



AAMA/CSA/WDMA TECHNICAL INTERPRETATION

INTERPRETATION
NUMBER

03-01

Approved 12/06

DATE OF INQUIRY: 7/3/03

PERTINENT SPECIFICATION(S): ANSI/AAMA/NWDA 101/IS. 2-97, Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors, ANSI/AAMA/WDMA 101/IS. 2/NAFS-02, Voluntary Performance Specification for Windows, Skylights and Glass Doors, and AAMA/WDMA/CSA 101/I.S.2/A440-05, Standard/Specification for Windows, Doors, and Unit Skylights.

SECTION(S) IN QUESTION: Uniform Load Deflection Tests and Uniform Load Structural Tests

; Clarification is sought on the following issues:

- 1) The standards state that "...no member shall deflect..." and "...no permanent deformation on any main frame, sash, panel, or sash member..." In order to achieve the requirements of these standards, every member of the product must be measured for deflection to assure that no member has violated this clause.
- 2) In addition, the new 101/I.S. 2/NAFS standard requires that the measured deflections be recorded in the test reports for all product designations. Accredited test laboratories are not consistently measuring every member, but are interpreting the spirit of the standards to mean:
 - a) Measure the longest unsupported span(s) and/or,
 - b) Measure each unique profile, regardless of length, and/or
 - c) Measure each unique profile reinforced and non-reinforced, regardless of length

By measuring the elements as indicated in a, b, and c above, the labs achieve the spirit of the standards, but not the written language, because not all members will be measured. As a result of individual interpretations and complexity of test samples, not all labs are measuring deflections the same.

Because of the large quantity of product types and sizes being tested, it is very conceivable that similar products may have deflections reported differently by the labs, thereby causing confusion in the marketplace. The laboratory task group has been attempting to define measurement locations on common product configurations. The outcome is that some labs believe the measurement guidelines have too many measurement points and some believe there are too few. If we are to standardize the measurement and reporting of deflection in test reports, we must have the spirit of the specifications refined into common sense rules that can be interpreted consistently by the labs for any product type.

INTERPRETATION REQUESTED:

- 1) Shall accredited labs measure, for deflection and permanent set, all unique glass supporting sash, mullion and panel members which are the longest span or longest span between anchor points?
- 2) Shall accredited labs measure, for deflection and permanent set, all unique unsupported frame members which are the longest span or longest span between anchor points?
- 3) Shall accredited labs measure, for deflection and permanent set, supported frame members which are anchored directly to the test fixture?

SUGGESTED INTERPRETATION:

1) **Yes.** The intent of the referenced specifications is to ensure that deflection measurements are taken during every Uniform Load Deflection test. The specifications also require that these deflection measurements be recorded in the test report and if the particular window type and performance class require a deflection limit that the report show whether or not this limit is met by the product being tested. If the window or door assembly has two or more members which have the same cross sectional properties, only the one with the longest unsupported span needs be measured for deflection. The laboratory must exercise discretion and judgment in determining if fabrication or reinforcement details necessitate additional deflection measurements. The intent of the specifications has never been that ALL members of the assembly must be measured for deflection but that a worst case representative of each sash, mullion or panel section be measured for deflection and that these values be reported in the test report as representative of the worst case deflections under load of the assembly being tested. The test report must be clear as to the members tested and the results obtained.

2) **Yes.**

3) **No.**

REVIEWED/ APPROVED BY:

COMMITTEE	COMMENTS / ACTION	STATUS	DATE
JDMG		Approved	Aug. 9 th , 2005
AAMA		Approved	Feb. 27 th , 2006
CSA		Approved	Sept. 9 th , 2006
WDMA		Approved	Jan. 18, 2006