

THERMAL PERFORMANCE TEST REPORT

Project: ATI-891
Test Date: 10/31/80
Report Date: 11/21/80

CLIENT: The Warm Window
6081 Lake City Way Northeast
Seattle, Washington 98115

PURPOSE: The purpose of this series of tests was to determine the thermal transmittance of a wood double hung window with and without The Warm Window Roman Shade.

SHADE DESCRIPTION

TYPE: An insulated Roman Shade

OVERALL SIZE: 2' 11 1/2" wide by 4' 1" high. The overall thickness was approximately 3/8".

INTERIOR LAYERS: The interior layers were Dacron with a two mil vapor barrier in the center and a metalized mylar film on the interior. A steel bar at the bottom and metal strips in sides were concealed in the interior layers.

COVER: 100% cotton fabric

BACKING: 50% cotton, 50% polyester insulated drapery lining

WEATHERSTRIPPING: A 1/2" wide magnetic strip was located at the sides and bottom. A steel bar contacted the weatherstrip at the bottom and metal strips contacted the sides. The top of the shade was secured to the window frame with three wood screws.

WINDOW DESCRIPTION

TYPE: A wood double hung window

OVERALL SIZE: 2' 10 3/4" wide by 3' 6 3/4" high

GLAZING: Exterior glazed using single strength glass with glazing putty.

WEATHERSTRIPPING: No weathstripping used

FINISH: White painted wood

AIR INFILTRATION (Prime Window):

The sample was tested for air infiltration in general accordance with ANSI/ASTM 283-73.

1. Static pressure = 0.112 inches H₂O; equivalent to a wind velocity of 15 mph
2. Test specimen crack length = 8.67 ft

Air infiltration measurements taken during this test and corrected for air density were:

3. Test specimen infiltration = 16.8 cfm (15 mph)
4. Infiltration per foot of crack = 1.93 cfm/ft (15 mph)

AIR INFILTRATION (Prime Window + Shade):

1. Static pressure = 0.112 inches H₂O; equivalent to a wind velocity of 15 mph
2. Test specimen crack length = 8.67 ft

Air infiltration measurements taken during this test and corrected for air density were:

3. Test specimen infiltration = 7.3 cfm (15 mph)
4. Infiltration per foot of crack = 0.84 cfm/ft (15 mph)

THERMAL TRANSMITTANCE (Prime Window):

Tests to determine thermal transmittance (U) were performed in general accordance with ANSI/ASTM C236-66, under the following conditions:

TW = Average warm side ambient temperature = 67.5F

TC = Average cold side ambient temperature = 18.2F

P = Static pressure difference across test specimen = 0.0 psf

No wind at exterior.

Nominal sample area	10.32 FT ²
Total measured input to calorimeter	753.5 BTU/HR
Net specimen heat loss	476.0 BTU/HR
Calorimeter correction	277.5 BTU/HR

Thermal Transmittance (U)

- a. Due to conduction (U_c)* 0.72 BTU/HR/FT²/F
- b. Due to infiltration (U_i) 1.75 BTU/HR/FT²/F

*Adjusted for no exterior wind.

THERMAL TRANSMITTANCE (Prime Window + Shade):

Tests to determine thermal transmittance (U) were performed in general accordance with ANSI/ASTM C236-66, under the following conditions:

TW= Average warm side ambient temperature = 66.2F

TC = Average cold side ambient temperature = 18.1F

P = Static pressure difference across test specimen =
0.0 psf

No wind at exterior.

Nominal sample area 10.32 FT²

Total measured input to calorimeter 88.5 BTU/HR

Net specimen heat loss 66.0 BTU/HR

Calorimeter correction 22.5 BTU/HR

Thermal Transmittance (U)

- a. Due to conduction (U_c) 0.13 BTU/HR/FT²/F
- b. Due to infiltration (U_i) 0.76 BTU/HR/FT²/F

Representative samples of the test specimen and a copy of this report will be retained by ATI for a period of four years. This report is the exclusive property of the client so named herein and is applicable to the sample tested. Results obtained are tested values and do not constitute an opinion or endorsement by this laboratory.

ARCHITECTURAL TESTING, INC.



Scott Warner
Director of Testing Services