



WDMA TECHNICAL INTERPRETATION 97-13

Approved: 10/97

DATE OF INQUIRY: November 29, 1993

PERTINENT SPECIFICATION: ANSI/AAMA/NWDA 101/I.S.2-97, “Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors”

SECTION(S) IN QUESTION: 2.2.13.5.1, Unit Dead Load Test on Greenhouse Windows

INTERPRETATION REQUESTED: Can calculations be used to allow the substitution of thinner glass shelves, for spans shorter than those used for conformance testing?

INTERPRETATION MADE: A Greenhouse Window which has been successfully tested to Paragraph 2.2.13.5.1 based upon a specific material and thickness of shelving is permitted to use a thinner shelf of the same material for narrower or shallower units provided the calculated deflection of the modified shelf does not exceed L/175 using the uniform load determined according to paragraph 2.2.13.5.1 for the size unit in question.

Example:

Assume the original compliance test was based upon a Greenhouse window of minimum test size with one intermediate shelf. The total glazing material area is approximately 12.3 sq. ft., and the combined area of the intermediate shelf and bottom pan is approximately 3 sq. ft. Using these values and a glazing material weight of 1.3 lb/ft², the uniform weight to be applied to the shelf during the test, as determined by paragraph 2.2.10.4.1 would be:

$$\frac{(8 \text{ lb/ft}^2 \times 3 \text{ ft}^2 \text{ shelf}) + (1.3 \text{ lb/ft}^2 \text{ glass weight} \times 12.3 \text{ ft}^2 \text{ glass})}{3 \text{ ft}^2 \text{ shelf area}} = 13.33 \text{ lb/ft}^2 \text{ uniform shelf load}$$

To calculate the required shelf loading for a 2' wide greenhouse window of same design (total glazing area approximately 9.17 ft² and combined shelf/pan area of 2 ft²), the load specified in paragraph 2.2.10.4.1 must be recalculated, yielding:

$$\frac{(8 \text{ lb/ft}^2 \times 2 \text{ ft}^2 \text{ shelf}) + (1.3 \text{ lb/ft}^2 \text{ glass weight} \times 9.17 \text{ ft}^2 \text{ glass})}{2 \text{ ft}^2 \text{ shelf area}} = 13.96 \text{ lb/ft}^2 \text{ uniform shelf load}$$

REVIEWED/ APPROVED BY:

| COMMITTEE | COMMENTS / ACTION | STATUS |
|-----------|--|--------------------|
| JDMG | | |
| WDMA | Reviewed by NWDA Standards Maintenance Committee | Approved – 10/97 |
| AAMA | Approved by AAMA Technical Policy Planning Committee as AAMA Technical Interpretation #51. | Ed. Revised - 1/98 |