

SEALCRAFT

A r c h i t e c t u r a l W i n d o w S y s t e m s

STANDARD PROCEDURE

No. I-103

Window Installation Instructions
Fixed Systems with Subframes

Examined, Accepted and Approved

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Title: President

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1.0 INTRODUCTION:

- 1.1 The purpose of this standard procedure is to establish the procedures required for the successful installation of Seal Craft window systems, utilizing subframes, into new construction which incorporates masonry or metal stud framing and various exterior construction elements.
- 1.2 The guidelines set forth herein are based on standard industry practices and Seal Craft specific recommendations coupled with our understanding of job site conditions and requirements.
- 1.3 This procedure does not purport to address all of the safety problems that may be associated with its use. It is the responsibility of whoever uses this procedure to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2.0 INSTALLER QUALIFICATIONS AND RESPONSIBILITY:

- 2.1 The window installation subcontractor should be an experienced mechanic in the field with at least five continuous years of successful experience installing similar window systems into projects of similar magnitude and design.
- 2.2 The basic function of the window installation subcontractor is to ensure that all windows are installed per the approved manufacturers written instructions and job specific Shop Drawings as approved by the Architect or Owner's Representative.
- 2.3 The window installation subcontractor shall be responsible to ensure that all openings are correctly prepared and ready to accept new window units. Any problems found should be reported to the General Contractor or approving authority promptly and the window installation should not be initiated until all opening deficiencies are corrected.
- 2.4 The window installation subcontractor shall then be responsible to ensure that all windows are properly installed, adjusted and ready for use by the Owner, with the exception of final glass washing, which is to be preformed by the pre-occupancy clean-up subcontractor.

3.0 RESPONSIBILITIES:

- 3.1 The window installation subcontractor is responsible to gain a full and complete understanding of pertinent information relating to his/her scope of work including but not limited to this document, approved shop drawings and specifications, construction drawings and job site requirements.
- 3.2 The window installation subcontractor is responsible to train his/her workforce in proper material handling, erection and safety procedures including OSHA and Prime Contractor safety requirements.

- 3.3 To ensure that a qualified window installation superintendent is on site during all window installation activities.
- 3.4 To provide all caulk, fasteners, shims, backer rod and machinery etc. and sufficient qualified workmen to perform the installation professionally, safely and on time.
- 3.5 To ensure that all materials are stored and protected prior to installation.

4.0 DUTIES:

- 4.1 The window installation subcontractor shall attend all required job site progress and safety meetings.
- 4.2 Maintain open communication and foster a harmonious relationship with contractor and other related trades.
- 4.3 Receive all window material shipments, verifying quality and quantity and that those products are fit for installation, immediately reporting any deficiencies directly to Seal Craft as well clearly listing any such problems the Bill of Laden.
- 4.4 General Contractor is responsible to ensure that rough openings in new construction are dimensionally accurate, plumb, square and true.

5.0 INSTALLATION PROCEDURES:

- 5.1 Ensure that all windows are installed in accordance with ASTM E 2112. The following step-by-step instructional procedure is provided for the convenience of the installing subcontractor.
- 5.2 Inspect all openings scheduled for window installation for accuracy of dimension and squareness. All subframe members are to be anchored into openings plumb, square and without rack or warp - plan for shims as required.
- 5.3 Strap anchors (if required) should be applied to the subframe system prior to installation and at the same frequency as required for anchors.
- 5.4 Fastener types and frequencies shall be according to the project specific engineer stamped fastener calculations. The AAMA 2501-06 Voluntary Guideline for Engineering Analysis of Window and Sliding Glass Door Anchorage Systems is the appropriate standard for fastener calculations.
- 5.5 Sealants to be as specified by architect or equal.
- 5.6 Measure full opening width and cut 1 each subframe sill and head receptor piece to length (nominal opening width minus 3/4" shim tolerance).

- 5.7 Install strap anchors (if required) as depicted in drawings per the fastener frequencies as detailed in 5.4.
- 5.8 Secure subframe sill and head receptor into opening as depicted in drawings centered left to right within opening for jamb shim tolerance. Ensure that sill is level both front to back and right to left. Ensure that head receptor is located properly in opening header for a plumb jamb installation. Shim as required.
- 5.9 Measure for subframe jamb receptor - to be square cut between subsill and head receptor.
- 5.10 Install strap anchors at jamb locations per 5.7 above.
- 5.11 Secure subframe jambs into opening as depicted in drawings per the fastener frequencies as detailed in 5.4. Shim as required.
- 5.12 Install caulk backer rod in 3/8" shim space at perimeter (head, jambs and sill) locations and apply continuous bead of sealant at full perimeter. Sealants to be as specified by architect or equal and applied around the full exterior and interior perimeter of newly installed windows. Follow sealant manufacturer's application instructions.
- 5.13 Seal all screw heads from interior of subframe and back-seal head to jamb and sill to jamb corner areas. Special care must be taken at sill to jamb connection to gun a sufficient amount of caulk to form the end dam seal between sill and jamb sections. Likewise, take extra care in sealing any penetrations of the sub-sill. Seal all screw heads and around any mullion anchors, etc. that may be present.
- 5.14 Ensure that exterior sub-sill weep holes and baffles are unobstructed and functioning properly.
- 5.15 Set windows (from interior) into subframes by first setting window sill into subframe sill and rotating window up into subframe head.
- 5.16 Install head receptor snap (cut same length as subframe head).
- 5.17 Install jamb receptor snaps (cut between head receptor snap and subsill).
- 5.18 Install three piece mullions (cut between head receptor and subsill) in accordance with I-50 "Structural Mullion Installation". Ensure that any mullion clip fasteners that penetrate subsills are fully sealed (around the perimeter of the clip and at the head of the fasteners). Fasteners frequency shall be as per 5.4.
- 5.19 If desired a cap seal may be applied to all window to subframe and window to mullion connections.

6.0 ADJUSTMENTS:

- 6.1 Inspect all exposed finished surfaces for scratches, abrasions and dents and correct. Scratches and abrasions should be wet sanded with 400 grit emery cloth, wiped clean and painted with manufacturer provided touch up paint.
- 6.2 Ensure that fixed windows are oriented properly, with head end up and interior side (with glazing beads) in.
- 6.3 Confirm that glass to frame seal was not broken due to improper handling during installation process.
- 6.4 Remove all labels or stickers from glass.

7.0 INSTALLATION TIPS:

- 7.1 Where fasteners are used at subframe header locations; if conditions require penetrating steel lenti - ensure that masonry flashing above is not penetrated.
- 7.2 Seal Craft suggests that subframes be set and caulked by a two man crew which should be ahead of window installers sufficiently to allow caulk to cure. This will further stabilize the subframe and reduce any *bounce* when applying frame receptor snaps.
- 7.3 When applying interior frame receptor snaps and mullion covers use a mallet and wooden block to apply pressure at the edge of part for ease of snap and to reduce the occurrence of dents.
- 7.4 Subsills are utilized to ensure that the window system is adequately attached and sealed to the sill area of the openings construction. The integrity of the waterproofing within the subsill is perhaps the single most important element in ensuring that the system will prevent water from intruding into the wall or building. Therefore, the complete and proper sealing of end dams, fastener heads, mullion clips and all penetrations through the subsill is critical to the success of this type of installation. The installer may wish to perform a voluntary "Optional Sill Dam Test" prior to installing windows in accordance with AAMA 502-02 to ensure the quality of the installation and to mitigate financial loss since resealing leaking subsills can not be done without removal of the windows.

8.0 MANUFACTURERS DISCLAIMER:

- 8.1 Seal Craft is a manufacturer of quality commercial window systems and as such is compensated for the delivery of the same, per approved shop drawings, unto the job site. Seal Craft is not compensated for, and therefore assumes no responsibility for, building design, interface of its products with other building elements or any area of accountability other than the manufacture and delivery of quality window systems as required under each contract.

- 8.2 The qualifications and procedures as set forth herein are recommendations of Seal Craft as the manufacturer and are intended as a minimum guideline for the successful installation of its products and must be adhered to in order for the Seal Craft warranty to be in effect.
- 8.3 Upon review of the contract documents, shop drawings and manufacturers installation instructions, final architectural determination should be made as to further requirements for flashing, sealant or any other detail that may need to be added or addressed to ensure proper interface with the new fenestration and the desired performance of the same.
- 8.4 Flashing and/or an appropriate method of sealing shall be designed as part of an overall weather resistant barrier system. It is not the responsibility of Seal Craft to design or recommend a weather resistant barrier system appropriate for each job.
- 8.5 The qualifications and procedures as set forth herein must be reviewed and approved prior to commencement of installation activities by a duly authorized and accountable owners representative or agent.
- 8.6 Seal Craft assumes no responsibility for any liability on account of the presence or growth of black mold or any bacteriological growth in any building or structure in which its window systems are installed.
- 8.7 For building construction which incorporates EIFS; the EIFS Industry Manufacturers Association (EIMA) guidelines must be adhered to in order for Seal Craft's product warranty to be valid.
- 8.8 By stamping and/or signing or by any other means affixing a 'mark' to the submittal booklet that contains these instructions, both architect and contractor demonstrate complete agreement and accept full responsibility for these installation procedures. Further, both architect and contractor agree that the manner in which the windows are installed is beyond the control of the manufacturer and as such, Seal Craft has no responsibility for any liabilities that may arise from the improper installation of its products.
- 8.9 Should field testing be a Project requirement, installing window contractor shall cooperate fully, preparing window unit(s) as requested by the Architect and/or Independent Laboratory personnel, but in no case participate in an unofficial "garden hose tests". Any field testing shall be pursuant with the current AAMA 502 Standard and Seal Craft shall be afforded the opportunity to attend any and all such testing and given a minimum of 15 work days notice in advance of any field testing.