

## ASTM E 773-97 and ASTM E 774-97

Standard Test Method for Accelerated Weathering of Sealed IG Units & Standard Specification for the Classification of the Durability of Sealed Insulating Glass Units

For doubles and/or triples fabricated for sliding doors, windows, wall systems, picture windows.

Unit Size:	14" x 20" ( $\pm 1/4"$ )	Air Space:	1/4" through 1/2"
Glass Thickness:	3/16" or 1/4"	No. of test units needed:	minimum of 10

### PROCEDURE:

#### Volatile Fog Test

Test 2 test units for 7 days for Volatile Fog. Test per ASTM E-1887. The temperature at the glass surface in the volatile fog box shall be maintained at  $65 \pm 3^{\circ}\text{C}$  ( $150 \pm 5^{\circ}\text{F}$ ). Maintain the temperature of the cooling plate at  $21 \pm 3^{\circ}\text{C}$  ( $70 \pm 5^{\circ}\text{F}$ ). Remove the units from the test after 7 days and condition at room temperature for 24 hours. Examine for fog by holding the unit at arm's length.

#### Take 6 of the remaining 8 test units.

1. Dew point units (ASTM E 546).
2. Six test specimen are exposed to High Humidity Chamber at  $60 \pm 3^{\circ}\text{C}$  ( $140 \pm 5^{\circ}\text{F}$ ) and  $95 \pm 5\%$  RH for 14 days. Remove specimens from the High Humidity Chamber.
3. Dew point again.
4. Accelerated Weather cycle (same 6 units are put in the accelerated weather cycle). Expose one surface to weathering cycles and the other surface to room temperature.
5. Dew point per ASTM E 546.

#### Accelerated Weather Cycling: Each cycle is 6 hours.

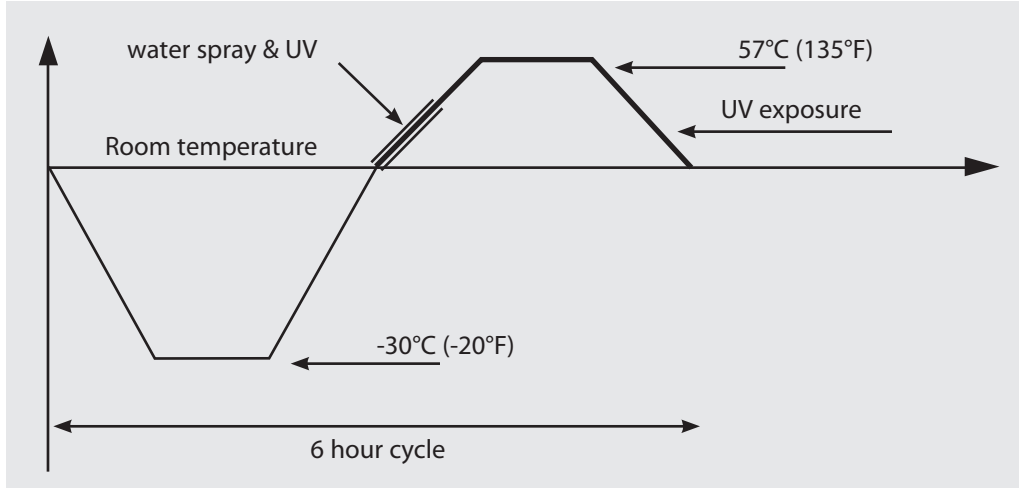
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| <ol style="list-style-type: none"> <li>a. Decrease temperature from room to <math>-30 \pm 3^{\circ}\text{C}</math> (<math>-20 \pm 5^{\circ}\text{F}</math>).</li> <li>b. Maintain temperature at <math>-30 \pm 3^{\circ}\text{C}</math> (<math>-20 \pm 5^{\circ}\text{F}</math>).</li> <li>c. Raise temperature from <math>-30 \pm 3^{\circ}\text{C}</math> (<math>-20 \pm 5^{\circ}\text{F}</math>) to room.</li> <li>d. Start water spray and UV lamps to raise temperature from room to <math>57 \pm 3^{\circ}\text{C}</math> (<math>135 \pm 5^{\circ}\text{F}</math>). Turn off water spray after 30 minutes.</li> <li>e. Maintain temperature at <math>57 \pm 3^{\circ}\text{C}</math> (<math>135 \pm 5^{\circ}\text{F}</math>) and UV exposure.</li> <li>f. Decrease temperature from <math>57 \pm 3^{\circ}\text{C}</math> (<math>135 \pm 5^{\circ}\text{F}</math>) to room. Continue UV exposure.</li> <li>g. Turn off UV exposure.</li> </ol> | <div style="border-left: 1px solid black; border-right: 1px solid black; border-bottom: 1px solid black; width: 20px; height: 100px; margin: 0 auto;"></div> <p>each step 1<br/>hour</p> |
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When the number of prescribed cycles has been attained, remove the specimens and determine the frost point per ASTM E 546.

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**Fig: Schematic Drawing of Each Cycle for Accelerated Weather Cycle Test**

Note: This figure represents a linear response, but the equipment will not necessarily respond in a linear manner.

- Phase C: (5 weeks) 140 accelerated weather cycles and no frost at -34°C (-30°F)
- Phase B: (2 weeks) 56 accelerated weather cycles and no frost at -29°C (-20°F)
- Phase A: (2 weeks) 56 accelerated weather cycles and no frost at -29°C (-20°F)

Each CBA cycle is 15 weeks long. (2 weeks HH, 5weeks AWC, 2weeks HH, 2 weeks AWC, 2 weeks HH and 2 weeks AWC.)

Rev. #	Revisions Made	Rev. Date
2	Formatting	06-11
1	Revision date	12-06-01