AIA Peconic
A Chapter of The American Institute of Architects

AIA-PECONIC POSITION PAPER No.4:
ALLOW FIXED WINDOWS TO BE BUILT ON SITE AS WELL AS IN A FACTORY

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To the Editor:

Until the state Building Code was changed in 2003, architects and builders were able to save their clients significant amounts of money by using site-built, fixed glazing in some openings instead of more costly manufactured windows.

Arguing that previous practical limitations to site-built, fixed-glazed windows no longer exist, AIA Peconic, the East End chapter of the American Institute of Architects, has written the Codes Division asking that the units once again be permitted by the state.

The letter to the state from the chapter's Codes Committee takes the position that fixed site-built windows can now be installed according to Code-described *prescriptive* standards that respect the assigned hurricane wind zone and its Design Pressure calculations, or can be excluded from that method of wind engineering by turning to the code's Partially Enclosed Design method.

The 2003 Code required Design Pressure testing and ballistic testing for all windows-- tests and standards which are costly enough to effectively eliminate any windows that are not factory-made by a manufacturer able to afford the testing expense. The 2007 Code added language (Preconstruction Load Tests) that explicitly prevents builders from making and installing any fixed site-built windows.

Fixed site-built windows have for years been an efficient, less expensive alternative to installing a manufactured unit. With fixed-glazed site-built windows, the window jamb, with no operating sash, is built on-site by a carpenter and local glazier. In factory fabrication, the jamb and glazing are built off-site in the factory and furnished to the builder as a complete item ready to be installed.

When the Code eliminated site-built windows, it removed from the builder's and architect's lexicon one of the simplest methods available to them, when installing a fixed window without complex hardware, of reducing cost. Window manufacturers gained the competitive advantage of being able to perform the costly tests on representative samples in their factories.

When the 2003 Code was adopted, it called for the present Design Pressure testing requirements, but the writers seem to have assumed that there was little or no construction experience with site-built window jambs which could meet these tests.

It is the position of the AIA Peconic Codes Committee that, as a result of over five years of Design Pressure testing on manufactured window units, substantial knowledge has accumulated that can yield standards for site-built window jambs. Enormous practical and mathematical evidence from the manufactured windows already tested and installed to date can be used to establish adequate *prescriptive standards* and *generic details*, including the jamb construction and the glass-to-jamb

relationship, as well as the mathematical calculations for the glass, for Design Pressure site-built fixed windows.

While fixed *manufactured* windows should not be the only option in the Code, setting these standards for construction is the purpose of the Code, but guaranteeing those standards will be met is beyond the ability of the Code to enforce. The effectiveness of *manufactured* windows relies upon the assumption that the units actually furnished in the field replicate the integrity of the tested sample assemblies. Manufactured units not only rely on the accuracy of their jamb installation, but also the integrity of the adjacent enclosure fabric. Therefore, in the case of fixed windows, manufactured units are no more of a guarantee of satisfactory construction than any carefully site-built window jamb with field glazing.

It is AIA Peconic's position that fixed site-built windows, or fixed manufactured windows, should be required to meet Design Pressure standards. When the designer chooses the *Partially Enclosed Design Method* as an alternative to the Design Pressure Method, windows and doors are effectively excluded from his calculations. Therefore, in that case, *both manufactured and fixed site-built windows should be excluded in the Code from complying with Design Pressure requirements, since the building framework, with its envelope (but without the windows), is the structure under consideration.*

AIA Peconic's July letter to the Residential Code of New York State Technical Subcommittee has met with limited response. In the meantime, the NYS State Residential Building Code is about to be reissued, amended this year. AIA Peconic has been told that the comment period for current revisions has ended and any issues raised will not be examined until the opening of the next round of revision comments in approximately three years, *c*. 2012. AIA Peconic hopes that publishing of this letter will help inform members of the public and will lead to support for more timely action.

A copy of the AIA Peconic Position Letter on a number of code issues relevant to building on the East End, along with contact information, may be found on the chapter website: http://www.aiapeconic.org

Very truly yours,

Stephen A. Lesser, AIA
Chairman, AIA Peconic Chapter Codes Committee