

MAY 2014 » PRODUCT REPORT

 ShareThis

SUBSCRIBE
Period Homes

Shedding Light on Multi-light Sash

By Gordon Bock

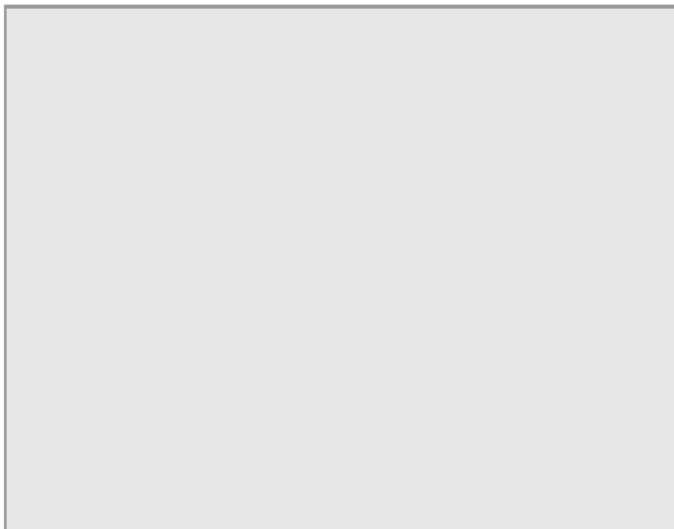


Deciding which side of the windows is of highest priority – interior or exterior – is one of many considerations in an historic window project, and can be subject to landmark regulation. Photo: HeartWood Fine Windows and Doors

One of the hallmarks of houses built in the innovative styles of the late-19th and early-20th centuries is their multiple-light windows. Right about the time that window-wide pieces of glass finally became commonplace, architectural fashion turned back on itself to dividing the upper sash into patterns of many small lights, producing the iconic Queen Anne, bungalow and diamond-pane windows of the era. Though no longer the stock items they once were in any millwork catalog, these multi-light sash can still be custom made to au hentic specifications – or adapted to 21st-century needs – if you know what to consider.

Deciding What's Important

Says Jeff De Lonay at [Kolbe Windows & Doors](#) in Wausau, WI, "When someone is looking for a historical product, one of the first things we see them struggling with is its complete duplication versus achieving an overall look. Do they have to have the window exactly replace what was there, or are they aiming for just the appearance? Some times this is more critical from an elevation standpoint – first floor, second floor, or on the front versus the back of the building."



HADDONSTONE

*Fine Cast
Stone Garden
Ornaments
&
Architectural
Cast Stone*



Visit our Website
www.haddonstone.com



**WE BELIEVE THAT
TRUE PERFECTION
IS IN THE DETAILS**

Beautifully crafted
reproduction
and custom windows,
doors
and architectural
millwork.



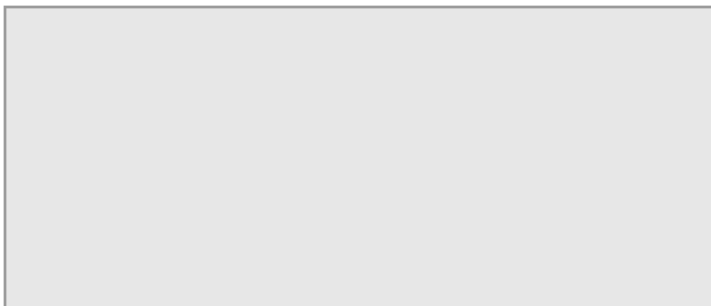
Left: HeartWood Fine Windows and Doors manufactures casement windows in traditional mullioned and true-French styles. Photo: HeartWood Fine Windows and Doors

Right: Arched bent casement is one of many styles manufactured by Wood Window Workshop. Photo: Wood Window Workshop

In the same way, it is just as useful to clarify which side of the window is important. Notes Tim Forster of HeartWood Fine Windows and Doors in Rochester, NY, "For most people, it is the exterior, but not in all cases. In some historic districts, landmarks boards or other reviewers will really sweat the exterior details of the window – making sure that the stiles and rails are exactly the same dimensions as historic windows, that the light openings and even the putty glaze are identical. But when it comes to the inside of the window, they couldn't care less." For some residential clients, however, the reverse is true. "They want to see what they are currently seeing on the other windows," adds Forster, "or what they remember as a child, or some other trigger point."

If the goal is reproduction, then it is essential to discuss what the parameters are, says Mike Kershaw at Wood Window Workshop in Utica, NY. "Are they looking to reproduce exactly and be true to the original design with, say, mouth-blown restoration glass? Are they looking for weight-and-chain counterbalances that match originals? Getting to this level of detail is part of the process of developing a specification." Inevitably, questions like these lead to weighing the pros and cons of simulated divided lights (SDL) versus true divided lights (TDL). Explains Kershaw, "A simulated divided light takes a full piece of insulated glass and then applies muntins – whether made of wood or in some cases aluminum – onto the #1 and #4 surfaces of the double-pane glass, so you have them on the outside and on the inside. That is not a true historic replica, however, so if you are a purist you'll want to make your multi-light sash with true divided lights."

According to Ron Safford of Parrett Windows & Doors in Dorchester, WI, it is not the patterns that are difficult to make. "The challenge comes with true divided lights and insulated glass – that is, whether you can keep the muntin bar width in line with the originals." As he explains, a century ago, Queen Anne and bungalow windows were true divided lights, and the muntin bars were about 7/8 inches wide – sometimes as little as 5/8 inches wide. "We can keep the same geometrical shape, the same patterns, but because of the seal that goes around the insulated glass, it is necessary to cover that perimeter with the muntin bar itself, so you lose a little bit of your daylight opening." Safford says that in his experience, that is usually acceptable to a homeowner, "but architects often end up being more particular about it, leading them to opt for a single-pane window to maintain the sash style, but backing it with an interior wood storm sash. If true divided light authenticity is not mandatory, an alternative would be simulated divided light bars on insulated glass."



WE BELIEVE THAT TRUE PERFECTION IS IN THE DETAILS

Beautifully crafted reproduction and custom windows, doors and architectural millwork.

www.architecturalcomponentsinc.com

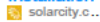
GAZEBOCreations.com
Create the Gazebo of your Dreams
Shop Thousands of Products Online



Gazebo Creation structures are created on a made to order basis. Use our Design Wizard to create your structure from the ground up. Design Online Today!

GazeboCreations.com/ph
1-888-293-2339

\$0 Down Installation

 solarcity.com
No Upfront Cost & Finance Solutions To Fit Your Needs. Act Now & Save!





Left: Wood Window Workshop manufactures bent double-hung windows to standards set by the WDMA (Window and Door Manufacturer's Association). Photo: Wood Window Workshop

Right: This double French casement window was manufactured by Wood Window Workshop in Spanish cedar with true divided lights, insulated glass and 7/8 in. muntins. Photo: Wood Window Workshop

Beyond aesthetics, the SDL/TDL choice has implications based upon how the glass performs. Says Forster, "Besides the other differences (cost, appearance) a simulated divided light window, which uses a single glass unit in each sash, is generally going to be able to achieve a higher energy rating; a true divided light window, on the other hand, may have more difficulty meeting stringent energy codes." Another question Forster points out is how the client views maintenance and the life of their window. "Do they want glass that, if it is insulated, may have to be replaced sometime in the next 20 years? Or do they want glass that will have to be re-glazed every 20 or 30 years but, other than this, should be fine for the life of the house?"

Meeting Rails and Check Rails

Muntin bars are not the only picky aspect of making new multi-light sash. According to De Lonay, another struggle for those specifying historical double-hung windows is what to do about meeting rails – the horizontal juncture of the upper and lower sash. "A common question is 'Do I need to make sure that the check rails are completely flat,'" he says, "or is there some sort of sticking (molded surface) going on here that makes them off-set?'" Indeed, well before the heyday of the Industrial Revolution in the late-19th century, sash makers knew that meeting rails were the Achilles heels of windows as far as drafts and wind chatter are concerned. So they devised ways to improve the seal with various specialized edges – beveled rail faces, for example, that meet in a wedge-like seal, or even double bevels that overlap to make what are often called check rails. Similar methods are used today to staunch air infiltration along with weatherstrips.

Interest in thermal performance can add another dimension – literally – to the rail issue.

Explains Safford, "With single-pane glass, the check rail supports a lot of the weight; moving to dual-pane glass adds to this load, and you have to have a check rail that is able to support that additional weight. It varies from pattern to pattern but generally you need to structurally improve the check rail, and that can be a concern in maintaining the narrow sight line that is there. You have to proportionally add more dimension to it – either make it thicker in height, or thicker in depth, or a combination of the two – or you end up compromising the long-term durability of the sash."

Sash makers of a century ago were also trying to minimize the meeting rail's intrusion on the daylight opening. They did this not only by making meeting rails as narrow as possible, but also by moving them above the line-of-sight at the midpoint of the window, producing what was marketed as a "cottage window" that featured one large single-light sash on the bottom topped by a smaller decorative sash. "We actually do still find and supply double-hung windows with a cottage style – and the reverse cottage style sash configuration – but not so much here in the Midwest," says De Lonay. "We see a lot of it in the southern parts of the United States, such as Louisiana, where there may be more of a market for traditional products."

He adds that, "If the architect is considering historical sash, sometimes there is the question of lugs versus no lugs." These are the earlobe-like extensions of the stiles that drop below the

meeting rail in a decorative curve. Though they look ornamental, they are, in fact, practical and designed to reinforce the joints at the meeting rail. Lug styles vary, some by geography and even manufacturer. "For historical sash, the lug profile would be something to consider in advance," says De Lonay. "Sometimes you also find them on the interior of the building – that is, on the top of the bottom sash."



HeartWood Fine Windows and Doors manufactures casement windows in traditional mullied and true-French styles. Photo: HeartWood Fine Windows and Doors

Big Shop/Small Shop

Surprisingly, an important decision in multi-light windows is one that is not apparent in the final product: the size of the maker. Says De Lonay, "A lot of double-hung style window products could be done in a smaller shop, but what a larger organization potentially offers is that they will manufacture to a set of standards – in our industry it is the [WDMA \[Window and Door Manufacturer's Association\]](#). For example, today we are not working with old-growth, tight-grained wood, so here are efforts to help the wood last longer through the use of preservatives." The window and door industry standards regulate what parts of the window or door need to be preservative-treated, and Kolbe acts in accordance with those standards.

However, small shops – and small shop vendors – can have their advantages. As Kershaw explains, "We use a small, very high quality, specialty glass shop that produces insulated glass units that have very narrow spacers – sight lines, as they are called. These narrow sight lines can fit into a narrow muntin and sill be hidden behind the wood, maintaining a historic narrow muntin appearance." He adds that besides being a little more difficult to work with, this precisely made, narrow sight-line glass gets very expensive and, for a large manufacturer, would probably make a window that they would have trouble competing with in their market.

So where does the process of ordering a period multi-light window begin? "Mostly what I say to architects is 'Send me some photographs,'" says Kershaw. "An elevation of the house, and then maybe a close-up of the sill, interior and exterior, will give me a sense of how the window was originally put together. Then with some preliminary sash opening dimensions and their parameters, we can begin to generate some pricing."

Says Safford, "Typically, it is a combination of a photo and drawings, then adding written details with the specifications. A photo will tell us the pattern of the grid, but it does not tell us how wide each bar is, or what the depth is, or the profile." He adds, "They can start out by telling us what they want, what the specification is; then we can respond with what we can do and what we can't do." Forster agrees. "Typically, an architect would either send us drawings with 'Here's what we are looking for,' or they would send photos of the existing house saying, 'Here is what we are trying to match.' How we work from there depends upon how collaborative they want to be." He notes that a photo provides a good starting place for that all-important question: how close are you trying to match the window? "Building the answer – which can range from 'just look like' to 'duplicate every detail exactly' – is all based upon budget. So by asking the right questions, we try to find the marriage early in what they want to do and where they want to go."

Gordon Bock, co-author of *The Vintage House*, lists his 2014 keynote speeches, seminars and workshops at www.gordonbock.com.

For more from the suppliers mentioned in this article:

Kolbe Windows & Doors

www.kolbe-kolbe.com

HeartWood Fine Windows and Doors

www.heartwoodwindowsanddoors.com

Wood Window Workshop

www.woodwindowworkshop.com

Parrett Windows & Doors

www.parrettwindows.com

Have something to say about this article? Feel free to [comment!](#)

Comments feed 

No comments to display.

www.period-homes.com

[Home](#) | [Free Product Literature](#) | [Talk](#) | [Advertising Information](#) | [Subscribe](#) | [Privacy Policy](#) | [Site Map](#) | [Contact Us](#)



Traditional Building

Period Homes

TRADITIONAL BUILDING
PORTFOLIO


TRADITIONAL PRODUCT

Galleries

**Traditional
Product Reports**

REXBILT

BuildingPort.com

 **tradweb**

TRADITIONAL BUILDING
CONFERENCE SERIES

**PALLADIO
AWARDS**

Old House
JOURNAL

early
Homes

**ARTS &
CRAFTS
HOMES**
AND THE REVIVAL

NEW OLD HOUSE

OLD HOUSE INTERIORS
**DESIGN
SOURCEBOOK**

DESIGNER CRAFTSMEN
&
HISTORIC HOME SHOW



Copyright 2014. Active Interest Media. All Rights Reserved.