



# Window Installation Instructions

January 2008

# 1. General notes

Windows are finished products and must be protected against damage. The following procedures and precautions are recommended:

## A. Protection and Storage

1. Handle the material carefully.
2. Do not drop or drag from the truck to avoid racking or damage to windows or accessories.
3. Stack the windows with the directional arrows in the proper position, and allow adequate separation so the windows will not rub together.
4. Store the windows off the ground (i.e., pallets, planks, etc.).
5. Protect against the elements and other construction trades by using a well ventilated covering.
6. Remove material from packaging if it becomes wet. Then repack materials and move to a dry location.
7. Caution: Windows are not to be used as ladders, scaffolds, or scaffold supports.

## B. Check Material

1. Check all the material upon arrival for quantity and damage. Any visibly damaged material must be noted on the freight bill at the time of receipt. If a claim is required, the receiving party must process a claim with the freight carrier. If the delivery is by an EPAL truck, any damage or variance in the quantity of window units or boxes must be reported to the EPAL driver during the unloading process.

## C. Glass care and cleaning

### 1. General cleaning

It is important to wash, rinse, and dry glass at frequent intervals particularly during construction. For all glass surfaces, except coated glass use soft, clean, grit free cloths, mild soap, detergent, or a slightly acidic cleaning solution, follow immediately with clean rinse water, and prompt removal of excess rinse water with a clean squeegee.

### 2. Cleaning of coated or reflective surfaces

Clean coated glasses with a mild soap or other mild detergent applied with grit free rags or sponges, followed immediately by rinsing with clear water and removal of excess rinse water with a clean squeegee. Remove grease with commercial solvents such as xylene, toluene, mineral spirits or naphtha and follow with normal wash and rinse. Be careful not to damage insulating unit seals by over generous applications of strong solvents. Comply with solvent manufacturer's directions on label for toxicity and flammability warnings.

Fingerprints, grease stains, smears, dirt, scum, sealant residue, scratches, and abrasions (on either surface) are more noticeable on reflective glasses than on non-reflective glass. Take extra care in cleaning to be sure that gritty dirt particles picked up by the cloths do not scratch the glass.

Coated glasses should be cleaned at least 3-4 times per year so that materials such as metal ions, alkali runoff from concrete stucco, etc., are not on the coated glass surfaces for long periods. As residence time of the stain increases, there is an increasing probability that diffusion into the coating will occur. This results in a more difficult stain to remove and could damage the coating.

Do not use harsh cleaners, abrasives cleaners, alkaline materials, fluoride salts, or hydrogen producing compounds

### **3. Some important don'ts**

Do not mark or coat glass partially or completely with "X's" or other symbols with any material whatsoever. If paper or adhesive is alkaline in character, the contact area may be attacked directly. If paper or adhesive is neutral or slightly acid in character, it may "protect" the contact area and permit adjacent exposed surfaces to weather or age. Though subtle, such conditions sometimes are sufficiently evident to be annoying.

Splatter from welding may cause permanent surface damage, reduce strength and lead to breakage

## **2. Construction notes**

The following practices are recommended for all window installations:

### **1. Reference Shop Drawings**

Check the shop drawings and installation instructions to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. The installation instructions are general in nature and cover the most common conditions.

### **2. Check Openings**

Make certain that construction which will receive the material is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with your work.

### **3. Benchmark Layout**

All work should start from benchmarks and/or column centers lines as established by the architectural drawings and the general contractor.

### **4. Plumb / Level / True**

All materials are to be installed plumb, level, true, and in proper alignment and relation to established line grades. Products are to be installed maintaining tolerances of 1/8" in 12'-0" of length.

### **5. Isolate Aluminum**

Isolate aluminum that directly contacts masonry or incompatible materials with a heavy coat of zinc chromate, plastic isolators, or bituminous paint.

### **6. Poured and Debridged and Thermal Strut Sections**

Do not drill, punch, penetrate, or alter the poured and debridged thermal break or extruded thermal strut in any manner.

### **7. Fastening**

Fastening means any method of securing one part to another or to adjacent materials. Due to varying opening conditions, window configurations, design pressures, and methods of anchorage (subframe, "F" anchors, etc.), perimeter fasteners are not specified in these instructions. For anchor fastening, refer to the shop drawings or consult the project design professional.

## **8. Blocking**

All blocking and shims will be high strength plastic or non-corrosive materials Not by EPAL. Blocking must be of sufficient size and shape to support the frame at all anchorage locations. The blocking must prevent the anchorage fasteners from bowing, racking, twisting, or distorting the window frames and accessories in any manner.

## **9. Sealant**

Sealants must be compatible with all materials they contact, including other sealant surfaces. Any sealant details shown herein, unless specifically called out to be by EPAL, are by others. It is not EPAL's position to select or recommend sealant or caulking types and will not assume liability or responsibility thereof. Consult the sealant supplier for recommendations relative to compatibility, adhesion, priming, tooling, shelf life, and joint design. It is the sole responsibility of the customer to perform all sealant adhesion and compatibility testing that is required by the sealant manufacturer of choice.

# **3. Building Codes**

Glass and glazing codes governing the design and use of products vary widely. EPAL does not control the selection of product configurations, operating hardware, or glazing materials; therefore, we assume no responsibility in these areas. It is the responsibility of the owner, architect, and the installer to make these selections in strict conformity to all applicable codes.

# **4. Window Installation**

1. The rough opening should be checked for the correct size as determined by tolerances listed in the architectural specifications and the shop drawings.
2. Establish the face of the window line at the head, sill, and jambs. This reference is arrived at by using the architectural plans, general contractor's reference lines, and shop drawings.
3. Determine the high point of the masonry sill using a string line or transit and shim the balance of the opening to match.
4. Do not fasten drapery tracks, ceiling supports, or convector covers to windows. The window must be free to expand and contract.
5. Use appropriate shim/block in the frames at perimeter anchor locations. All blocking and shims will be high strength plastic or non-corrosive materials Not by EPAL.
6. Seal all exposed perimeter joints between structure and window perimeters with a skinning, non-hardening type of sealant. Refer to the approved shop drawings for joint design. Seal all window to window and window to accessory (subframe, panning, mullions) joints with compatible silicone sealant. Refer to the approved shop drawings for joint design. Seal all anchor heads along the sill and 6" up the jambs.

## 5. Perimeter Anchorage

1. From the approved shop drawings, determine the size, type, and quantity of perimeter fasteners required. EPAL will provide fasteners for EPAL material to EPAL material only. All perimeter fasteners are Not by EPAL and should be purchased prior to arriving at the job site. (If Subframe is used, please refer to the Subframe installation sheets.) Due to varying opening conditions, window configurations, design pressures, and methods of anchorage (subframe, "F" anchors, etc.), perimeter fasteners are not specified in these instructions. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional. The design professional should analyze the anchorage system, and take into account the following information:
  - Frame dimensions and configuration of the as-installed window.
  - Material properties of the window frame.
  - Allowable tension, shear, and bending properties of the perimeter fastener.
  - Design pressure.
  - Details of the surrounding condition for the head, sill, and jambs.
  - Relative building movements and expected thermal movement of the window system.
2. Perimeter anchors should never penetrate a tank or tubular shape at a window sill. Any penetration of the frame must be visible for sealing purposes.
3. Blocking must be of sufficient size and shape to support the frame at all anchorage locations. The blocking must prevent the anchorage fasteners from bowing, racking, twisting, or distorting the window frames and accessories in any manner. Excessive shim heights could increase the prying tension and/or bending forces on the perimeter fastener. Refer to the approved shop drawings and/or design professional for project specific applications.

## 6. Vent Inspection or Reinstallation

1. Upon completion of the window installation, all operating vents must be checked for proper alignment and operation. All hardware must be cleaned and lubricated as necessary to provide smooth operation.
2. If the vents are removed, care must be taken to ensure the vents are reinstalled into the same frames they were removed from. It may be necessary to adjust the hinges, keepers, deflection stops, and friction arms to ensure proper sealing and locking.