** – remove and replace existing materials, equipment, fixtures etc.
- Alteration **Level 2** – reconfiguration or addition of doors, windows, systems or fixtures changing <50% of the building area – may/may not require upgrade to current code.
- Alteration **Level 3** – changing >50% of the building area – likely upgrade to current code.

- **3. Performance Path** – engineering analysis scoring 19 separate parameters may/may not need upgrades to current code.

Changing Occupancy – must have a new Certificate of Occupancy.

Additions to Existing Buildings – must be built to meet current code.

Source: AP - <https://www.scmp.com/news/world/united-states-canada/article/3138861/what-made-12-storey-florida-condominium-collapse>



17

What Does This Mean for the Glass & Glazing Industry?

- As tragedies tend to propel changes to our building codes, the consequences of **climate change** (fires, floods and drought) can all be as tragic as a building collapse.
- “An intensive push to improve energy efficiency in buildings throughout the United States could prevent 1,800 to 3,600 premature deaths every year, according to a new modeling study.” - <https://www.anthropocenemagazine.org/2021/08/researchers-calculated-how-many-lives-energy-efficient-buildings-could-save/>
- Buildings account for approximately 40% of the energy consumed in the United States.
- Windows built of **monolithic glass in metal frames** were very common before 1960 – these types of windows are horribly **energy inefficient** – but can last for **100 years** or more.
- 70% of all buildings in at least 30 Cities throughout the United States were built before 1960.
- Insulating glass units lose argon/gas fills over time and seals can fail in +/- 25-30 years.
- **Should post-occupancy inspections include window condition and energy loss????**



18

Report of the Florida Bar Condominium Law and Policy Life Safety Advisory Task Force, October 2021

<https://tinyurl.com/FLCondoTaskGroup>

Left to Rot: Collapsed Condo Born of Botched Construction and Evidence of Money Laundering

<https://tinyurl.com/LefttoRot>

Surfside Condo Path to Collapse

<https://tinyurl.com/SurfsideCondo>



19



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QUESTIONS?

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20