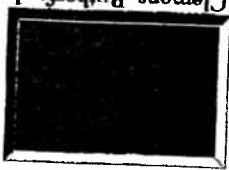


DA07-DEC-011



Clemons, Ruthertford & Associates, Inc.

Petition for Declaratory Statement

January 10, 2007

Before: Florida Building Commission

By: Clemons-Ruthertford & Associates

2027 Thomasville Road
Tallahassee, Florida 32308
Office: (850) 385-6153
Fax: (850) 386-8420

FILED, on this date, with the designated
Agency Clerk, receipt of which is hereby
acknowledged.

Miriam Snipes
Deputy Agency Clerk
Date: 1/11/07

Issue: In approving plans for Modular School Buildings (SREF), plans have been submitted that have a cement based particle-board (CBPB) in the floor design, for a Type II-B Construction classroom.
It is the plan reviewer's opinion that this CBPB must be non-combustible to comply with the Florida Building Code, Section 703.4.1.
Section 703.4.1 uses the ASTM E 136 test as the criteria for non-combustibility. It is the plan reviewer's opinion that the ASTM E 136 test can not be modified to comply with the code. To date all the materials test reports data supplied for approval have had a modified ASTM E 136 test performed.

Questions:

#1
Does the CBPB flooring element have to be non-combustible in Type IIB Construction?

#2
Does CBPB tested to ASTM E-136 with a modified ten (10) minute test comply with the Florida Building Code requirement for non-combustibility?(see attachments)

Reference: FBC Chapter 2 Definitions, Non-combustibility, FBC Section 3102.2, FBC 703.4.1, FBC 602, FBC 423.8.3

Respectfully,

Billy Tyson, CBO
CRA Codes & Standards Specialist

2027 Thomasville Road ♦ Tallahassee, Florida 32308 ♦ (850) 385.6153 ♦ fax: (850) 386.8420

Material Tested:

Supplier:

Product Description:

Specimen Dimensions:

Color:

Sample Selection:

Material Description by:

Date of Selection:

Purpose of Test:

Special Preparation:

US Architectural Products Inc.
 VERSAROC by U.S. Architectural
 Products Inc.
 Gray and beige
 Supplier
 Supplier and VTFC
 April 2004
 Combustion Characteristics
 The specimen was made up of three
 2" x 1.5" x 0.5" pieces.

Conditioning:

The specimens were conditioned according to the ASTM E136 specification.

Results:

The conditions for passing the test are as follows:

At least three of the four specimens tested exhibit:

1. Less than 50% weight loss
2. No flaming after the first 30 seconds
3. Final center and surface temperatures must be less than 30°C above the furnace starting temperature (750°C)

Sample #	Weight Before (grams)	Weight After (grams)	Final Center Temperature (deg.C)	Final Surface Temperature (deg.C)	Weight Loss (percent)	Flaming After First 30 Seconds?
1	86.4	62.9	285	722	27.2%	No
2	81.3	57.2	577	734	29.6%	No
3	82.9	60.7	378	680	26.8%	No
4	84.4	60.2	506	722	28.7%	No
Average:	83.8	60.3	437	715	28.1%	

The material provided met all passing criteria for 10 minutes as specified by ASTM E136.

Modification: The test was stopped after 10 minutes.

Neil Schultz
 Executive Director

A. Rahman
 Amrudin Rahim
 Technical Director

Oct 28 06 10:32P New Century Inc.

P. 5

WFC 800-977 REV 1.0

ALIM TIANCHENG (CANADA) LTD.

MODIFIED ASTM E136

Material Report

Supplier:

Product Description:

Specimen Dimensions:

Color:

Sample Selection:

Material Description by:

Date of Selection:

Purpose of Test:

Conditioning:

The specimens were conditioned according to the ASTM E136 specification.

Results:

The conditions for passing the test are as follows:

At least three of the four specimens tested exhibit:

1. Less than 5% weight loss

2. No flaming after the first 10 seconds

3. Final center and surface temperatures must be less than 30°C above the furnace starting temperature (750°C)

Sample #	Weight Before (grams)	Weight After (grams)	Final Center Temperature (deg.C)	Final Surface Temperature (deg.C)	Flaming After First 10 seconds?
1	107.2	91.8	496	721	No
2	108.0	64.1	522	730	No
3	109.7	67.1	487	715	No
4	109.9	87.4	500	720	No
Average	108.9	68.1	504	722	21.9

The material provided met all the passing criteria for 10 minutes as specified by ASTM E136.

MODIFICATION: The test was stopped after 10 minutes.

M. Schulte
Executive Director

A. Rabin
Amirudlan Rabin
Technical Director

REVISION 1.0: Added "Two 1.5"x2" pieces stacked together"

Test must be a min of 30 min TO

be valid. This does NOT comply

with ASTM E136.

ALIM TIANCHENG (Canada) Ltd.
Cement Board
1.5" x 1.5" x 2" (Two 1.5"x2"
pieces stacked together)
Tan
Supplier
Supplier and VFC
August 3, 2006
Combustion Characteristics

CRA Codes & Standards Specialist

Billy Tyson, CBO

Respectfully,

Reference: FBC Chapter 2 Definitions, Non-combustibility, FBC Section 3102.2, FBC 703.4.1, FBC 602, FBC 423.8.3

(See attachments)

Does a material tested, to ASTM E-136, with a modified ten (10) minute test, or modified in any way, comply with the Florida Building Code (703.4.1) requirement for non-combustibility?

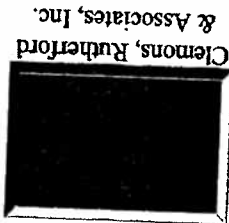
Question:

Issue: In approving plans for Modular School Buildings (SRBF), plans have been submitted that have a cement-based particleboard (CBPB) in the floor framing design, for a Type II-B Construction classroom. CBPB material must be non-combustible to comply with the Florida Building Code, Section 602.2. The Florida Building Code, 2004 Edition, Section 703.4.1 uses the ASTM E 136 test as the criteria for non-combustibility. It is the plan reviewer's opinion that an ASTM E 136 test cannot be modified and still be in compliance with the code. The ASTM E 136 test requires the tested material center to reach 750 degrees centigrade. The test reports provided were limited to ten minutes and the material cores did not reach the required 750 c. The testing agency has a note stating: "The material provided met all passing criteria for 10 minutes as specified by ASTM E136." Since the core temperature was never reached it is unknown if the material would actually pass any of the ASTM E136 criteria.

Before: Florida Building Commission
By: Clemons- Rutherford & Associates
2027 Thomasville Road
Tallahassee, Florida 32308
Office: (850) 385-6153
Fax: (850) 386-8420

January 10, 2007

Petition for Declaratory Statement



Clemons, Rutherford & Associates, Inc.

Clemons

Amendment
PA 07-DEC-011
FILED, on this date, with the designated
Clerk, in lieu of which is hereby
acknowledged.
Paula P. Ford
Commission Clerk
Date *1/10/07*

**SECTION 602
CONSTRUCTION CLASSIFICATION**

602.1 General.

Buildings and structures erected or to be erected, altered or extended in height or area shall be classified in one of the five construction types defined in Sections 602.2 through 602.5. The building elements shall have a fire-resistance rating not less than that specified in Table 601 and exterior walls shall have a fire-resistance rating not less than that specified in Table 602.

602.1.1 Minimum requirements.

A building or portion thereof shall not be required to conform to the details of a type of construction higher than that type, which meets the minimum requirements based on occupancy even though certain features of such a building actually conform to a higher type of construction.

**TABLE 602
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR
WALLS BASED ON FIRE SEPARATION DISTANCE^a**

FIRE SEPARATION DISTANCE (feet)	TYPE OF CONSTRUCTION	GROUP H	GROUP F-1, M, S-1	GROUP A, 2, L, R, B
< 5 c	I-A, I-B, III-A, III-B, IV Others	3	3	3
> 5	I-A, I-B, III-A, III-B, IV Others	3	2	1
> 10	I-A, I-B, III-A, III-B, IV Others	2	2	2
> 20	I-A, I-B, III-A, III-B, IV Others	2	2	2
20	I-A, I-B, III-A, III-B, IV Others	1	1	1
< 30	I-A, I-B, III-A, III-B, IV Others	1	1	1
≥ 30	All	0	0	0

For St: 1 foot = 304.8 mm.
 a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
 b. Group R-3 and Group U when used as accessory to Group R-3, as applicable in Section 101.2 shall not be required to have a fire-resistance rating where the fire separation distance is 3 feet or more.
 c. See Section 503.2 for party walls.

602.2 Types I and II.

Type I and II construction are those types of construction in which the building elements listed in Table 601 are of noncombustible materials.

602.3 Type III.

Type III construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of any material permitted by this code. Fire-retardant-treated wood framing complying with Section 2303.2 shall be permitted within exterior wall assemblies of a 2-hour rating or less.

602.4 Type IV.

Type IV construction (Heavy Timber, HT) is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid or laminated wood without concealed spaces. The details of Type IV construction shall comply with the provisions of this section. Fire-retardant-treated wood framing complying with Section 2303.2

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

The application of any of the alternative methods listed in this section shall be based on the fire exposure and acceptance criteria specified in ASTM E 119. The required fire resistance of a building element shall be permitted to be established by any of the following methods or procedures:

1. Fire-resistance designs documented in approved sources.
2. Prescriptive designs of fire-resistance-rated building elements as prescribed in Section 720.
3. Calculations in accordance with Section 721.
4. Engineering analysis based on a comparison of building element designs having fire-resistance ratings as determined by the test procedures set forth in ASTM E 119.
5. Alternative protection methods as allowed by Section 104.11.

703.4 Noncombustibility tests.

The tests indicated in Sections 703.4.1 and 703.4.2 shall serve as criteria for acceptance of building materials as set forth in Sections 602.2, 602.3 and 602.4 in Type I, II, III and IV construction. The term "noncombustible" does not apply to the flame spread characteristics of interior finish or trim materials. A material shall not be classified as a noncombustible building construction material if it is subject to an increase in combustibility or flame spread beyond the limitations herein established through the effects of age, moisture or other atmospheric conditions.

703.4.1 Elementary materials.

Materials required to be noncombustible shall be tested in accordance with ASTM E 136.

703.4.2 Composite materials.

Materials having a structural base of noncombustible material as determined in accordance with Section 703.4.1 with a surfacing not more than 0.125 inch (3.18 mm) thick that has a flame spread index not greater than 50 when tested in accordance with ASTM E 84 shall be acceptable as noncombustible materials.

Material Tested:

Supplier:

Product Description:

Specimen Dimensions:

Color:

Sample Selection:

Material Description by:

Date of Selection:

Purpose of Test:

Special Preparation:

US Architectural Products Inc.
 VERSAROC by U.S. Architectural
 Products Inc.
 1.5" x 1.5" x 2"
 Gray and beige
 Supplier
 Supplier and VTFC
 April 2004
 Combustion Characteristics
 The specimen was made up of three
 2" x 1.5" x 0.5" pieces.

Conditioning:

The specimens were conditioned according to the ASTM E136 specification.

Results:

The conditions for passing the test are as follows:

At least three of the four specimens tested exhibit:

1. Less than 50% weight loss
2. No flaming after the first 30 seconds
3. Final center and surface temperatures must be less than 30°C above the furnace starting temperature (750°C)

Sample #	Weight Before (grams)	Weight After (grams)	Final Center Temperature (deg.C)	Final Surface Temperature (deg.C)	Loss (percent)	Flaming After First 30 Seconds?
1	86.4	82.9	285	722	27.2%	No
2	81.3	57.2	577	734	29.6%	No
3	82.9	60.7	378	680	26.8%	No
4	84.4	60.2	506	722	28.7%	No
Average:	83.8	60.3	437	715	28.1%	

The material provided met all passing criteria for 10 minutes as specified by ASTM E136.

Modification: The test was stopped after 10 minutes.

Neil Schultz
 Executive Director

A. Rahman
 Amrudin Rahim
 Technical Director

WTEC 8100-871 REV 1.0

JIAN HANCHENG (CANADA) LTD.

MODIFIED ASTM E136

Material Tested:

Supplier:

Product Description:

Specimen Dimensions:

Color:

Sample Selection:

Material Description by:

Date of Selection:

Purpose of Test:

Conditioning:

The specimens were conditioned according to the ASTM E136 specification.

Results:

The conditions for passing the test are as follows:

At least three of the four specimens tested exhibit:

1. Less than 50g weight lost
2. No flaming after the first 30 seconds
3. Final center and surface temperatures must be less than 30°C above the furnace starting temperature (750°C)

Sample #	Weight before (grams)	Weight After Temperature (deg.C)	Final Center Temperature (deg.C)	Final Surface Temperature (deg.C)	Weight Loss (percent) After Final Flaming (30 seconds?)
1	107.2	41.8	486	721	23.5
2	109.0	64.1	532	730	22.8
3	108.7	67.1	487	715	20.8
4	109.8	87.4	500	720	20.4
Average	108.9	65.7	504	722	21.9

The material provided met all the passing criteria for 10 minutes as specified by ASTM E136.

MODIFICATION: The test was stopped after 10 minutes.

Handwritten signature
Nati Schuler
Executive Director

Handwritten signature
Amirudin Rabin
Technical Director

REVISION 1.0: Add "Two 1.5" x 2" pieces stacked together."

Department of Community Affairs
 Building Codes Information System
 01/08/2007

\$18,970.43

Org Level	EO	Revenue Object	Fund	Payment Description	Payment Amount
52800298	49	010401	510080	Sale of code materials	\$
"	"	010402	"	Training	\$
"	"	019001	"	Insignias	\$1,000.00
"	"	010404	"	Convenience Fees	\$
"	"	010406	"	Product Approval	\$
"	28	001000	"	Surcharge Payments (10025)	\$17,970.43

Product Approval

Org Level	EO	Revenue Object	Fund	Payment Description	Payment Amount
2800298	57	010405	510080	Organization	\$



Michael Ashworth/DCA/FLEOC
01/11/2007 08:37 AM

To: Mo Madani/DCA/FLEOC@fleoc
cc: Ila Jones/DCA/FLEOC@fleoc, Leola Baldwin/DCA/FLEOC@fleoc, Jon Caudill/DCA/FLEOC@fleoc, Sandi

Subject: Fw: Portable classroom CBPB floor fire rating

Mo,
The below email may have some impact on the Dec. Statement requested by CRA, in that it alleges some contradictions in the FBC, if true, are germane to this discussion.

Michael
Thanks,

----- Forwarded by Michael Ashworth/DCA/FLEOC on 01/11/2007 08:33 AM -----



"Wenyi Zhang"
<tiancheng@rogers.com>
01/10/2007 10:53 PM

To: <Michael.Ashworth@dca.state.fl.us>
cc: <jlewis@clemmons-rutherford.com>, "Billy Tyson" <btyson@clemmons-rutherford.com>
Subject: Portable classroom CBPB floor fire rating

Dear Mr. Ashworth, Mr. Lewis and Mr. Tyson,

I sent you the manufacturer's CBPB specs and I hope that this information helps to understand better about the CBPB industry. Attached please find a comparison table.

I spent sometime studying the FBC and have the following findings:

Portable classrooms, most of them are type II B construction.

Base on the building code, Chapter 6, Table 601

"Fire-Resistance Rating Requirements for Building Elements(hours)"

Floor construction including supporting beams and joists: for type II B, the rate is 0 hours - which means no rate required.

602.1 The building elements shall have a fire-resistance rating not less than that specified in Table 601 and exterior walls shall have a fire-resistance rating not less than that specified in Table 602.

602.2 Type I and II

Type I and II construction are those type of construction which the building elements listed in Table 601 are of non-combustible materials.

602.2 disagree with 602.1.

I believe that 602.1 refers to ASTM E119 test for fire rate in hours.

I think that 602.2 misrepresented the non-combustible construction with non-combustible material

If all the elements are non-combustible per 602.2, that means structural frame, walls, floor and roof are all non-combustible material. This is definitely not the case. Only 100% concrete blocks can do that. Based on the above information, a class A surface burning test shall qualifies CBPB for the type II B noncombustible construction floor material.

Would you be able to get back to me for the above in your earliest convenient time?

Thanks and best regards.

Wenyi Zhang P.Eng.



CBPB-Comparison-only.xls

Under Florida law, e-mail addresses are public records. If you do not want your e-mail address released in response to a public-records request, do not send electronic mail to this entity. Instead, contact this office by phone or in writing.

Under Florida law, e-mail addresses are public records. If you do not want your e-mail address released in response to a public-records request, do not send electronic mail to this entity. Instead, contact this office by phone or in writing.