

## C 5.11.0.0 - Rock/ Masonry [CAT-3]

**APPROXIMATE TIME PER SQUARE FOOT: 20 - 30 minutes**

Rock and masonry damage on glass surfaces typically occurs during construction phases, especially when materials like mortar or other binding agents used for securing exterior façade components inadvertently come into contact with the glass. The interaction of these substances with the glass, particularly if they are scrubbed or scraped off, can lead to a range of scratch patterns. These may vary from very fine, almost imperceptible scratches, to deep, pronounced gouges that significantly mar the glass surface.

In addition to the physical scratches, the chemical components of these construction materials, often including elements like lye and lime, can also pose a risk. Prolonged contact with these substances can result in minor acid burns or stains on the glass, adding another layer of complexity to the damage.

For technicians preparing to address rock and masonry damage, it's crucial to thoroughly assess the extent of the damage. This involves determining not only the severity of the scratches but also identifying any areas of chemical etching or staining. The restoration plan should be meticulously formulated based on this comprehensive evaluation, ensuring that it effectively addresses the most severe aspects of the damage to restore the glass to its optimal condition.



Fig. 51100A



Fig. 51100B

**IMPORTANT NOTE:** During the glass restoration process, it's crucial to closely monitor the temperature of the glass pane. The heat generated from grinding or polishing can increase the risk of thermal stress, potentially leading to cracks or breakage. To effectively manage this risk, it is recommended to use a non-contact thermometer, a tool available at most hardware stores. This allows for accurate and safe temperature measurements without interrupting the workflow.

Regular monitoring of the temperature differential between the repair area and the rest of the pane is key to preventing thermal damage. Should the temperature in the work area rise significantly, pause the restoration and allow the glass to cool. Immediate cessation of work and allowing the pane to return to a normal temperature range is necessary if overheating occurs. For specific temperature guidelines and detailed procedures on managing thermal expansion, please refer to section C 3.1.1.0 - Thermal Expansion.

TEMPERATURE ADVISORY	Delta	Maximum Temperature
Annealed	+80°F Δ	N/A
Tempered	+120°F Δ	N/A
Laminate- Annealed	+80°F Δ	145°F
Laminate- Tempered	+120°F Δ	145°F
Mirrored	+80°F Δ	N/A

Fig. 51100C

### Tool Checklist

- Corded, Variable Speed, Rotary Polisher (600-3000 RPM MINIMUM, 5/8-11 threaded spindle)
- Backing Pad
- Black RenuDisk(s)
- Grey RenuDisk(s)

- Polishing Felt
- Polishing Compound
- Rasp
- IR Thermometer

### Workspace Checklist

- Power Access
- Workbenches, ladders, scaffolding, lifts, etc. (If Applicable)
- Masking Tools

- Drop Clothes/ Tarps/ Waste Receptacles
- Temperature Control Tools (If Applicable)

### Damage Assessment Checklist

- Confirm Glass Type
- Confirm Damage Type
- Inspect Glass System Integrity (Framing, Glazing, Etc.)

- Inspect Glass Pane Integrity (Cracks, Chips, etc.)
- Identify Damage Location(s)

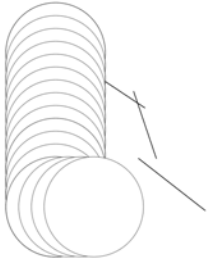


Fig. 51110A

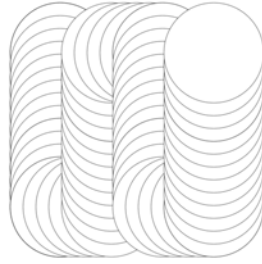


Fig. 51110B



Fig. 51110C

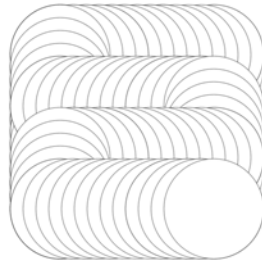


Fig. 51110D

**C 5.11.1.0 - Step One: Abrasion utilizes a Black RenuDisk to quickly remove target damage.**

1. Secure a Black RenuDisk to the designated backing pad.
2. Adjust the polisher to operate at a rotational speed of 1800 RPM.
3. Engage the polisher's power trigger, and trigger lock.
4. Align the RenuDisk surface directly above the glass's damaged area, ensuring that the disk remains parallel to the glass pane.
5. Employ a systematic abrasion approach by guiding the RenuDisk in alternating horizontal and vertical paths across the damaged area. This action should form a precise cross-hatch pattern. Maintaining uniform pressure, continue abrading until all damage has been removed.
6. Disengage the RenuDisk from the glass pane.
7. Disengage the polisher's power trigger. Ensure the disk is stationary.
8. Detach the Black RenuDisk.
9. Continue to [Step Two: Pre-Polish].

**NOTE:** Over the course of the abrasion, glass stock will accumulate on the RenuDisk surface. It may be necessary to periodically unplug the disk surface to maintain optimal performance. To do this:

- Disengage the polisher, ensuring the disk is stationary.
- Utilize the flat, non-aggressive face of the rasp file or wire brush.
- Gentle tapping motions on the RenuDisk surface will dislodge glass stock that has accumulated during operation. Refrain from brushing.

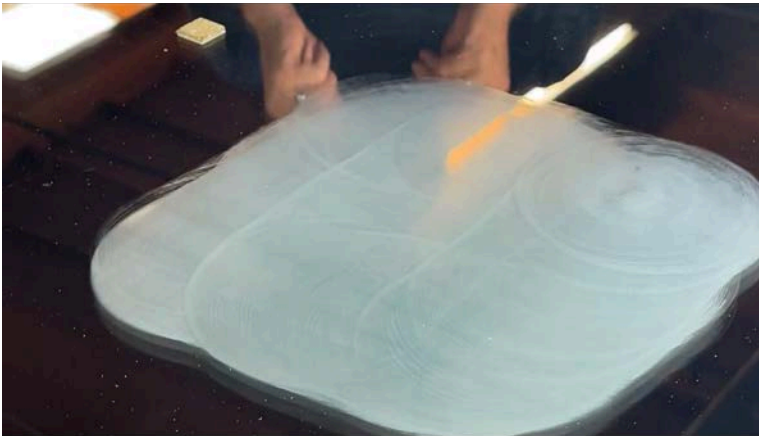


Fig. 51110E



Fig. 51110F

**Notes:**

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**C 5.11.2.0 - Step Two: Pre-Polish** is broken down into two distinct sub-steps: **Mid Speed**, and **High Speed Pre-Polish**. Each sub-section utilizes the same Grey RenuDisk to refine, feather, and expand the established work area.

### MID SPEED PRE-POLISH

1. Attach a new Grey RenuDisk to the designated backing pad.
2. Adjust the polisher to operate at a rotational speed of 1800 RPM.
3. Engage the polisher's power trigger, and trigger lock.
4. Align the RenuDisk surface to overlap the top left corner of the established work area by approximately  $\frac{1}{2}$  the diameter of the RenuDisk, ensuring that the disk remains parallel to the glass pane.
5. Employ a systematic abrasion approach by guiding the RenuDisk in alternating horizontal and vertical paths, expanding the established work area created in Step One by approximately  $\frac{1}{2}$  the diameter of the RenuDisk. This action should form a precise cross-hatch pattern. Maintain uniform pressure.
6. When the work area has been fully refined, expanded, and made uniform edge to edge, cease cleaning the Grey RenuDisk. At the end of the Mid Speed Pre-Polish subsection, it is necessary to allow the glass stock being removed from the pane to accumulate on the surface of the Grey RenuDisk.
7. Disengage the RenuDisk from the glass pane.
8. Disengage the polisher's power trigger.
9. Ensure the Grey RenuDisk surface is completely coated in glass stock.
10. Continue to High Speed Pre-Polish.

**NOTE:** Over the course of the Mid Speed Pre-Polish, glass stock will accumulate on the RenuDisk surface. If the RenuDisk is clogged, and further refinement/ expansion of the established work area is required, it may be necessary to clean the Grey RenuDisk and continue the Mid Speed Pre-Polish. To maintain optimal performance of the Grey RenuDisk:

- Disengage the polisher's power trigger. Ensure the disk is stationary.
- Utilize the non-aggressive face of the rasp file or wire brush.
- Administer gentle tapping motions on the RenuDisk surface. Refrain from brushing.

### High Speed Pre-Polish

1. Adjust the polisher to operate at a rotational speed of 3000 RPM.
2. Engage the polisher's power trigger, and trigger lock.
3. Align the RenuDisk surface to overlap the top left corner of the established work area by approximately  $\frac{1}{2}$  the diameter of the RenuDisk, ensuring that the disk remains parallel to the glass pane.
4. Employ a systematic abrasion approach by guiding the RenuDisk in alternating horizontal and vertical paths, expanding the established work area created in Step One by approximately  $\frac{1}{2}$  the diameter of the RenuDisk. This action should form a precise cross-hatch pattern. Maintain uniform pressure.
5. Disengage the RenuDisk from the glass pane.
6. Disengage the polisher's power trigger. Ensure the disk is stationary.
7. Remove the Grey RenuDisk.
8. Continue to: [Step Three: Polish].

**NOTE:** The Grey RenuDisk surface should maintain full glass stock accumulation during the entirety of the High Speed Pre-Polish subsection. No disk maintenance should be required.

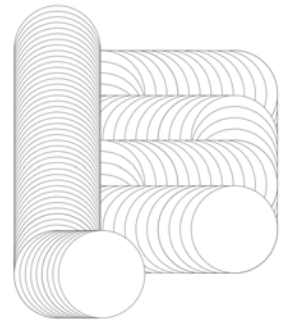


Fig. 51120A

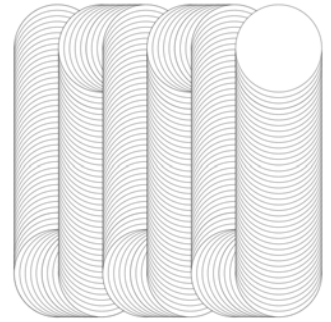


Fig. 51120B

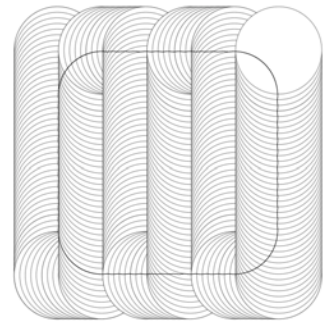


Fig. 51120C

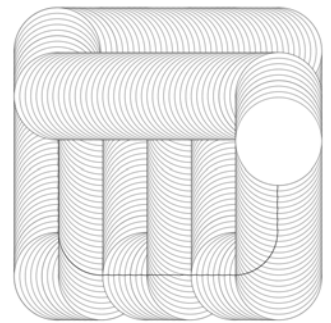


Fig. 51120D



Fig. 51120E



Fig. 51120F

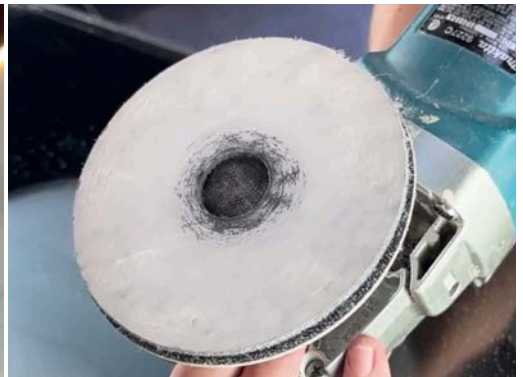


Fig. 51120G

