

SEALCRAFT

Architectural Window Systems

STANDARD PROCEDURE

No. M-51

SUBJECT: Glass Replacement Procedure for Blast Glazed Windows

Examined, Accepted and Approved

By: _____

Title: President

Date: 3/17/06

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SUPERCEDES: None

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1.0 INTRODUCTION

- 1.1 The purpose of this standard procedure is to establish the procedures required for the successful removal and replacement of blast glazed insulated glass units in Seal Craft windows.
- 1.2 The guidelines set forth herein are based on standard industry practices and Seal Craft specific recommendations.
- 1.3 Blast glazed windows, by their very nature, are difficult to remove the glass from.

2.0 GENERAL INSTRUCTIONS:

- 2.1 Determine the quantity and dimensions of glass that requires replacement. Verify the thickness and composition of insulated glass units to be ordered.
- 2.2 Plan for the lead-time required to have the insulated glass units fabricated and delivered to the job site. Install temporary protective material (wood or plastic) over the openings where breakage could cause personal injury, water or excessive air infiltration.
- 2.3 Ensure that the proper materials, labor and equipment are available at the time of glass delivery to accomplish the requirements of this procedure.
- 2.4 Perform glass removal and replacement on one selected window and obtain approval from property manager, owner or other QAQC personnel that may be responsible.

3.0 SAFETY PRECAUTIONS:

- 3.1 This procedure does not purport to address all of the safety problems that may be associated with its use. It is the responsibility of whomever uses this procedure to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.
- 3.2 Ensure that all workers are properly trained in glass handling techniques and that they wear proper safety equipment (ex. eye protection, ear protection, back support, steel toed shoes, hard hat, gloves specially designed for glass handling, fall protection).

- 3.2 Ensure that traffic to the immediate work area is limited and that consideration is given to protection from falling glass that may occur during the glass removal process.
- 3.3 Ensure that all broken glass is picked up and properly discarded.

4.0 REQUIRED EQUIPMENT:

- 4.1 Because of the difficulty in removing insulated units from blast glazed windows Seal Craft has identified certain tools and equipment that make the task as easy as possible. A workman with acumen in working with materials and equipment may improve on the process but the time required to remove one broken lite may be expected to take one hour.
- 4.2 Basic hand tools such as razor-knife, caulk gun, electric drill, hammer, flat bar, clean up tools and means for disposal.
- 4.3 Windshield cut-out knife of an oscillating type such as;
 - 4.3.1 Fein Precision cut-out knife. Available in electric and pneumatic.
 - 4.3.2 Mushroom scraper blade Somaca #200-3128.
 - 4.3.3 Curved blade Somaca #201-1287.
 - 4.3.4 Circular offset blade Somaca #200-1111.
- 4.4 Glass cutter Somaca #210-2401

The above equipment is available from Sommer & Maca
Atlanta – 1-800-241-9780
Dallas – 1-800-527-5170
www.somaca.com

- 4.5 Circular paint-stripper brush – 3” (the type that can be chucked into an electric or pneumatic hand-drill) with non-metallic bristles (available at Lowes or Home Depot).

5.0 GLASS REMOVAL

- 5.1 Identify the glass to be removed and ensure that the new glass is on site, undamaged and of the proper dimension and configuration prior to glass removal.

- 5.2 Remove the interior aluminum glazing beads by first pulling the soft vinyl glazing wedge out with a flat bar or stiff putty knife. Then, press the edge of the glaze bead to the glass and pry the bead out of the glaze bead snap-pocket. Discard any damaged glazing bead. Much glazing bead will be damaged and unusable. Ensure that a sufficient quantity of new glazing bead is on site when glazing activity begins.
- 5.3 From the interior, use the Fein knife with either the “mushroom scraper blade” or the “circular offset blade” to cut the backfill of structural silicone by tracing the perimeter of the insulated glass unit.
- 5.4 From the exterior, score the perimeter of the glass at the glass to frame sightline. Score an “X” pattern from corner to corner and as desired to assist in glass removal. Carefully break out the annealed glass and discard. This should leave only a very small reveal of annealed glass at the light opening perimeter.
- 5.5 From the exterior, use the Fein knife with either the “mushroom scraper blade” or the “circular offset blade” to cut the insulated glass spacer away from the interior laminated glass. The laminated glass unit can then be pushed to the interior and removed – most of the time in one piece and undamaged.
- 5.6 From the interior, use the Fein knife with either the “mushroom scraper blade” or the “circular offset blade” to clean all of the remaining silicone and insulated glass spacer from the glazing pocket area. A typical razor knife may be used to assist in clearing the corner areas.
- 5.7 The frame will now be clear with the exception of 3/4” of annealed glass that is tenaciously bonded to the glazing rabbet with structural silicone.
- 5.8 From the interior, use the Fein knife (with the curved blade attached at an angle) to cut the annealed glass off of the glazing rabbet. Removing a small area of annealed glass with a flat bar to get a place to start is helpful. Workmen may wish to use a heat gun to assist in weakening the silicone bond, however, excessive heat can damage certain paint finishes and/or surrounding materials.
- 5.9 Once the glass is all cleared away use the 3” circular paint-stripper brush to clean away all small glass particles that remain and as much of the remaining silicone as practical.
- 5.10 Clean all silicone and debris out of the glazing bead snap pocket.

- 5.11 Carefully inspect the glazing pocket and rabbet with the fingertips ensuring that any imperfection that may cause a pressure point on the newly installed insulated glass unit is removed. A file may be used to smooth any burrs from the glazing rabbet that may have been caused by the Fein knife.
- 5.12 Check the glazing rabbets for dents or uneven corner connections and correct.
- 5.13 Touch-up any scratches in the frame finish.

6.0 GLAZING

- 6.1 Install new setting blocks into the frame at the quarter points from each side.
- 6.2 Apply a 1/8" to 3/16" diameter bead of Structural Silicone (Sika 552) around the full perimeter of the glazing rabbet. The silicone must be applied in a continuous bead at a location approximately 1/4" from the extreme edge of the glazing rabbet, Skips in the bead or allowing the bead to wander further than 1/4" from the edge could possibly result in water leakage.
- 6.3 Remove any shipping tabs, labels and dirt from the new glass unit. Pay particular attention to the edge of glass that will make contact with the back bedding compound ensuring that it is clean and dry and free from defects in the edge of glass that may cause a crack to form.
- 6.4 Set the new glass unit by first sitting the bottom edge of the unit on the setting blocks and then rotating the unit up into the frame. Ensure that the new glass unit is "centered" left to right with an even reveal at both sides.
- 6.5 Gun the perimeter glass to frame area full of structural silicone while being careful not to get any silicone into the glazing bead snap pocket.
- 6.6 Reinstall the aluminum glaze beads - tapping them into place with a small wood block (or similar). Care in inserting the glazing bead without smearing the silicone backfill will greatly reduce cleanup.
- 6.7 Reinstall the soft vinyl glazing wedge - tapping them into place with a small wood block (or similar).
- 6.8 Immediately remove any excess silicone from glass and frame with a rag and soapy water. When excess silicone starts to harden a solvent such as Naphtha will be required to remove the silicone or its residue. The use of these solvents may be hazardous to you health. Use only in well ventilated areas. Keep away from the open flame. Tools may be cleaned with the same solvent.

7.0 HELPFUL TIPS

- 7.1 Blast glazed windows are difficult to reglaze. Workmen of good judgment and acumen who can combine this procedure with their own experience should be employed.
- 7.2 Since most glass replacement occurs in the field, much time can be lost between glass replacements in numerous windows.
- 7.2 Multiple workmen that move from unit to unit performing a portion of the tasks in sequence can reduce the time by allowing repetition to increase worker efficiency.

8.0 CUSTOMER SERVICE

- 8.1 Seal Craft maintains a knowledgeable staff of individuals who may be able to assist you in understanding concerns that may arise relating to its products and are available during normal business hours at 1-800-844-4486.
- 8.2 Warranty claims must be brought to the attention of Seal Craft immediately upon discovery and are subject to the conditions set forth in the approved warranty documents for the project.

9.0 MANUFACTURES DISCLAIMER

- 9.1 Seal Craft is a manufacturer of quality commercial window systems and as such is compensated for the delivery of the same, per architectural specifications, 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.
- 9.2 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 maintenance of its product and must be adhered to in order for the Seal Craft warranty to be in effect.
- 8.3 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 the full responsibility for these 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.