Knowledge for Creating and Sustaining the Built Environment

The Predicator

Volume 47, Issue # 4 January 2008

Portland Chapter - The Construction Specifications Institute

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Table of Contents:

Annual Economic Forecast Presentation
January 8, 2008
Kermit Baker, Chief Economist for the AIA:
What's In Store for Design Firms in 2008

This presentation will review recent economic and construction trends with an eye toward opportunities over the coming year: regional and national construction trends; key concerns of firm leaders, and how the economy will influence emerging developments in the profession, such as sustainability, consolidation and integrated practice.

Speaker:

Kermit Baker is the Chief Economist for the American Institute of Architects in Washington, D.C., where he analyzes business and construction trends for the U.S. economy and examines their impact on AIA members and the architectural profession. Kermit also is the Project Director of the Remodeling Futures Program at the Joint Center for Housing Studies at Harvard University. This research effort is aimed at developing an improved understanding of the dynamics of the U.S. repair and renovation industry. Prior to joining the AIA, Kermit was Vice President and Director of the Economics Department at Reed Business Information, where he was responsible for industry forecasting.

Kermit received his Masters degree in Urban Planning from Harvard University and holds a Ph.D. from Massachusetts Institute of Technology in the same field. In 2002, Kermit was made an honorary member of the American Institute of Architects.

REGISTRATION INFORMATION:

JANUARY 8, 2008 5:30 - 8:30 PM
THE GOVERNOR HOTEL
611 SW 10TH AVE.
$50 PER PERSON, PRE-PAID BY JANUARY 3RD, 2008
HOW TO REGISTER: WWW.PORTLANDCSI.ORG
Questions? Contact Jane Phifer at 503-805-2500

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By: Fred Herbold, CSI, CCS

The Glass Series
Unfinished Business

Last month's article should have included a summary of the standard method used to reference glass surfaces. Also, I wanted to mention another method of measuring sound transmission specifically for exterior windows and doors.

Surface Numbering System

Insulating glass units are normally more complex than two panes of basic glass. Multiple panes and coatings add to complexity. The location of coatings will affect both performance and appearance. Therefore, it is important to be precise about which surfaces are coated.

First: Glazing surfaces are numbered from outside to inside.

Second: Each sheet of glass has two surfaces. This includes the surfaces of each glass ply in laminated glass. However, do not count the surfaces of the interlayer(s) in laminated glass.

Third: Count the surfaces of plastic sheets or films that create multiple cells in IGUs because they can also be coated (e.g. Heat Mirror® mentioned last month).

Graphic examples provided by Bill Coady, CSI CCPR and Guardian Industries: **(see pages 8-11)**

Sound Transmission Through Glass and Windows

Although ASTM E 90 mentioned last month is used to characterize sound transmission through glazing, the STC rating is intended for interior space to interior space conditions. Street noise and other outside noise is typically has a different frequency range and intensity than interior noise. Therefore ASTM E 1332 for Outside-Inside Transmission Class (OITC) was developed. The test method is still ASTM E 90, but OITC is determined according to an adjustment scale for outside noise in ASTM E 1332.

The OITC value will be less than STC value for the same unit.

Sound transmission ratings for complete window and door units should be specified in other Sections of Division 08. ASTM E 1332 is used to determine and report OITC in the following two standards: ASTM E 1425 – Standard Practice for Determining the Acoustical Performance of Exterior Windows and Doors; and AAMA 1801. Both of these standards include either reporting or passing air infiltration testing, operating force and hardware testing as well as OITC.

MASONRY INSTITUTE OF OREGON

Harold Friberg is the director of the Masonry Institute of Oregon. We asked Harold to present a series of the Masonry Institute's current technical seminars for the Specifiers' Share Group. Harold presented "The Design & Construction of Brick Veneer" last September. The Topics were:

- Physical Properties of Brick
- Code Requirements
- Moisture Control
- Accommodating Movement
- Details

Face Brick

Harold reviewed modern brick manufacturing methods and equipment. Sorry you missed it if you weren't there!

Face Brick Specification: ASTM C 216. Also specify durability Grade and appearance Type.

Grade SW – Severe Weathering: 3,000 psi compressive strength, 17% maximum water absorption, 0.78 maximum saturation coefficient.

Grade MW – Moderate Weathering: 2,500 psi compressive strength, 22% maximum water absorption, 0.88 maximum saturation coefficient.

Type FBX: Highest degree of manufacturing precision and size control.

Type FBS: General commercial standard for unit size control.

Type FBA: Match a sample, but not more restrictive than FBS. Remember those bricks at the Gamble House (Green and Green, Pasadena, CA)? FBA.

Efflorescence: ASTM C 67 includes testing for efflorescence. It is now a pass/fail test. ASTM C 216 includes the requirement that the unit pass ASTM C 67. (Thanks to Harold for this update.) Efflorescence can be prevented by proper flashing details, water repellent admixture in mortar, and applying a penetrating water repellent after masonry veneer has been cleaned.

Code Requirements – Anchored Brick Veneer

This author is skeptical of adhered masonry veneer in seismic zone, so I refer you to your structural engineer. Most brick veneer in the Northwest is anchored with a drained/vented cavity behind, creating a true rain-screen.

Moisture Protection: Current practice in the Northwest exceeds Code. We typically specify a Weather Resistive Barrier system with integrated flashing. Whether the WRB is breathable or not will depend on the location of thermal insulation and dew-point analysis. *(continued on page 3)*

What Do You Say
(continued from page 2)

Code Height Limits: 30 feet, except 38 feet at gable, for wood framed backing. Metal supported veneer is unlimited in height, except it must be supported at each floor above 30 feet by non-combustible construction.

Seismic Anchors: Locate one per 2 square feet of wall plus additional anchors at edges. Anchors should engage brick joint reinforcing, that is located not more than 18 inches on vertical centers. These requirements are good for your office master in Portland, seismic Category D. You might be able to reduce these requirements on the advice of your engineer.

Cavity Width: Harold said the masonry union's training program is addressing the issue of mortar droppings into the ventilation cavity. Standards require at least 1 inch cavity. However, good practice in the Northwest has been 2 inch cavity.

Moisture Control

In addition to an appropriate cavity and weather resistive barrier, specify weep and vent material, drainage matrix at bottom of cavity, durable flashing. Consult the Brick Industry Association's "Technical Notes on Brick Construction".

If your office does not have a copy, please contact Harold Friberg, CSI, at the Masonry Institute of Oregon 503 224 1940.

Movement Control

Brick expands when it gets wet.

Concrete masonry units, CMU, contract as they dry.

Movement joints in brick veneer are actually expansion joints. Remember to think of brick veneer as panels, panels that will expand when they get wet. Locate you expansion joints:

- At or near corners.
- Changes in height.
- Changes in back up.
- Close to large openings.
- Dissimilar materials.
- 30 feet apart, maximum.

Detailing

Two suggestions:

- BIA Technical Notes are extensive and have a good index.
- Harold makes office calls with adequate notice.

Current Construction Method

You may have noticed brick veneer on new mid-rise and high-rise structures. A few years ago, you'd be correct assuming the brick was shop-fabricated metal framed panels. Today masons are employing Mast Climbing staging to access high exterior walls.

The platform or stage climbs up the masts by mechanical means. The masts must be supported laterally onto the building structure about 35 feet on center. These support points have to be in filled with brick and mortar later. Mortar can be pumped up to the masons from site mixers or concrete mixing trucks.

This method is safer, increases productivity, and reduces cost of high-rise brick veneer. It is a boon to brick clad tall building design. We hope that it is accompanied by good specifications and excellent detailing.

PERKY'S NOTES

By: Perky Kilbourn, CSI

Note #1

The editorial by Tim Studt entitled "It's Not a Tropical Paradise" which appeared on page 9 of the November/December 2007 issue of *R&D Magazine* was well done. The last paragraph seemed most appropriate because this is being written on December 14, the date of the closing session of the United Nations Framework Convention on Climate Change in Bali, Indonesia.

" . . . It's unfortunate that our children and their children will have to suffer the consequences of our leaders' inaction or inability to act together fast enough to create programs that could make a difference. The R&D and the technologies are already mostly there, waiting for the governments to make a solid commitment."

Note #2

The article "Is Congress Unplugging America's Energy Future?" which appeared on page 8 and 9 of the November/December, 2007 issue of *Public Citizen News* was of interest to me. Public Citizen analyzed the House and Senate energy bills to determine how the legislation will affect consumers and the environment. I am only going to look at their conclusions.

Bio fuels: The concluding statement seems to explain it best ". . . Congress does not give enough direction as to how to analyze and measure the environmental impacts of biofuel production."

Energy Efficiency: Government has not yet set stronger efficiency standards though it has been told to do so. Mandating standards for more efficient appliances, vehicles and buildings would decrease our addiction to oil and help slow global warming.

Clean Energy: "The House took a great first step to promote renewable energy, following the lead of 27 states that already have similar clean energy mandates. The Senate should endorse this policy as well."

Carbon Capture and Storage: It is a great idea but not enough is known about long-term risks. The industry seems to be pushing for a government insurance program that would shield corporations from risks associated with permanent storage of toxic greenhouse gases such as carbon dioxide - the U.S. taxpayer would probably have to foot the bill in the event of an accident. Though not mentioned in this article, it reminds me of the hassles over storage of nuclear waste.

Gas Price-Gouging: Price-gouging is not illegal so it is not surprising that Government investigations already have found evidence of anticompetitive behavior by oil companies.

Fuel Economy: The demand for more fuel efficient vehicles is on the rise but the U.S. auto industry continues to fight the mandatory manufacture of fuel efficient vehicles.

Note #3

The Feedback section in the December 10, 2007 issue of InformationWeek caught my eye. An editorial "Tomorrow's CIO: A Woman" had been published in the November 21 issue, where the writer said many of the skills women excel at are needed in the modern IT organization. These skills are communication, collaboration, networking, negotiation, and relationship-building. Susan Mersereau, Senior VP and CIO at Weyerhaeuser was quoted as saying women are needed in the modern IT organization to fill the increasing IT talent gap. The magazine printed a response (from Bill) saying each person's qualifications should be judged on an individual basis, and not based on gender. Another response (from Corinthia) was that ". . . I didn't enter IT to manage people but to write code and create systems - to make something."

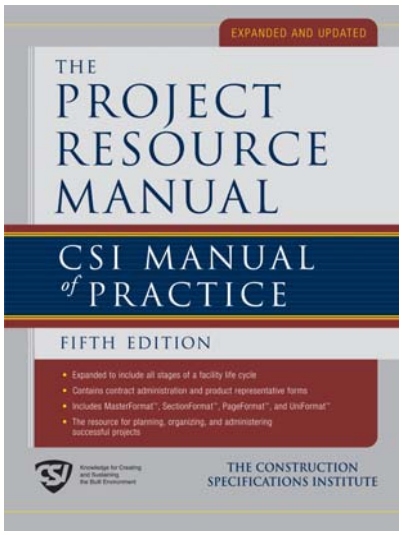
Note #4

News in Depth in November 26, 2007 issue of *Washington Technology* had an interesting article "Working' in a data mine" by Alice Lipowicz. Quoting from the article "Data mining is broadly defined as the analysis of large amounts of data to uncover hidden relationships and patterns." It has been relatively successfully used by marketers to sort through data to identify the behavior and characteristics of people who bought a particular item most quickly at a Web site. Then they develop marketing strategies to target more likely buyers. Similar techniques used to develop the Terrorist Screening Center's watch list have not been successful. There appears to be too little data to accurately identify patterns . . .

Note #5

The October 2007 issue of *Oregon Business* contained an article by Abraham Hyatt entitled "Targeted giving". This article's subtitle included the statement "Companies see philanthropy as a smart investment to be managed for the good of their community - and their business." Many companies are donating to or working closely with nonprofit companies that are directly related to their industry as opposed to a more general, blanketed philanthropic strategy. The concept is that companies are helping others in a way that could provide a nonmaterial payroll for their company. This often means that a company may say no to many requests for donations, but then make a bigger difference when it does say yes. One interesting trend is that the number of businesses that partially or fully match giving by employees is on the rise, as well as the number of company-sponsored volunteer days.

PRM, MF04
REFERENCE MATERIALS



TWO ESSENTIAL REFERENCES AVAILABLE IN PORTLAND FROM YOUR CHAPTER
Project Resource Manual: $190.50
MasterFormat® 2004 Edition: $75.00
Contact Jane at the Chapter office for payment method. 503-805-2500 or jane@portlandcsi.org
Will Call at SERA Architects, 338 NW 5th, Portland. Contact Fred at 503-445-7389 or fredh@serapdx.com

CSI MEMBER WAYNE WEBER PASSES

Wayne Eugene Weber

January 21, 1952-December 15, 2007

Wayne Eugene Weber passed away at the age of 55 on Saturday Dec. 15, 2007, after a seven-month struggle with cancer. Wayne usually "won the fight," but not so this one. Wayne was born Jan. 21, 1952, in Huron, S.D., to Curtis Lavern and Carol Meade Weber and was raised on a farm near Miller, S.D., with his three brothers, Darwin of Longview, Wash.; "C. L." Curtis Lavern Jr. of Hermosa, S.D.; and Gaylord of Huron, S.D. Wayne graduated from Wessington Springs High School in South Dakota in 1970 and received an associates degree in architectural drafting from Mitchell Technical Institute in the spring of 1973. He worked for many years in the Portland area in the building products industry, most recently for Huttig in Tigard.

He is survived by his wife, Carol; daughters, Alecia and Michele; son-in-law, Dan DeRoo; brothers, Darwin, C.L. and Gaylord Weber; father and stepmother, Curt and Ruth Weber; and his mother, Carol Christensen. He was preceded in death by his younger brother, Gaylon, and stepfather, Paul Christensen.
A memorial service will be held at 1 p.m. Friday, Jan. 4 at Hillsdale Community United Church of Christ, 6948 S.W. Capitol Hwy, Portland, OR 97219.
Remembrances may be made to HCC Foundation with the same address.

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Cook Inlet, Anchorage, AK *(Third Tuesday)*
Mark Hughes, CSI…….....907-267-5163

Puget Sound, Seattle, WA *(Second Thursday)*
Andrew Estep, CSI.....206-382-3393

Mt. Rainier, Tacoma, WA *(First Thursday)*
Bob Kenworthy, FCSI, CCS, CCCA..253-931-4904
Dennis Kabba, CSI, CDT …….. 253-627-5599

Spokane, WA *(Second Thursday)*
Thoms Gerard, PE, CSI, LEED-AP. 509– 328-2771

Portland, OR *(Second Tuesday)*
Jane Phifer, CSI.....503-805-2500

Capital, Salem, OR *(Third Thursday)*
Chris Veit, CSI, CCS.....503-390-0291

Willamette Valley, Eugene, OR *(Last Thursday)*
Melanie Wittkop-Fort, CSI 541-485-0922

Idaho, Boise, ID *(First Tuesday)*
Karen Morris, CSI …….....208-343-3620

Big Sky, MT
Jan O'Brien, CSI……406-245-6363

January 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

1/8 CSI Board Meeting, *Noon, TBA*
1/8 CSI Chapter Meeting - *Kermit Baker, Governor Hotel Ballroom*
1/10 CSI Specifiers Share Group Meeting, *Noon, ZGF*
Sustainable Design with Masonry
1/21 CSI Membership committee, *noon Macadam's Bar & Grill*
1/24 CSI Specifiers Share Group Meeting, *Noon, ZGF*
Div 01 Round Table Continued
1/29 Program committee, *7:30 am, Nancy's Kitchen—16th & Glisan*
1/31 CSI CDT study group, *Port of Portland Building*

February 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	

2/5 CSI Board Meeting, *Noon, TBA*
2/7 CSI CDT study group, *Port of Portland Building*
2/12 CSI Chapter Meeting - *TriMet, Bridgeport brew pub*
2/14 CSI CDT study group, *Port of Portland Building*
2/14 CSI Specifiers Share Group Meeting, *Noon, ZGF*
2/18 CSI Membership committee, *noon Macadam's Bar & Grill*
2/21 CSI CDT study group, *Port of Portland Building*
2 /27 Program committee, *7:30 am, Nancy's Kitchen—16th & Glisan*
2/28 CSI Specifiers Share Group Meeting, *Noon, ZGF*
2/28 CSI CDT study group, *Port of Portland Building*

March 2008

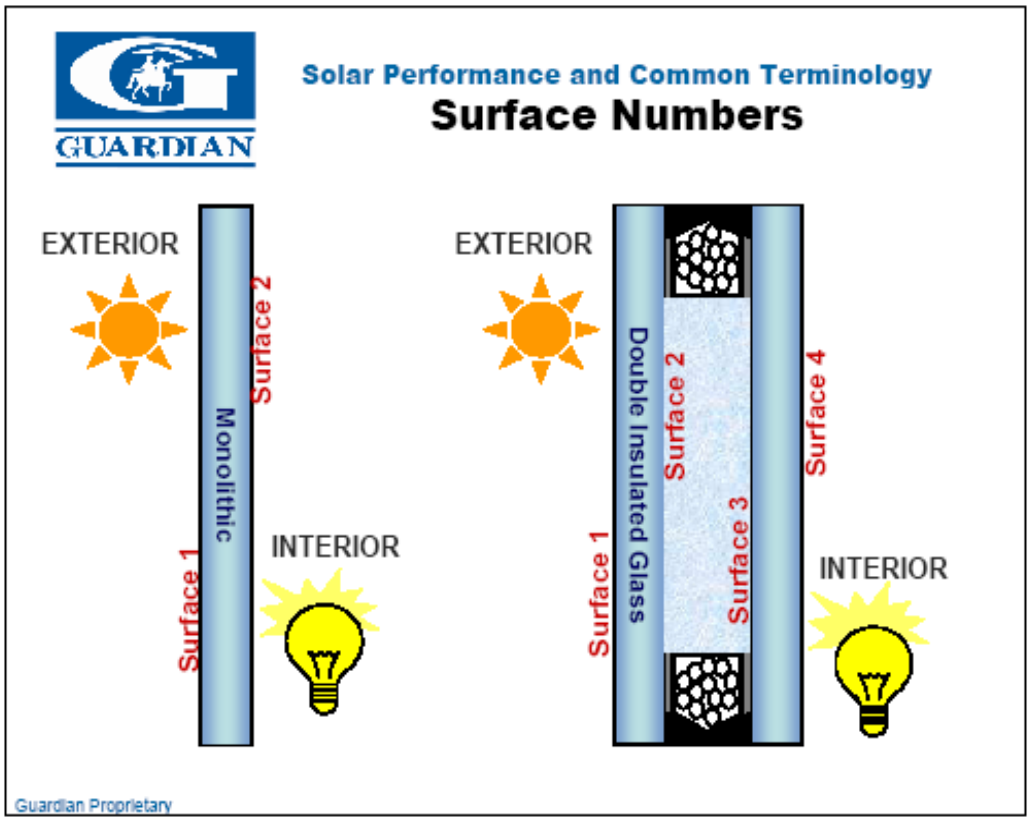
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

3/4 CSI Board Meeting, *Noon, TBA*
3/6 CSI CDT study group, *Port of Portland Building*
3/11 CSI Chapter Meeting - *Legend Homes Extreme Makeover, Bridgeport Brew pub*
3/13 CSI CDT study group, *Port of Portland Building*
3/13 CSI Specifiers Share Group Meeting, *Noon, ZGF*
3/17 CSI Membership committee, *noon Macadam's Bar & Grill*
3/20 CSI CDT study group, *Port of Portland Building*
3/26 Program committee, *7:30 am, Nancy's Kitchen—16th & Glisan*
3/27 CSI Specifiers Share Group Meeting, *Noon, ZGF*
3/27 CSI CDT study group, *Port of Portland Building*

Solar Performance and Common Terminology

Surface Numbers

- Always starting from the outside with #1
- Increment the surface number as you move from one bulk material to another
  - E.g. from glass to air or from glass to PVB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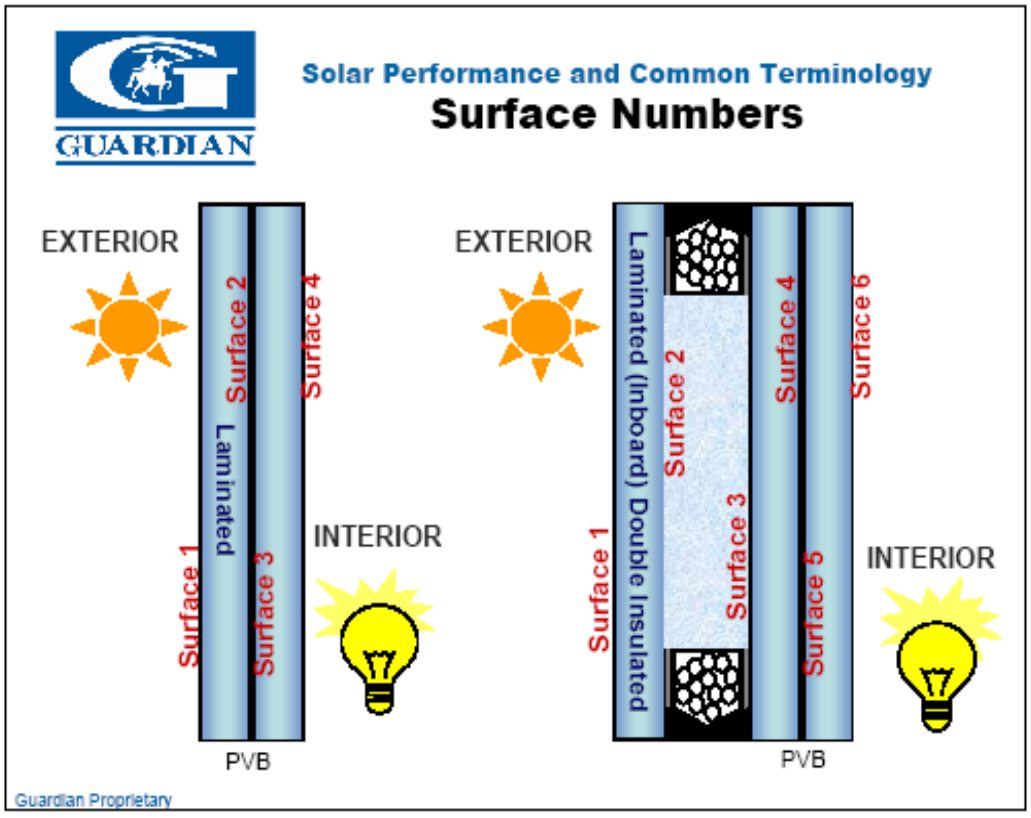
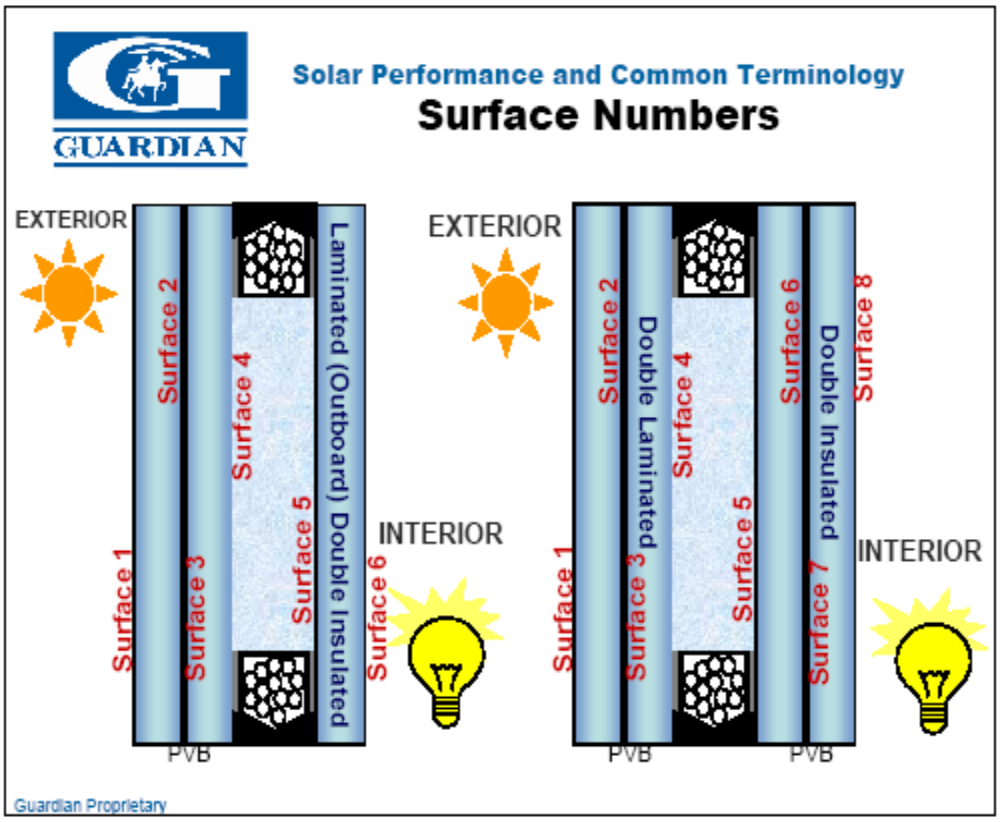
Solar Performance and Common Terminology
Surface Numbers
EXTERIOR
Surface 2
Monolithic
Surface 1
INTERIOR
EXTERIOR
Double Insulated Glass
Surface 2
Surface 4
Surface 1
Surface 3
INTERIOR
Guardian Proprietary


GUARDIAN
Solar Performance and Common Terminology
Surface Numbers
EXTERIOR
Surface 1
Laminated
Surface 2
Surface 3
Surface 4
INTERIOR
PVB
EXTERIOR
Laminated (Inboard) Double Insulated
Surface 1
Surface 2
Surface 3
Surface 4
Surface 5
Surface 6
INTERIOR
PVB
Guardian Proprietary


GUARDIAN
Solar Performance and Common Terminology
Surface Numbers
EXTERIOR
Surface 1
Surface 2
Surface 3
Surface 4
Surface 5
Surface 6
Laminated (Outboard) Double Insulated
PVB
INTERIOR
EXTERIOR
Surface 1
Surface 2
Surface 3
Double Laminated
Surface 4
Surface 5
Surface 6
Surface 7
Double Insulated
Surface 8
PVB
PVB
INTERIOR
Guardian Proprietary