



## Structural Fiberboard Meets Building Code Requirements for Continuous Sheathing

BEGINNING in the 1970s, the various regional building codes set forth methods and materials to brace residential and light frame building wall lines to resist racking forces caused by lateral loads from wind or seismic happenings. These prescriptive, or how-to, methods generally require a bracing panel (or braced wall segment) 48 inches wide and fastened properly, at each end of the wall line, and an additional panel or panels spaced no more than 25 feet on-center. Usually, no engineering is required because the structural wall bracing solution is clearly spelled out. Where an engineered design is required, however, provisions for structural fiberboard in the International Building Code are referenced.

In recent years, prescriptive bracing has been referred to as “Intermittent Bracing Requirements”. In the 2012 International Residential Code (IRC) intermittent bracing requirements are addressed beginning at **Section R602.10.4 Construction methods for braced wall panels**. Structural fiberboard sheathing (SFB) is an acceptable method for intermittent bracing in **Table R602.10.4 Bracing Methods** under SFB. Construction requirements and adjustments based on wind speed and seismic design category are found in **Tables R602.10.3(1), (2), (3), and (4)**.

CONTINUOUS SHEATHING methods require that all framed areas of a braced wall line be fully sheathed on one side. This includes areas that are above and below openings and gable end walls. This is an alternative bracing method to the traditional how-to method discussed above. By requiring more structural sheathing, the continuous sheathing method provides greater resistance to lateral loads.

Additionally, the perpendicular walls at the corners provide sufficient overturning resistance, resulting in improved performance of the structure. Further, this method allows more design flexibility by permitting a reduction in the total length of full-height bracing segments on a given wall, and by allowing segment height-to-width ratios as narrow as 4:1, depending on the height of an adjacent opening.

Structural fiberboard is clearly acceptable for continuous sheathing in **Table R602.10.4 Bracing Methods**, under CS-SFB, where fastener type and spacing are specified. Continuous sheathing construction is detailed beginning at **Section R602.10.4.2 Continuous sheathing methods**. Minimum horizontal lengths of bracing panels based on wall and adjacent opening heights are listed in **Table R602.10.5 Minimum Length of Braced Wall Panels**. For example, utilizing the CS-SFB method, 24 inches of full-height sheathing is sufficient adjacent to a 64 inch high opening on an 8 foot wall.

Wall-end requirements for continuously-sheathed braced wall lines are illustrated in **Figure R602.10.7 End Conditions for Braced Wall Lines with Continuous Sheathing**. Structural fiberboard is certainly acceptable for end and return panels when installed correctly.

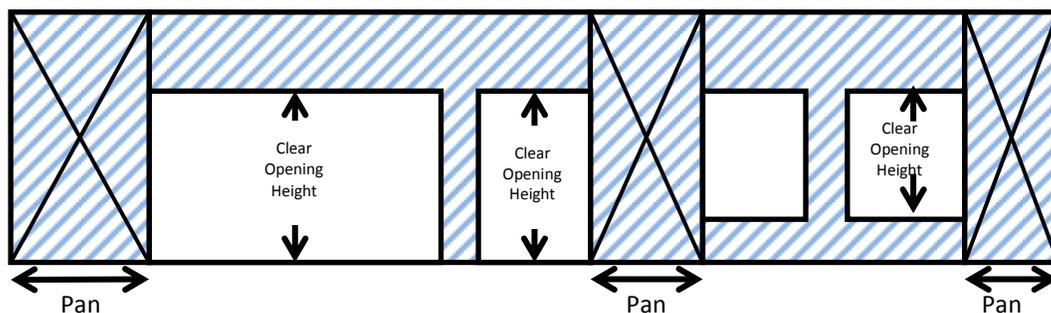
STRUCTURAL FIBERBOARD is also applicable to a third wall bracing category in the IRC. **Section R602.12 Simplified wall bracing** is an alternative to the requirements in the previous code sections, but includes a number of restrictions. These include one- and two-story structures only, 10 foot maximum wall height, wind speed areas of 90 mph or less, only A, B, and C seismic design categories, and others. Acceptability of structural fiberboard for simplified wall bracing is found in **Section R602.12.2 Sheathing materials**.

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Structural fiberboard sheathing is a fibrous panel made in North America from ligno-cellulosic fibers – usually wood. Other materials may be added during manufacture to enhance certain properties. Fiberboard is manufactured to specific product standards called out in the applicable codes. These standards are ASTM C208 (Standard for Cellulosic Fiber Insulating Board), and CAN/ULC-S706 (Standard for Wood Fibre Insulating Boards for Building). Finished panels are certified by independent testing and labeled as complying with the appropriate standard. This process is code-required for structural materials.

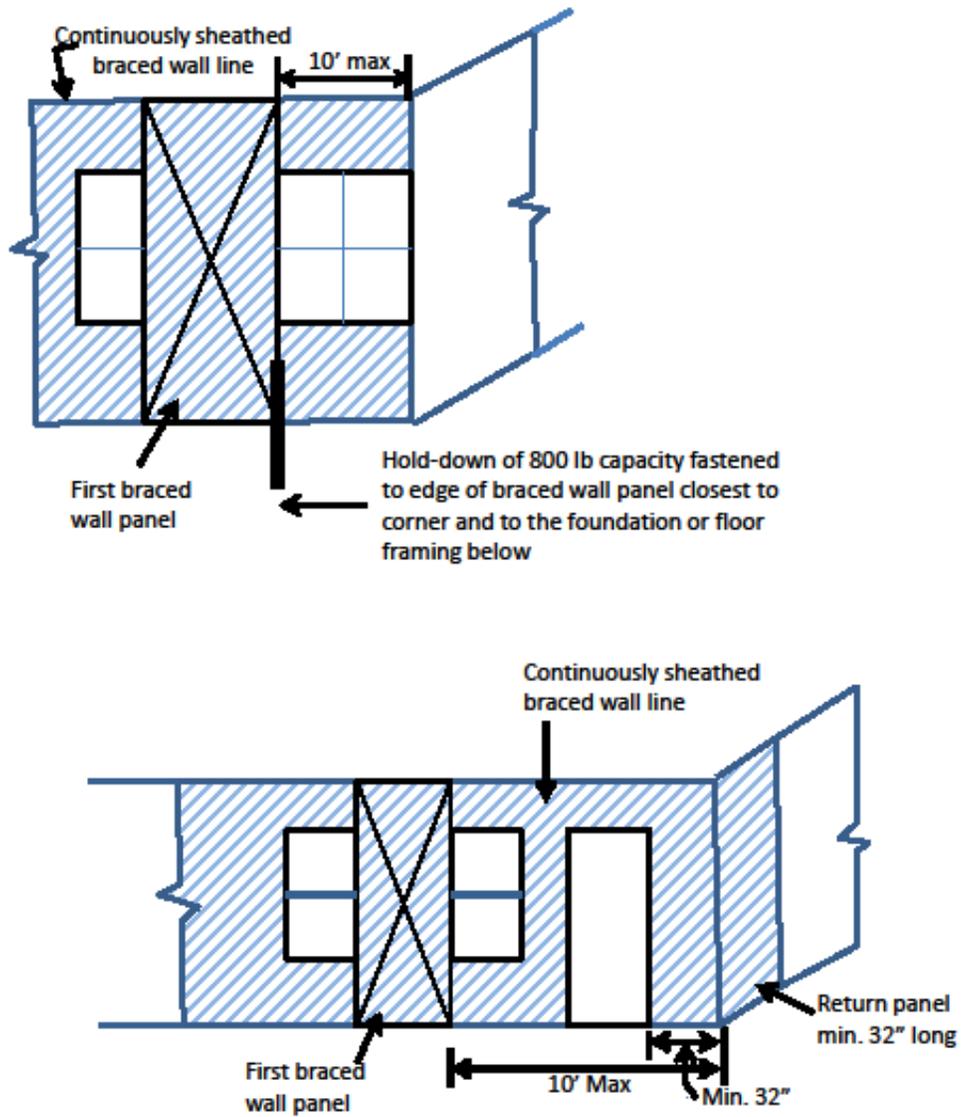
The North American Fiberboard Association (NAFA) is the manufacturers' trade association for a wide range of fiberboard products. Specific installation instructions, product sources, manufacturers, and contact information are found at the website [www.fiberboard.org](http://www.fiberboard.org).

## BRACED WALL PANELS with STRUCTURAL FIBERBOARD CONTINUOUS SHEATHING (ref. 2012 IRC Figure R602.10.5)

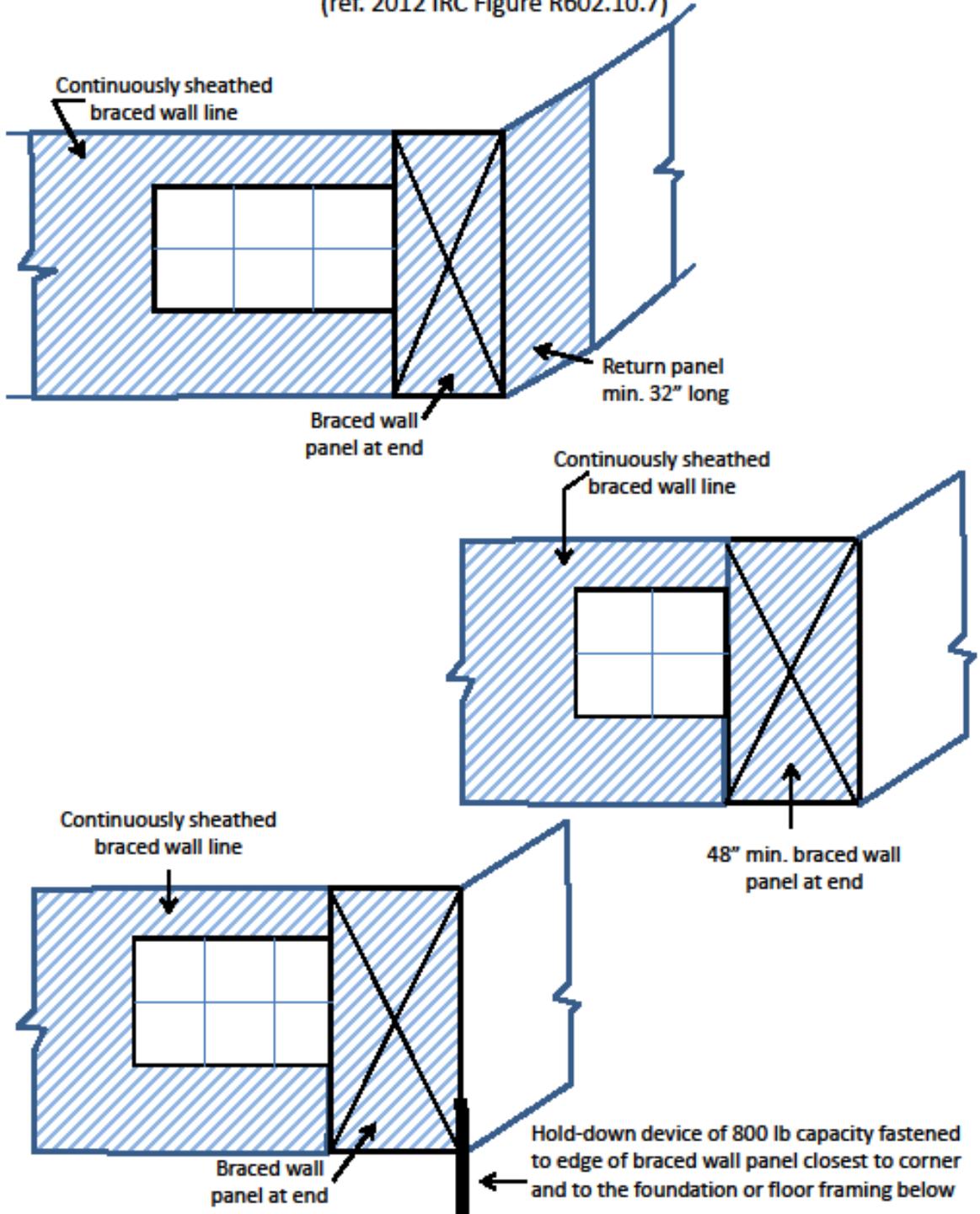


Refer to 2012 IRC Table R602.10.5 for minimum lengths of structural fiberboard braced wall panels for continuous sheathing.

# CONTINUOUS SHEATHING with STRUCTURAL FIBERBOARD WALL END CONDITIONS (ref. 2012 IRC Figure R602.10.7)



# CONTINUOUS SHEATHING with STRUCTURAL FIBERBOARD WALL END CONDITIONS (ref. 2012 IRC Figure R602.10.7)



**Structural Fiberboard Sheathing in the  
2012 International Residential Code**

<b>REQUIREMENT</b>	<b>STRUCTURAL FIBERBOARD REFERENCE</b>
<b>Acceptability &amp; Fastening</b>	Table R602.3(1), footnote h, and 35 & 36 under “Other wall sheathing”. Table R602.10.4 (SFB & CS-SFB) <i>Note: In the 2015 IRC common nails will not be a fastener option.</i>
<b>Braced Wall Panels</b>	Section R602.10.2
<b>Length of Bracing</b>	Section R602.10.3
<b>Intermittent Bracing</b>  Minimum Length  Adjustments for Wind Speed Other adjustments for wind Adjustment for Seismic Design Category Other adjustments for seismic	Section R602.10.4 Table R602.10.4 (SFB)  Section R602.10.5 Table R602.10.5 (SFB) Table R602.10.3(1) (SFB) Table R602.10.3(2) (All methods & SFB) Table R602.10.3(3) (SFB) Table R602.10.3(4) (All methods & SFB)
<b>Continuous Sheathing</b>  Adjustments for Wind Speed Other adjustments for wind Adjustments for Seismic Design Category Other adjustments for seismic Minimum Length  Wall End Conditions	Section R602.10.4.2 Table R602.10.4 (CS-SFB)*  Table R602.10.3(1) (CS-SFB) Table R602.10.3(2) (All methods & CS-SFB) Table R602.10.3(3) (CS-SFB)* Table R602.10.3(4) (All methods & CS-SFB) Section R 602.10.5 Table R602.10.5 (CS-SFB) Figure R602.10.5 Figure R602.10.7 (Condition 4) Section R602.10.2.2.1 (Exception 1) <i>*Based on Section R602.10.2.2.1, footnote ‘d’ in these tables is in error; i.e., CS-SFB should be allowed in Seismic D. An errata process is being pursued with the ICC.</i>
<b>Simplified Bracing</b> Materials Bracing Units Quantity  Placement	Section R 602.12 Section R 602.12.2 (Number 2) Section R 602.12.3 Section R 602.12.4 Table R602.12.4 Figure R602.12.5

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