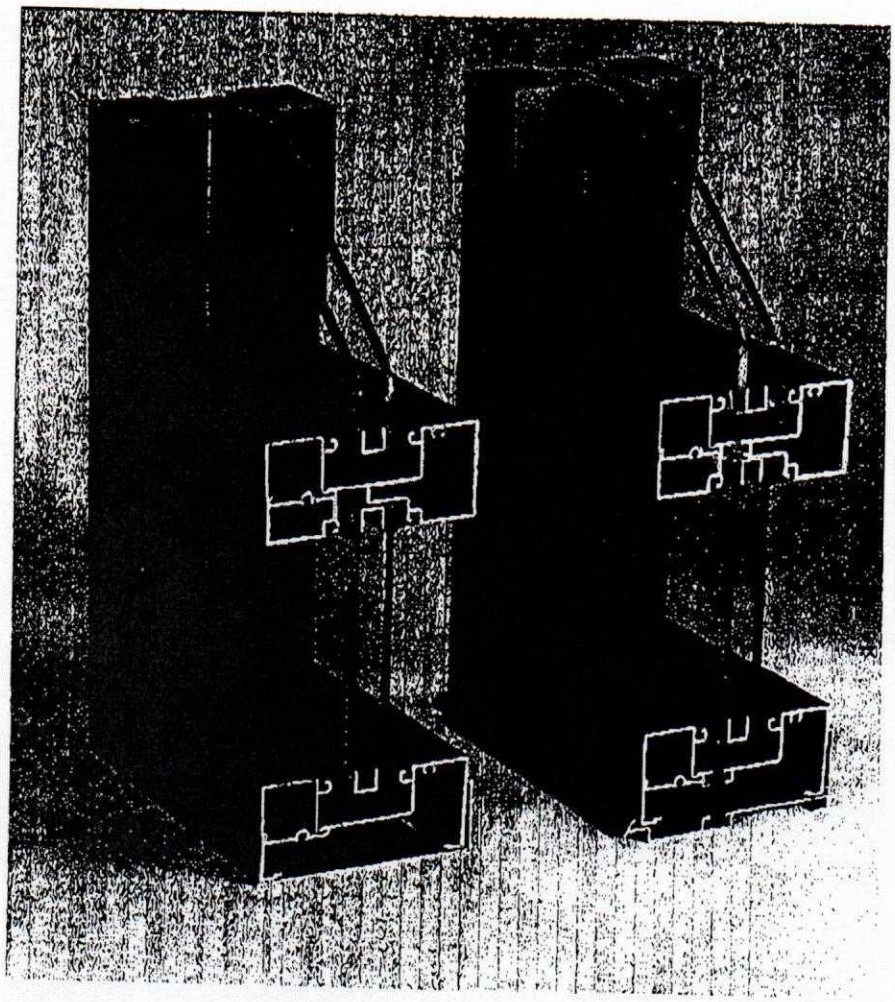
14.01
14000 Series Flush Glaze
Description



Description

Tubelite 14000 Series Framing is a 2" x 4 1/2" deep flush glazed fixed window system for use on low rise applications. This dry glazed internally drained storefront is designed for 1" thick insulating glass positioned in the center of the frame; 1/4" thick glass for vision or spandrel areas may be accommodated by use of an interior glazing adaptor.

14000 Series is available in standard or thermally improved designs,

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14.02
14000 Series Flush Glaze
Guide Specifications

General

Description

Furnish all necessary materials, labor and equipment for the complete installation of aluminum framing as shown on the drawings and specified herein.

Fixed window framing shall be 14000 Series Flush Glaze (2" x 4 1/2") as manufactured by Tubelite Inc., Walker, Michigan. Whenever substitute products are to be considered, supporting technical literature, samples drawings and performance data must be submitted ten (10) days prior to bid in order to make a valid comparison of the products involved.

Test reports certified by an independent laboratory must be made available upon request.

Performance Requirements

Air infiltration shall not exceed .06 CFM/Ft² when tested in accordance with ASTM E-283 at a test pressure of 6.24 PSF.

There shall be no uncontrolled water entry when tested in accordance with ASTM E-331 "Water Penetration of Exterior Windows, Curtainwalls and Doors by Uniform Static Air Pressure Difference" at a test pressure of 15 PSF.

There shall be no uncontrolled water entry when tested in accordance with AAMA 501.1-94 at a dynamic pressure equivalent of 15 PSF.

Structural performance per ASTM E330 shall be based on a maximum allowable deflection of L/175 of the span or 3/4" maximum. The system shall perform to those criteria under a wind load of (architect specify) _____ PSF.

There shall be no buckling, stress on glass, edge seal failure, excess stress on curtainwall structure, anchors and fasteners or reduction in performance when tested in accordance with AAMA 501.5-98 at a temperature range of 0° to 180° F.

There shall be no "Life/Safety" type failures (glass breakage, anchor failures, or structural damage) when tested in accordance with AAMA 501.4, seismic test (lateral cycling.)

Thermal transmittance due to conduction (U_o) shall not be greater than .60 - poured & debridged only (or .63 - slotted only) BTU/Hr/Ft²/F degree when tested in accordance with AAMA 1503-98. Condensation Resistance Factor (CRF) shall not be less than 56 - poured & debridged only (or 53 - slotted only) when tested in accordance with AAMA 1503-98.

The system shall have a Sound Transmission Class (STC) rating of 32 and an Outdoor-Indoor Transmission Class (OITC) rating of 26 when tested in accordance with ASTM E90-97, ASTM E413-87 (reapproved 1994) and ASTM E1332-90.

Products

Materials

Extrusions shall be of aluminum alloy 6063-T5 extruded within commercial tolerance and free from defects impairing strength and/or durability. Main framing sections to be of .075 inch minimum wall thickness and glazing stop moldings of .060 inch thickness.

Screws, bolts and all other accessories to be compatible with the aluminum under normal service conditions.

Glazing shall be by means of an exterior and interior roll-in wedge of high quality extruded elastomeric material.

Optional: Thermal barrier shall be a two part chemically curing, unfilled polyurethane casting resin poured in place for perimeter members. Intermediate vertical members shall be slotted for efficient thermal performance.

Finish

All exposed framing surfaces shall be free of scratches and other serious blemishes.

Finish to be: (architect select)

Etched and clear anodized
(AAM12C22A31)
Clear - Class 2 (OA)
(AAM12C22A41)
Clear - Class 1 (2A)

Electrolytically deposited color
(AAM12C22A44) Class 1
Champagne (4K)
Light Amber (2K)
Amber (1K)
Statuary Bronze (3K)
Black (OD)

Fluoropolymer painted color _____.

Execution

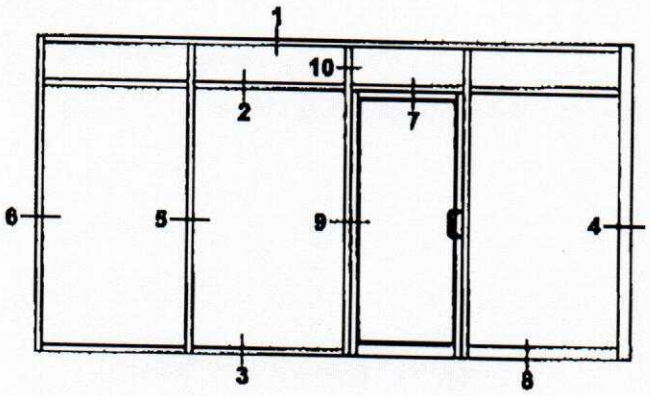
Installation

Shall be in accordance with the manufacturer's installation instructions and the approved shop drawings.

Note:

In keeping with Tubelite's policy of continuing product improvements, all specifications are subject to change without written notice by the manufacturer.

14.03
E14000 Series Flush Glaze
Elevation & 1/4 Size Details



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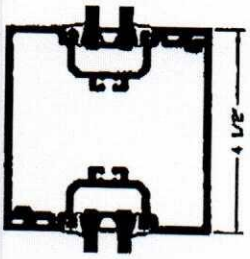
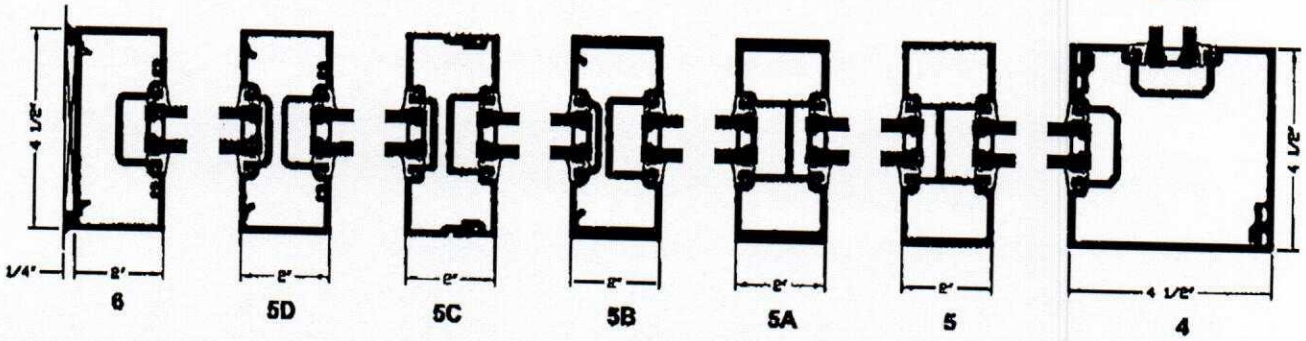
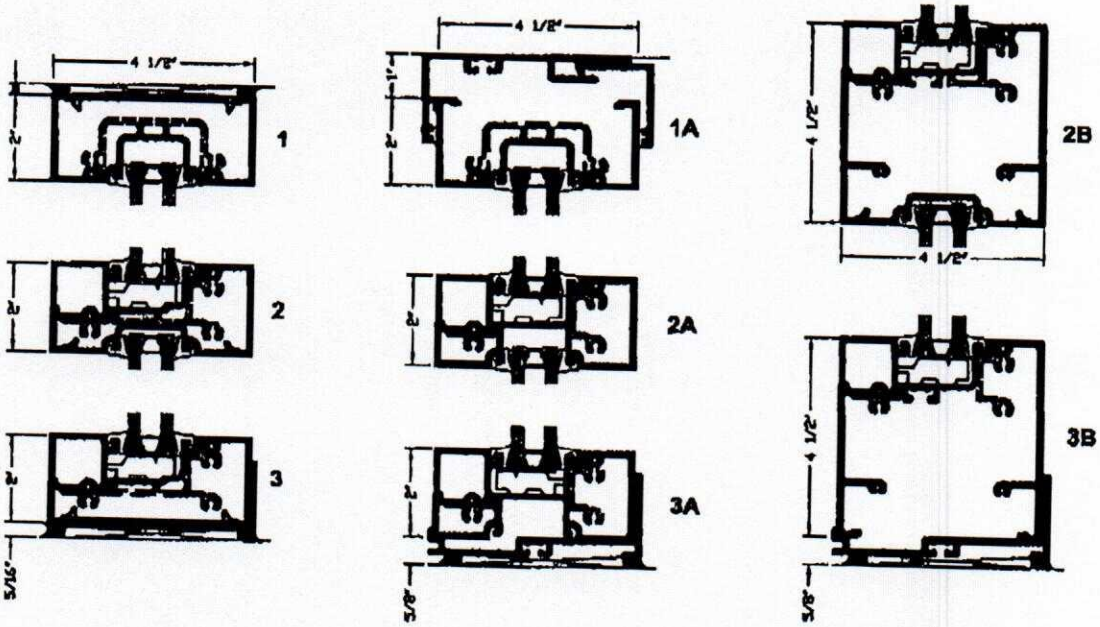
190ELEV







*SEALANT, ROD, & ANCHORS NOT BY TUBELITE

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14.04
E14000 Series Flush Glaze
1/4 Size Details

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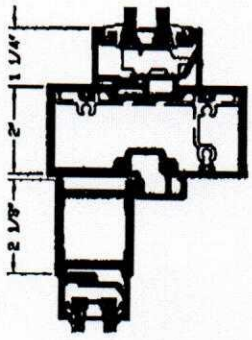
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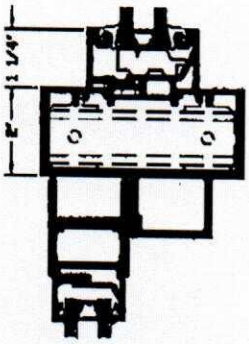
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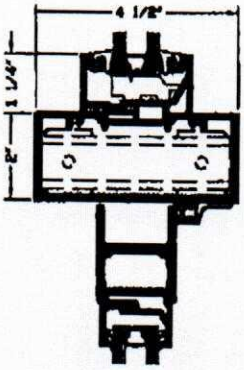
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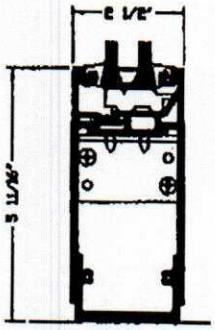
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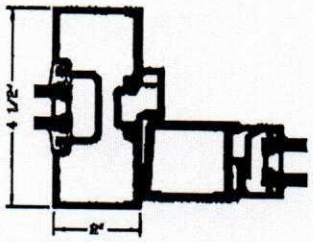
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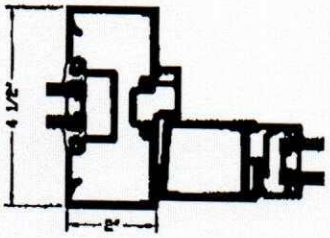
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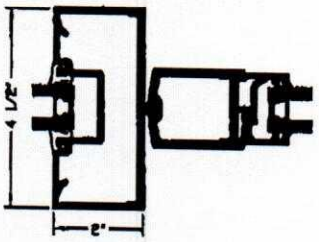
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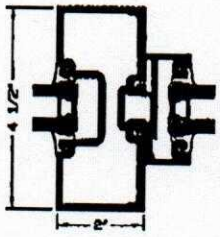
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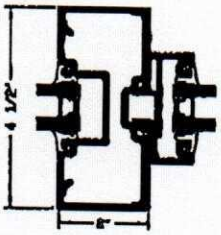
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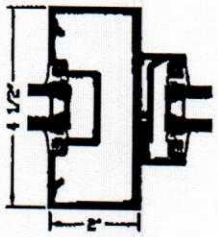
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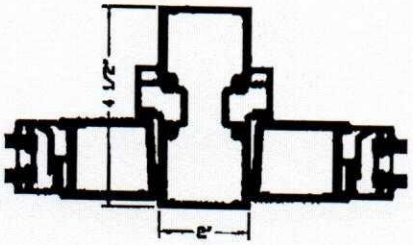
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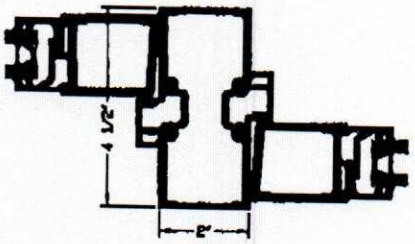
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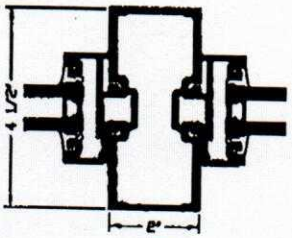
10C

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TUBELITE®

STOREFRONT, CURTAINWALL & ENTRANCES

DEPENDABLE

LIMITED WARRANTY

April 29, 2009

Job Reference:

SO #

WARRANTY AND REMEDIES FOR DEFECTS:

A. If any of the aluminum materials (the "Products") furnished by Tubelite Inc. ("Tubelite") that 1) have been properly installed, and 2) have not been subjected to abuse or misuse prove to be defective (as defined below) within two [2] years from the date of shipment, then Tubelite will, at its option, repair or replace the defect, or pay the reasonable cost of repair or replacement for the defect, provided that notice of the defect is given to Tubelite within 30 days after discovery of such defect by Purchaser. This warranty does include factory-applied finishes on exposed aluminum surfaces against peeling, checking, cracking, chalking and change of color, per applicable AAMA Specifications

[ ] 2603 - Baked Enamel /5 year, adhesion only

[ ] 2604 - 50% Kynar / 5 years

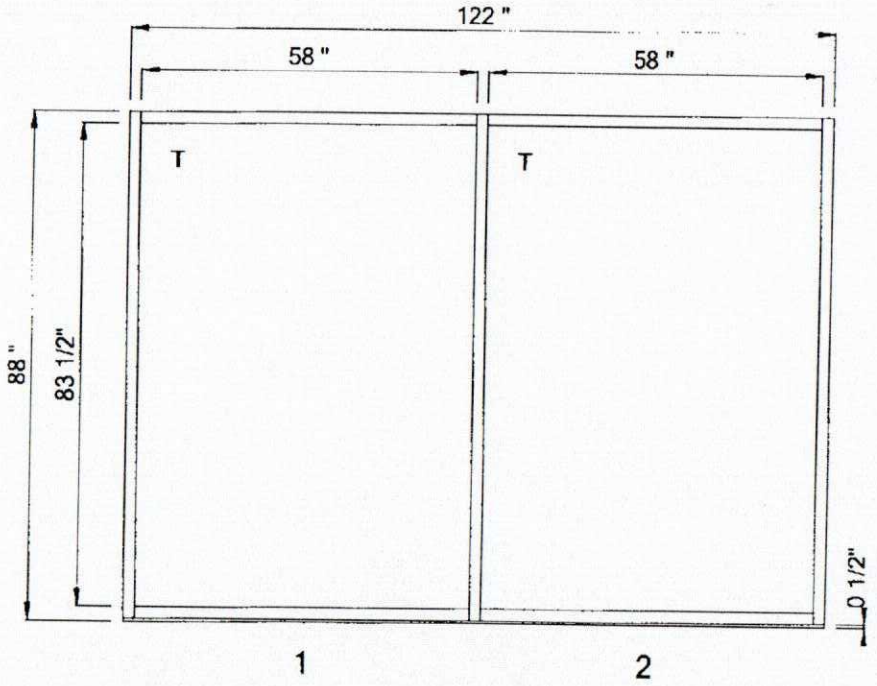
[ ] 2605 - 70% Kynar X10years

[ ] 611 - Class I Anodize - 5 years / Class II Anodize - 2 years

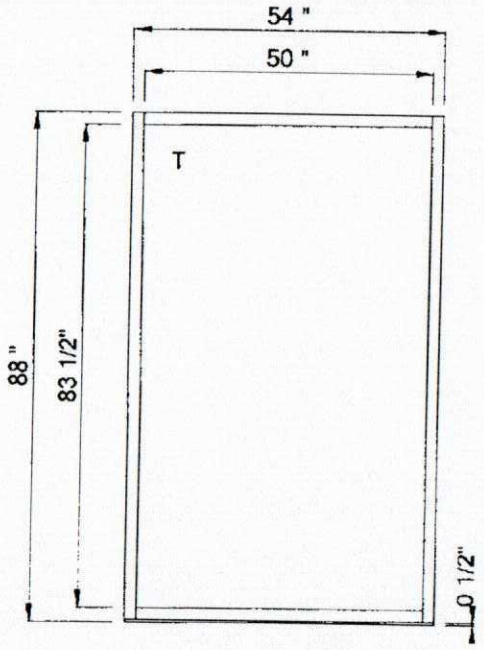
in force at the time of purchase. This limited warranty applies only when finish types recommended for the atmospheric environment of the project site are used. Tubelite reserves the right to re-finish defective components in the field, using air-dry products. Repair or replacement does not include any costs of removal or reinstallation of the defective Product or part thereof. A product shall be considered "defective" or having a "defect" if it is found by Tubelite to have been defective in materials or workmanship and if the defect materially impairs the value of the Product to Purchaser, except that if Purchaser shall have approved a sample or drawings of, or specifications for, the Product, then the Product shall not be defective to the extent it conforms to the sample, drawings or specifications. This warranty is only valid if the Products are installed properly and in accordance with instructions and if the Products are not subject to abuse or misuse. Tubelite shall have the option of requiring the return of the defective Product or part thereof, transportation prepaid, and proof that the Product has been properly installed, maintained and operated to establish the claim. In the event of a defect in any Product constituting a breach of the warranty provided herein, Tubelite shall furnish instructions for the disposition of the defective Product or part thereof.

B. Notice of a breach of Tubelite's warranty must be made in writing addressed to Tubelite, setting forth sufficient detail to permit identification by Tubelite of the claimed defect. Such notice must be given within 30 days after discovery of the defect by Purchaser, but in no case more than two [2] years and 30 days after the date of shipment of the Products to Purchaser. If notice is not given within such period, any claim for breach of warranty shall be conclusively deemed to have been waived by Purchaser and Tubelite shall not be liable to Purchaser with respect to the alleged defect.

800.866.2227 • Fax 877.299.2414 • www.tubeliteinc.com • 3056 Walker Ridge Drive NW, Suite G, Walker, Michigan 49544



Glass Pro - Nova - 001 - A.dxf (2 Thus)
Frame: (C1/DB/1P) T14000 : Storefront :
2 x 4-1/2 : Flush Glaze : T14055 subsill



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Glass Pro - Nova - 002 - B.dxf (2 Thus)
Frame: (C1/DB/1P) T14000 : Storefront :
2 x 4-1/2 : Flush Glaze : T14055 subsill

Understanding U-Factor

You can tell how much heat a window allows through by its U-factor, which measures thermal conductivity. A lower U-factor means a better-insulating window. The more common term R-value refers to the resistance of the window to heat conduction, and it is the inverse of the U-factor (that is, R-value = 1/U-factor). Better windows have high R-values and low U-factors (see Table 1).

Since the different parts of a window all have different U-factors, you should look at the U-factor for the whole window. The frame and the edge of the glass usually have higher U-factors than the center of the glass. If they don't specify-and they often do not-manufacturers or dealers may refer to a window's center-of-glass U-factor, which is almost always lower than the U-factor for the window as a whole.

Fortunately, many new windows are labeled with an energy information sticker from the National Fenestration Rating Council (NFRC). The U-factor on the NFRC label always refers to the whole window. To make sure you are comparing apples to apples, ask for the NFRC ratings even when there is no label on the window (see "Window Ratings and Labels"). Also, be sure to use the same size windows for comparison, as the ratio of glass to framing affects the result.

Table 1 – Whole Window U-factors of Sample Windows

	Aluminum frame w/o thermal break	Aluminum frame with thermal break	Wood or Vinyl Frame
Single Glass	1.30	1.07	n/a
Double Glass, ½" air space	0.81	0.62	0.48
Double glass, low-e, (E*=0.2), ½" air space	0.70	0.52	0.39
Double glass, low-e, (E*=0.1), ½" air space	0.67	0.49	0.37
Double glass, low-e, (E*=0.2), ½" space with argon	0.64	0.46	0.34
Triple glass, low-e, on two panes, ½" paces with argon	n/a	n/a	n/a
Quadruple glass, low-e (E=.01) on two panes, ¼" spaces with krypton	n/a	n/a	0.22

*E is the emittance of the low-e coated surface.

Source: 1993 ASHRAE Handbook: Fundamentals, (Atlanta, GA:American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Incorporated, 1993).

Note: These are example of whole window U-factors of 3 ft x 5 ft windows. U-factors vary somewhat with window size. Ask the dealer for the specific values for the window you are looking at.

Double Panes

The first step to improving a window is usually to add a second pane of glass. This traps a layer of still air, a good insulator, between the panes. Double-pane windows insulate about twice as well as single-pane windows, so only half as much heat passes through the window.