

Translucent Fire Rated Systems



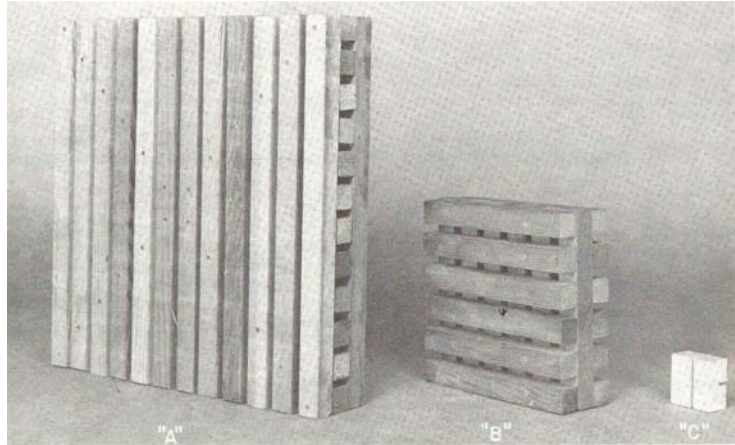
“Committed to
Fire Safety”

Quadwall “Class A” is Shown in Actual ASTM E-108 Tests

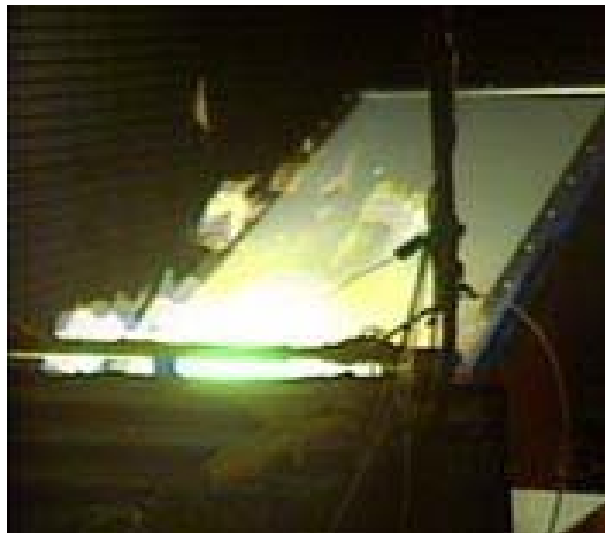


ASTM E-108
Burning Brand Test on
Quadwall “Class A”

Burning Brand - 12” x 12” x 2.25”
lumber placed on the surface of
Quadwall “Class A” panel.



“Class A”, “Class B”, and “Class C”
Burning Brands



ASTM E-108
Flame Spread Test on
Quadwall “Class A”

Spread of Flame test (1400 degrees F)
is applied on the Quadwall “Class A”
panel.

What is “Class A” Roof Assembly & Roof Covering?

The requirements for “Class A” Roof construction cover the performance of roof assemblies and roof covering materials when exposed to a fire. These requirements indicate the necessary fire resistance characteristics of roof assemblies and coverings when exposed to a fire originating from sources outside a building on which the covering may be installed.

How is a “Class A” Fire Rated Panel Viewed by the Building Codes?

Skylights glazed with Light Transmitting Plastics that conform to the requirements of “Class A” fire performance for Roof Assemblies & Roof coverings may be exempt from limitations otherwise applicable to “Approved Plastics” (Refer to IBC Chapter 26, and Sections 2610.1, 1505).

What are the Required Tests to Meet the Class ‘A’ Rating?

Testing of Class ‘A’ material is done under ASTM E-108 (also known as UL 790, FM 4470, and NFPA 256), which consists of three (3) parts:

- 1) Intermediate Flame Test
- 2) Spread of Flame Test
- 3) Burning Brand Test

What are the “Conditions of Acceptance” for a “Class A” Listing?

1. At no time during the Intermittent-Flame, Spread of Flame or Burning Brand Tests shall:
 - Any portion of the roof covering material be blown or fall off the deck in the form of flaming or glowing brands
 - The roof deck be exposed by breaking, sliding, cracking or warping of the roof covering
 - Portions of the roof deck fall away in the form of glowing particles
2. For the purpose of the requirements of paragraph 1, any piece of roof covering that continues to glow or flame upon landing on the test room floor is considered to be a glowing or flaming brand, respectively.
3. At no time during the Class A Intermittent-Flame tests or the Burning Brand tests shall there be sustained flaming of the underside of the deck.
4. For the Spread-of-Flame tests, the flaming of the material shall not have spread beyond 6 feet for Class A. There shall have been no significant lateral spread of flame from the path directly exposed to the test flame.

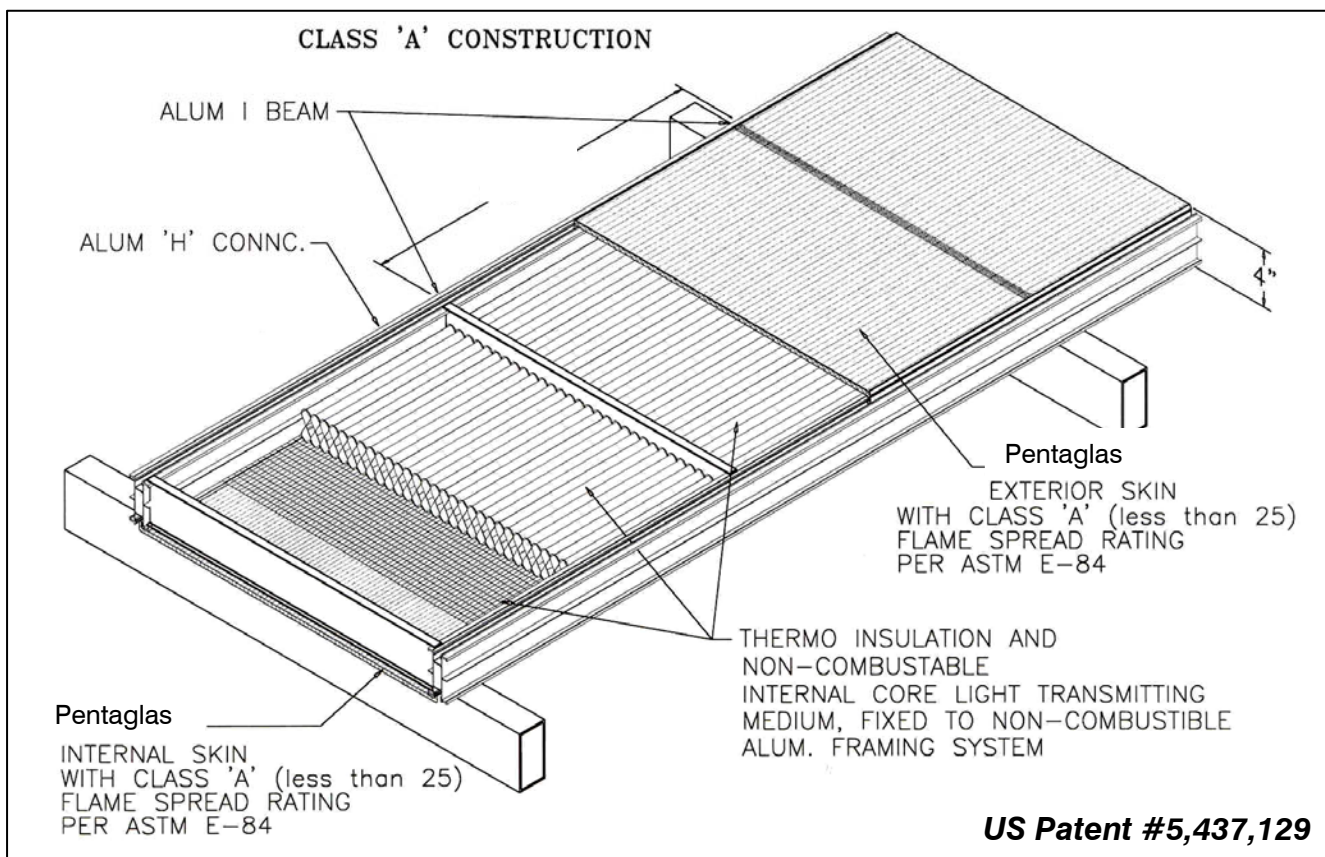
** For more complete details and information regarding class A, B, C tests, please refer to the actual ASTM E-108 standard.

Quadwall Fire Rated, “Class A” Roof Assembly & Covering System:

Quadwall - Applicable Safety Standards:

Quadwall Fire rated “Class A” roof assembly & roof covering is similar on the surface to the Quadwall 4” panels. Inside the panels are structural modifications which allow the special assembly to satisfy the performance requirements of a “Class A” Roof Assembly & Covering in accordance with the following safety standards:

- ☐ ASTM E-108: “Standard Method of Fire Tests of Roof Covering”.
- ☐ UL 790: UL test - “Fire Resistance of Roof Covering Materials”.
- ☐ FM 4470, section 5.1.A: Factory Mutual – “Standard Method of Test for Fire Resistance of Roof Covering Materials”.
- ☐ NFPA256: National Fire Protection – “Standard Method of Fire Tests for Roof Coverings”.
- ☐ UBC 32-7: Uniform Building Code - “Test standard for Determining the Fire Retardancy of Roof Covering Materials”.
- ☐ ULC-S107: UL of Canada - “Standard Method of Tests for Fire Resistance of Roof Covering Materials”.



LISTING CERTIFICATES:

The Quadwall “Class A” Roof assembly and Roof Covering is listed and identified as “Class A” by an approved testing and listing agency, as required by the various building codes. Copies of the CPI Quadwall Listing Certificates for “Class A”, “Class B” and “Class C” are provided below.



Inchcape Testing Services

Listing Certificate

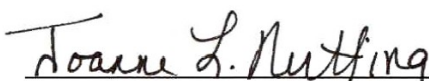
Participant's Name: CPI International, Inc.
Participant's Address: 28662 - Ballard Drive
Lake Forest, IL 60045

Type of Equipment: Roof Covering; Class 'A', Slope: Unlimited

Model/Type Designation: *"Danpalon-Quadwall(r)" Translucent Panel System

Category No.: Roof Covering Systems

I, the undersigned, hereby certify that the equipment specified above complies with the Safety Standard(s) for American Society for Testing & Material 'Standard Methods of Fire Tests of Roof Covering' (ASTM E-108); Factory Mutual 'Standard Method of Test for Fire Resistance of Roof Covering Materials' (FM 4470, Section 5.1.A); National Fire Protection 'Standard Method of Fire Tests of Roof Covering (NFPA 256); Uniform Building Code 'Test Standard for Determining the Fire Retardancy of Roofing Covering Materials' (UBC 15-2-94, Revised UBC 32-7); UL of Canada 'Standard Method of Tests for Fire Resistance of Roof Covering Materials' (ULC-S107); UL 'Tests for Fire Resistance of Roof Covering Materials' (UL 790) and are authorized to bear the WHI Listing Mark under the terms of the WHI Listing, Labeling, and Follow-up Service Agreement.

Signature 

Date: February 20, 1997

Name Joanne L. Nutting
Directory Information Representative
Inchcape Testing Services NA, Inc.
3933 Route 11
Cortland, NY 13045

*Look For These Inchcape Marks As
Evidence Of Compliance.*





Intertek Testing Services

Listing Certificate

Participant's Name: CPI International, Inc.
Participant's Address: 28662 N. Ballard Drive
Lake Forest, IL 60045

Type of Equipment: Roof Covering; Class 'B', Slope: 4:12

Model/Type Designation: *"Quadwall 3.0" Translucent Panel System.

Category No.: Roof Covering Systems

I, the undersigned, hereby certify that the equipment specified above complies with the Safety Standard(s) for American Society for Testing & Material\ 'Standard Methods of Fire Tests of Roof Covering' (ASTM E-108); Factory Mutual 'Standard Method of Test for Fire Resistance of Roof Covering Materials' (FM 4470, Section 5.1.A); National Fire Protection 'Standard Method of Fire Tests of Roof Covering (NFPA 256); Uniform Building Code 'Test Standard for Determining the Fire Retardancy of Roofing Covering Materials' (UBC 15-2-94, Revised UBC 32-7); UL of Canada 'Standard Method of Tests for Fire Resistance of Roof Covering Materials' (ULC-S107); UL 'Tests for Fire Resistance of Roof Covering Materials' (UL 790) and are authorized to bear the WHI Listing Mark under the terms of the WHI Listing, Labeling, and Follow-up Service Agreement.

Signature Joanne L. Nutting

Date: February 20, 1997

Name Joanne L. Nutting
Directory Information Representative
Intertek Testing Services
24 Groton Avenue
Cortland, NY 13045

Look For These ITS Marks as Evidence Of Compliance



CPI – 214CCLASS "C" ROOF CONSTRUCTION ASTM E-108/UL790



Inchcape Testing Services

Listing Certificate

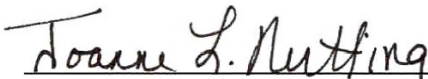
Participant's Name: CPI International, Inc.
Participant's Address: 28662 N. Ballard Drive
Lake Forest, IL 60045

Type of Equipment: Roof Covering; Class 'C', Slope: Unlimited

Model/Type Designation: *"2.2 inches Danpalon-Quadwall Class 'C' System" Translucent Panel System
*"2.2 inches Danpalon-Quadwall Skin System" Translucent Panel System

Category No.: Roof Covering Systems

I, the undersigned, hereby certify that the equipment specified above complies with the Safety Standard(s) for American Society for Testing & Material 'Standard Methods of Fire Tests of Roof Covering' (ASTM E-108); Factory Mutual 'Standard Method of Test for Fire Resistance of Roof Covering Materials' (FM 4470, Section 5.1.A); National Fire Protection 'Standard Method of Fire Tests of Roof Covering (NFPA 256); Uniform Building Code 'Test Standard for Determining the Fire Retardancy of Roofing Covering Materials' (UBC 15-2-94, Revised UBC 32-7); UL of Canada 'Standard Method of Tests for Fire Resistance of Roof Covering Materials' (ULC-S107); UL 'Tests for Fire Resistance of Roof Covering Materials' (UL 790) and are authorized to bear the WHI Listing Mark under the terms of the WHI Listing, Labeling, and Follow-up Service Agreement.

Signature 

Date: February 20, 1997

Name Joanne L. Nutting
Directory Information Representative
Inchcape Testing Services NA, Inc.
3933 Route 11
Cortland, NY 13045

Look For These Inchcape Marks As
Evidence Of Compliance.



Online Access to CPLI “Class A, B, & C” Roof Construction Listings

For online access to listing information regarding CPI’s “Class A, B, or C” Roof Construction products, please connect to the SpecDirect website at the following link: www.spec-direct.com, then click on the “free access” button and search for:

Organization: CPI Daylighting Inc.

Specification: Type: Any Type

Then click on the “search” button at the bottom left. Once the search is complete, you can use the menu tabs along the bottom of the screen to view CPI’s information online or to print the formal listing report for CPI Daylighting.



LISTING INFORMATION OF CPI Daylighting Translucent Skylight Systems

SPEC ID: 21233

CPI Daylighting, Inc.
28662 N. Ballard Drive
Lake Forest, IL 60045

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

CLASS 'A'

Slope: Unlimited (AC-1)

1. "Quadwall®" translucent panel system.

CLASS 'B'

Slope: 4:12 (BC-1)

1. "Quadwall® 3.0" translucent panel system.

CLASS 'C'

Slope: Unlimited (CC-1)

1. "Quadwell® Class C Panelize System" translucent panel system.

Slope: Unlimited (CC-2)

1. "Quadwall® Skin System" translucent panel system.

Evaluated to the following:

The roof covering systems in this section have been evaluated for external fire resistance Classifications A, B, C as outlined by the following test methods:

ASTM-E108 - American Society for Testing & Materials 'Standard Methods of Fire Test of Roof Covering'

FM-4470, Section 5.1.A - Factory Mutual 'Standard Method of Test for Fire Resistance of Roof Covering Materials'

NFPA-256 - National Fire Protection 'Standard Method of Fire Tests of Roof Covering'

UBC-15-2-94 - Uniform Building Code 'Test Standard for Determining the Fire Retardancy of Roof Covering Materials'

CAN/ULC-S107 - Underwriters' Laboratories of Canada 'Standard Method of Tests for Fire Resistance of Roof Covering Materials'

UL-790 - Underwriters' Laboratories Inc. 'Tests for Fire Resistance of Roof Covering Materials'

Each system listing identifies the deck substrate as either non-combustible or combustible. Systems evaluated for combustible decks will provide the same ratings when applied over non-combustible decks. Unless otherwise noted in individual listings, combustible decks shall be sheathed with a minimum 15/32" veneer plywood or minimum 7/16" non-veneer APA rated sheathing panel (oriented strand board panels, structural particleboard panels, composite panels or wafer-board panels) or 3/4" thick solid wood

sheathing boards. The component materials of each system must be applied in the order in which they are listed. All components of the system must be listed for external fire exposure by an agency acceptable to the AHJ.

Some Roof Covering Systems have been evaluated for other performance characteristics, in addition to external fire exposure. Where applicable, such additional performance characteristics are noted within the specific listing.

In all cases, manufacturer's instructions should be consulted for installation procedures and details not covered by these listings.

Listed Materials are identified by a label or marking bearing the wording, "Listed Roofing Component", a reference number or code and the WHI Certification Mark.

<u>Attribute</u>	<u>Value</u>
Criteria	UL 790 (2004)
Criteria	ASTM E108 (1983)
Criteria	UBC 32-7 (1997)
CSI Code	08 60 00 Roof Windows and Skylights
Intertek Services	Certification
Listed or Inspected	LISTED
Listing Section	ROOF COVERING SYSTEMS
Report Number	WHI-495-R-0702
Roofing: Fire Rating	Class A
Roofing: Fire Rating	Class B
Roofing: Fire Rating	Class C
Roofing: Maximum Slope	4:12
Roofing: Maximum Slope	Unlimited
Spec ID	21233
Test Original Issue Date	March 10, 1992