



Ryan Schultz &lt;theoryshaw@gmail.com&gt;

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## 602.2 RE: Fire/Flame Resistant Properties of Interior Plywood

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DSPS SB Building Tech &lt;DSPSSBBuildingTech@wisconsin.gov&gt;

Fri, Sep 18, 2015 at 5:36 PM

To: Ryan Schultz &lt;ryan@openingdesign.com&gt;

Mr. Ryan Schultz,

The logic makes sense **only if you ignore the fact** that the plywood as directly installed on the inside of the wall girts is also acting as interior sheathing for that wall assembly. As interior sheathing it is only permitted by the IBC 602.2 provision to be a noncombustible material.

For your reference on the other opinions that a person in Arizona gives, you should be aware of SPS 361.03(4) in Wisconsin commercial building code. Wisconsin code officials have viewed this issue this way for over 20 years and continue that interpretation until at least the next code change.

Thank you for contacting the DSPS. I trust you find this information helpful. If the above response does not answer your question(s) or prompts an additional or follow up question(s) simply reply to this email with any additional question(s) you may have. Please contact the DSPS again if we can provide additional information or answer other Wisconsin Commercial Building Code related questions.

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**From:** Ryan Schultz [mailto:[ryan@openingdesign.com](mailto:ryan@openingdesign.com)]**Sent:** Friday, September 18, 2015 5:13 PM**To:** DSPS SB Building Tech**Subject:** Re: 602.2 RE: Fire/Flame Resistant Properties of Interior Plywood

Thank you. Would the following make sequential logic?

**"If we remove the plywood all together and it was simply exterior metal panel over horizontal metal girts with class A insulation, would it be considered non-combustible construction?"**

**"As long as the vapor retarder over the batt insulation met the interior finish provision, then yes that would be considered as noncombustible wall construction meeting code provisions."**

**Assuming we satisfy the requirements stated above, we'd have a wall that is noncombustible construction**

**If...**

**(X) = noncombustible construction...**

...would the following sequential logic make sense?

• **602.2 Types I and II.** Types I and II construction are those types of construction in which the building elements listed in Table 601 are of noncombustible materials, **except** as permitted in Section 603 and elsewhere in this code.

○ **603.1 Allowable materials.** (as allowed through the exception of section 602.2 above)

▪ **7. Interior wall and ceiling finishes (see definition below)** installed in accordance with Sections 801 and 803.

• **803.11 Application of interior finish materials to fire-resistance-rated structural elements.** Where *interior finish (see definition below)* materials are applied on walls, ceilings or structural elements required to have a *fire-resistance rating* or to be of **noncombustible construction ((X) = noncombustible construction))**, they shall comply with the provisions of this section.

○ **803.11.1 Direct attachment and furred construction.** Where walls and ceilings are required by any provision in this code to be of fire-resistance-rated or **noncombustible construction ((X) = noncombustible construction))**, the *interior finish (see definition below)* material shall be applied directly against such construction **('such construction' = noncombustible construction = (X))** or to furring strips not exceeding 1<sup>3</sup>/<sub>4</sub> inches (44 mm) applied directly against such surfaces. The intervening spaces between such furring strips shall comply with one of the following:

- 1. Be filled with material that is inorganic or non-combustible; **(the wall in question satisfies this requirement)**
- 2. Be filled with material that meets the requirements of a Class A material in accordance with Section 803.1.1 or 803.1.2; or **(the wall in question satisfies this requirement)**
- 3. Be fireblocked at a maximum of 8 feet (2438 mm) in any direction in accordance with Section 717.

○ **803.11.2 Set-out construction.**

▪ Where walls and ceilings are required to be of fire-resistance-rated or noncombustible construction **((X) = noncombustible construction))** and walls are set out or ceilings are dropped distances greater than specified in Section 803.11.1, **(does not apply - plywood is applied directly to girts)** Class A finish materials, in accordance with Section 803.1.1 or 803.1.2, shall be used except...

• where *interior finish* materials are protected on both sides by an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2,... **(does not apply)**

• or attached to noncombustible *backing (see definition below)* or furring strips installed as specified in Section 803.11.1. **(803.11.1 is satisfied)** The hangers

and assembly members of such dropped ceilings that are below the main ceiling line shall be of noncombustible materials, except that in Types III and V construction, *fire-retardant-treated wood* shall be permitted. The construction of each set-out wall shall be of fire-resistance-rated construction as required elsewhere in this code.

Thank you for indulging this. I'm only pushing the issue a little more because, as you can review in the following forum discussion, a number of code experts consider Class B plywood in this condition acceptable.

<http://www.thebuildingcodeforum.com/forum/commercial-building-codes/17405-fire-flame-resistant-properites-interior-plywood.html>

Eitherway have a good weekend.

Best, Ryan

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ryan schultz

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On Fri, Sep 18, 2015 at 4:31 PM, DSPS SB Building Tech <[DSPSSBBuildingTech@wisconsin.gov](mailto:DSPSSBBuildingTech@wisconsin.gov)> wrote:

Mr. Ryan Schultz,

As long as the vapor retarder over the batt insulation met the interior finish provision, then yes that would be considered as noncombustible wall construction meeting code provisions.

Thank you for contacting the DSPS. I trust you find this information helpful. If the above response does not answer your question(s) or prompts an additional or follow up question(s) simply reply to this email with any additional question(s) you may have. Please contact the DSPS again if we can provide additional information or answer other Wisconsin Commercial Building Code related questions.

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Thank you.

**From:** Ryan Schultz [mailto:[ryan@openingdesign.com](mailto:ryan@openingdesign.com)]  
**Sent:** Friday, September 18, 2015 3:15 PM  
**To:** DSPS SB Building Tech  
**Subject:** Re: 602.2 RE: Fire/Flame Resistant Properites of Interior Plywood

If we remove the plywood all together and it was simply exterior metal panel over horizontal metal girts with class A insulation, would it be considered *non-combustible construction*?

Thank You, Ryan

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ryan schultz

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On Fri, Sep 18, 2015 at 2:58 PM, DSPS SB Building Tech <[DSPSSBBuildingTech@wisconsin.gov](mailto:DSPSSBBuildingTech@wisconsin.gov)> wrote:

Mr. Ryan Schultz,

(In this sense, the wall in question (without the plywood), is not considered noncombustible construction, correct? Wrong, the exterior wall in Type IIB construction is always **required** to be a noncombustible material by IBC 602.2 provision.

It would need a layer of gypsum board (or other noncombustible sheathing) before this wall would be consider noncombustible construction? Would that be correct?) If installed as a wall finish material over a noncombustible interior gypsum board sheathing, then yes that plywood could be used in that location. Note that IBC 803.11.1 requirement for the interior finish material to be applied directly to the noncombustible wall (including noncombustible interior sheathing), which in your case does not show interior sheathing other than combustible plywood.

Thank you for contacting the DSPS. I trust you find this information helpful. If the above response does not answer your question(s) or prompts an additional or follow up question(s) simply reply to this email with any additional question(s) you may have. Please contact the DSPS again if we can provide additional information or answer other Wisconsin Commercial Building Code related questions.

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**From:** Ryan Schultz [mailto:[ryan@openingdesign.com](mailto:ryan@openingdesign.com)]  
**Sent:** Friday, September 18, 2015 2:17 PM  
**To:** DSPS SB Building Tech  
**Subject:** Re: 602.2 RE: Fire/Flame Resistant Properites of Interior Plywood

Sounds good. One question in green below.

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**ryan schultz**

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On Fri, Sep 18, 2015 at 1:46 PM, DSPS SB Building Tech <[DSPSSBBuildingTech@wisconsin.gov](mailto:DSPSSBBuildingTech@wisconsin.gov)> wrote:

Mr. Ryan Schultz,

The logic makes sense only if you ignore the fact that the plywood directly installed on the inside of the wall girts is an interior sheathing for that wall assembly. As an interior sheathing it is only permitted by the IBC 602.2 provision to be a noncombustible material. Being structural sheathing or non-structural sheathing is not an issue for this determination. Because your placement of plywood on the interior surface of the girts creates interior wall sheathing, that sheathing must be noncombustible. So to repeat the answer given last evening: If installed as a wall finish material over a noncombustible interior sheathing, then yes that plywood could be used in that location. Note that IBC 803.11.1 requirement for the interior finish material to be applied directly to the noncombustible wall (including noncombustible interior sheathing), which in your case does not show interior sheathing other than combustible plywood.

Thank you for contacting the DSPS. I trust you find this information helpful. If the above response does not answer your question(s) or prompts an additional or follow up question(s) simply reply to this email with any additional question(s) you may have. Please contact the DSPS again if we can provide additional information or answer other Wisconsin Commercial Building Code related questions.

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**From:** Ryan Schultz [mailto:[ryan@openingdesign.com](mailto:ryan@openingdesign.com)]  
**Sent:** Friday, September 18, 2015 11:15 AM

**To:** DSPS SB Building Tech

**Subject:** Re: 602.2 RE: Fire/Flame Resistant Properties of Interior Plywood

Thank you. Can you tell me if the following logic makes sense?

- **602.2 Types I and II.** Types I and II construction are those types of construction in which the building elements listed in Table 601 are of noncombustible materials, except as permitted in Section 603 and elsewhere in this code.

- **603.1 Allowable materials.**

- 7. *Interior wall and ceiling finishes (see definition below)* installed in accordance with Sections 801 and 803.

- **803.11 Application of interior finish materials to fire-resistance-rated structural elements.** Where *interior finish (see definition below)* materials are applied on walls, ceilings or structural elements (in this case, the horizontal girts) required to have a fire-resistance rating (does not apply) or to be of noncombustible construction (in this case, the wall is noncombustible), they shall comply with the provisions of this section.

- **803.11.1 Direct attachment and furred construction.** Where walls and ceilings are required by any provision in this code to be of fire-resistance-rated (does not apply) or noncombustible construction (in this case, the wall is noncombustible) (In this sense, the wall in question (without the plywood), is not considered noncombustible construction, correct? It would need a layer of gypsum board (or other noncombustible sheeting) before this wall would be considered noncombustible construction? Would that be correct?) the *interior finish (see definition below)* material shall be applied directly against such construction (in this case, the horizontal girts which is the noncombustible construction, as stated above) or to furring strips (does not apply) not exceeding 1<sup>3</sup>/<sub>4</sub> inches (44 mm) applied directly against such surfaces. The intervening spaces between such furring strips shall comply with one of the following:

- 1. Be filled with material that is inorganic or non-combustible; (the wall in question satisfies this requirement)
- 2. Be filled with material that meets the requirements of a Class A material in accordance with Section 803.1.1 or 803.1.2; or (the wall in question satisfies this requirement)
- 3. Be fireblocked at a maximum of 8 feet (2438 mm) in any direction in accordance with Section 717.

- **803.11.2 Set-out construction.**

- Where walls and ceilings are required to be of fire-resistance-rated (does not apply) or noncombustible construction (in this case, the wall is noncombustible) and walls are set out or ceilings are dropped distances greater than specified in Section 803.11.1, (does not apply - plywood is applied directly to girts) Class A finish materials, in accordance with Section 803.1.1 or 803.1.2, shall be used except...

- where *interior finish* materials are protected on both sides by an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2,...



(does not apply)

- or attached to noncombustible [backing \(see definition below\)](#) or furring strips installed as specified in Section 803.11.1. **(803.11.1 is satisfied)** The hangers and assembly members of such dropped ceilings that are below the main ceiling line shall be of noncombustible materials, except that in Types III and V construction, *fire-retardant-treated wood* shall be permitted. The construction of each set-out wall shall be of fire-resistance-rated construction as required elsewhere in this code.
- Definitions from IBC...
  - **INTERIOR FINISH.** *Interior finish* includes *interior wall and ceiling finish* and *interior floor finish*.
    - **INTERIOR WALL AND CEILING FINISH.** The exposed *interior surfaces* of buildings, including but not limited to: fixed or movable walls and partitions; toilet room privacy partitions; columns; ceilings; and interior wainscoting, paneling or other finish applied structurally or for decoration, acoustical correction, surface insulation, structural fire resistance or similar purposes, but not including *trim*.
      - **INTERIOR SURFACES.** Surfaces other than weather exposed surfaces.
  - **BACKING.** The wall or surface to which the veneer is secured.
    - **WALL.** A vertical element with a horizontal length-to-thickness ratio greater than three, used to enclose space.

In this case, the plywood is both exposed to the interior, and is not a weather exposed surface.

Again, the plywood is not integral to the structural capacity of the wall. It is simply hung/attached to the horizontal metal girts.

Thanks for your help.  
Ryan

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ryan schultz

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On Thu, Sep 17, 2015 at 5:21 PM, DSPS SB Building Tech <[DSPSSBBuildingTech@wisconsin.gov](mailto:DSPSSBBuildingTech@wisconsin.gov)> wrote:

Mr. Ryan Schultz,

No, not directly installed on the inside of the wall girts as shown. The IBC 602.2 provision would not permit the plywood as interior sheathing material, as the interior sheathing would need to be a noncombustible material. If installed as a wall finish material over a noncombustible interior sheathing, then yes that plywood could be used in that location. Note that IBC 803.11.1 requirement it that the interior finish material be applied directly to the

noncombustible wall, which in your case does not show interior sheathing other than combustible plywood.

Thank you for contacting the DSPS. I trust you find this information helpful. If the above response does not answer your question(s) or prompts an additional or follow up question(s) simply reply to this email with any additional question(s) you may have. Please contact the DSPS again if we can provide additional information or answer other Wisconsin Commercial Building Code related questions.

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**From:** Ryan Schultz [mailto:[ryan@openingdesign.com](mailto:ryan@openingdesign.com)]  
**Sent:** Thursday, September 17, 2015 11:53 AM  
**To:** DSPS SB Building Tech  
**Subject:** Fire/Flame Resistant Properites of Interior Plywood

Hi,

We have fully sprinklered, Construction Type 2B, A-3 (Assembly) facility in Wisconsin.

We have a non-bearing wall assembly with exterior metal panels attached to horizontal metal girts and, per [Table 601](#), it is not required to be rated.

Detail here: <https://www.dropbox.com/s/cucpnm1ceojxese/Wall%20Detail.pdf?dl=0>

Question:

If we satisfy exception (7) of [Section 603.1](#) (7. Interior wall and ceiling finishes installed in accordance with Sections 801 and 803.)

And subsequently satisfy [803.11.1](#), the plywood that is exposed to the interior can have the following flame spreads....

Exit enclosures and exit passageways = B

Corridors = B

Rooms and enclosed spaces = C

The plywood is not integral to the structural capacity of the wall. It is simply hung/attached to the horizontal metal girts.

Would this be a correct assumption?

Thank you for your Help, Ryan

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**ryan schultz**  
[ryan@openingdesign.com](mailto:ryan@openingdesign.com)



9/19/2015

Gmail - 602.2 RE: Fire/Flame Resistant Properites of Interior Plywood

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