

# *A Rating System for Window Awnings*



NFRC Attachments Task Groups

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# *Window Awnings*



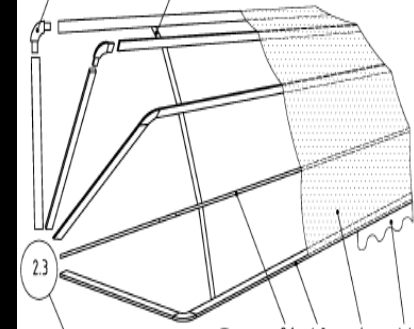
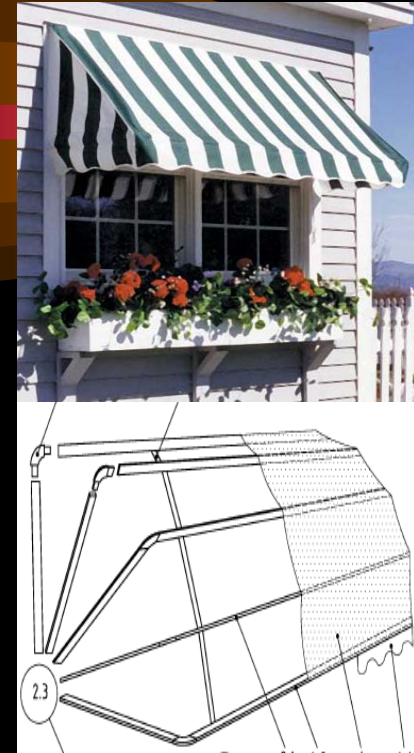
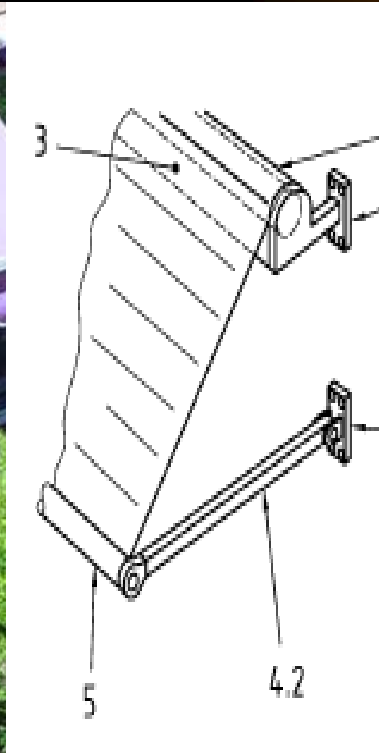
## Topics

- Awning Devices
- Professional Awning Manufacturers Assoc.
- European organization ES-SO
- European Standards for Shade Performance
- The Need for a Rating System

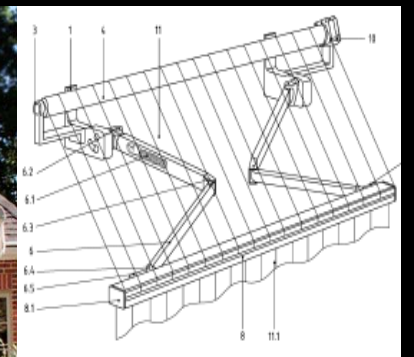
# *Awnings*

- Awnings are energy-saving window attachments.
- Awnings are different from coplanar attachments.
- The product family has some variety of form, but there is an overall consistency of attributes and geometry within the product family.

# Awnings - 3 product variations



Pure Luxury...Unparalleled Performance



# *Professional Awning Manufacturers Association*

- “PAMA” is a division of the  
Industrial Fabrics Association International (IFAI)
  - Formed in 1967. [www.awninginfo.org](http://www.awninginfo.org)
  - The Industrial Fabrics Association International (IFAI) is a not-for-profit trade association with nearly 2,000 member companies representing the international specialty fabrics marketplace. Member companies range in size from one-person shops to multinational corporations; members' products span the entire spectrum of the specialty fabrics industry, from fiber and fabric suppliers to manufacturers of end products, equipment and hardware. Formed in 1912. [www.IFAI.com](http://www.IFAI.com)
- |                     |                    |                    |             |
|---------------------|--------------------|--------------------|-------------|
| • Glen Raven        | • Mitjavila        | • Ferrari Textiles | • WL Gore   |
| • Phifer            | • Stobag           | • Sunesta          | • Lawrence  |
| • abcSunControl     | • Rainier          | • Durasol          | • Somfy     |
| • Alpha Productions | • MaryGrove        | • Anchor           | • Alutex    |
| • Sunsetter         | • Eide             | • Fasnap           | • Eclipse   |
| • Tri Vantage       | • European Rolling | • Futureguard      | • Invista   |
| • Gale Pacific      | • Shutters         | • Bainbridge       | • Twitchell |

# *European Solar-Shading Organization*

- The ESSO is a confederation of 16 national shading associations from EU member states formed in 2004.
- Created to provide permanent contacts between the industry members and the European authorities
- Overarching Purpose: To realize the energy savings which shading can provide for buildings
- [www.es-so.com](http://www.es-so.com)

# *ESSO - Impact on building codes*

- EU's European Energy Performance of Buildings Directive
- France - Building Code - January 2008 - Decree 2007-363
  - Before new AC systems can be sized and installed, all East-South-West facing windows must have sun protection devices.
  - For dwellings, the SHGC of the system must be 0.15 or less, or be of Class 3 or 4 from Standard EN14501.
  - For Buildings over 1000 m<sup>2</sup>, the air-conditioning system can only be activated when the temperature is over 79° F.
  - Switzerland, Italy, and others have passed similar regulations.

# *Euro Standards List*



- EN 410 Solar Properties of Glazing (very similar to ISO9050 )
- EN 12216 Shutters, external blinds, internal blinds — Terminology
- EN 13561 External Blinds - Performance Requirements including Safety
- EN 13363-1 Solar Protection Devices with Glazing- Transmittance - Simple
- EN 13363-2 Solar Protection Devices with Glazing- Transmittance - Detailed
- EN 14500 Blinds and Shutters - Thermal and Visual Comfort -  
Test and Calculation Methods
- EN 14501 Blinds and Shutters - Thermal and Visual comfort -  
Performance Characteristics and Classifications

# *Euro Standards of Note*



- **EN 14500 Blinds and Shutters - Thermal and Visual Comfort Test and Calculation Methods**
- Defines methods for the determination of the reflection and transmission characteristics to be used to determine the thermal and visual comfort performance classes.
- Annex D presents an approach for the “projectable products” (Awnings), and demonstrates one validated approach to simplify calculations. This calculates Direct Radiation, and applies selected values for diffuse and reflected radiation based on the product geometry.

# *Euro Standards of Note*



- **EN 14501 Blinds and Shutters - Thermal and Visual Comfort Performance Characteristics and Classifications**
  - Thermal Comfort - definition and measurement
    - Solar Factor (SHGC)
    - Shade Factor (Shade Coefficient) of the attachment
  - Visual Comfort
    - Glare
    - View to Outside
    - Daylighting
    - Privacy from Outdoors
    - Control of Outdoor Light (for special room darkening)

## *Awning and Shade Research*



- Awnings can be rated in a fair and credible manner with a methodology which recognizes the angle of the installation, the incidence to the sun, and any other necessary conditions.
- Lots of good research and data collection has been completed.
- Many software programs exist which incorporate exterior window shading and awnings in the building energy model.

# *Position of PAMA and Glen Raven, Inc., POQ applicants*



An accurate rating system needs to be developed for Awnings - exterior window shade devices that project out over a window.

We believe NFRC is the best organization to develop and administer a system which would serve the U.S. Consumer. Not IFAI, ES-SO, or WCMA.

# *Position of PAMA and Glen Raven, Inc., POQ applicants*



The best rating system will require a research project to review the existing science, and to establish a methodology to calculate awning attachment performance regarding SHGC and VT.

The Awning Industry is committed to this effort.