AmesburyTruth™
Engineered Solutions. Trusted Results.

Tech Note #11: Impact Testing

The subject of 'impact testing' has become a serious issue for many window and door manufacturers who want to sell their products in coastal areas. The hardware used on a window or door is just one factor in the overall success of testing a product. The success or failure of the window or door to pass these stringent tests is more about the system as a whole than it is about any one piece of the system. The material used to construct the window/door, how the unit is assembled, and even how it is installed all contribute to the outcome of the window/door's success in testing.

AmesburyTruth has been very successful in working collaboratively with our customers to help them pass these tests. Our highly skilled team of Technical Support Specialists are very knowledgeable about the unique characteristics that a window system should possess to achieve a successful impact testing result.

If you are a manufacturer, extruder, or fabricator who is interested in having your window/door system pass impact tests, AmesburyTruth would like to work with you and help you accomplish this task. For AmesburyTruth staff to make an informed recommendation, we have found that the following information should be collected prior to our discussion. With this information in hand, please contact AmesburyTruth's Technical Support Team at 1.800.866.7884 and we will be happy to provide assistance and offer our recommendations.

In order to expedite this process, the following worksheet should be completed prior to contacting AmesburyTruth.

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Impact Testing Fact-Finding Questionnaire

- Which impact protocol are you attempting to pass?
  - AAMA
  - DADE COUNTY

- What Level/Zone are you testing to?

- What level of Design Pressure (DP Rating) are you attempting to reach?

- What style of window/door are you having tested (awning, casement, single/double hung, patio, or entry door)?

- What is the material you window/door is constructed off (wood, vinyl, aluminum, fiberglass)?

  - An interlock in the profile design of a single/double hung window has proven to be critical in the success of this style window during these tests – does your window incorporate an interlock in the profile design?

  - In the case of PVC or fiberglass, are you willing to modify your profile design to accept inserts/stiffeners which have been determined to be a very successful and economical means of helping a design to achieve the desired test results?

- What size window/door are you having tested?

  - Because of the heavier sashes encountered in Impact units sash sag becomes an issue in casement windows that may not have seen sash sag issues before. Good sash sag prevention per AmesburyTruth's Tech Note #3 is recommended.

  - NAFS Load tests (ANSI/AAMA/WDMA 101/I.S.2/NAFS-02) With the heavier sashes encountered in impact units, hardware load tests become an important issue with the hardware combinations and sash weights being balanced in order to be able to pass these requirements.

Damage during shipping becomes an issue, good shipping blocks are required in order to prevent damage to hardware components due to sashes shifting during transport and handling.

- Has your window/door system already been tested, and if so, what was the outcome of the tests? At what point in testing did any failures occur? What was determined to be the weakest link in the system?

- What are you currently using for window/door hardware? Specifically, in the case of a window, we need to know the types of operator, locks/keepers, hinges, and snubbers that are currently being used.

- Are you considering stainless steel hardware or steel hardware for your window system?

- Are you open to changes in the window/door systems manufacturing process (i.e., tooling) which may provide alternative options for hardware choices?

- How do you plan to install the window/door, and are you open to alternative suggestions if they will help the system pass the tests?

Once you have completed this questionnaire please contact the AmesburyTruth Technical Support Team. A full cross-section (horizontal and vertical) of your window/door in a 2D .dwg format will also help in the assessment of hardware required. This information will allow AmesburyTruth to fully evaluate the system and will improve the response time in making a recommendation.

Name: _____

Company Name: _____

Phone #: _____

Fax #: _____

E-Mail: _____