



BO 53 008 00

3M™ Trizact
Glass Repair System and Grinding Tool

Usage Guidelines

The 3M™ glass repair system presents a solution for removing scratches, sediments and corrosion on different types of glass.

It guarantees excellent performance and at the same time is easy to handle.

The grinding and polishing system 3M™ 268XA and 3M™ 568XA allows an almost dry grinding, making the whole process much cleaner. Compared to ordinary polishing methods, 3M™ excels due to its speediness. Scratches are completely removed achieving optical clarity of the glass.

1 Water

- Use clean tap water only. Distilled water has shown to be unsuitable. Please add one to two drops of dish liquid per spray can (500 ml). This relaxes the water and makes it more suitable for this purpose.

The water has two effects:

- It facilitates the grinding and polishing process.
- It reduces the temperature of the glass.
- Small amounts of water (for moistening the glass surface) are sufficient for this process.
Using too much water causes an aquaplaning effect which can only be compensated by increasing the grinding pressure.
- Too much water washes away the abrasive grain from the grinding area. This considerably reduces the working speed.
- Use plenty of water for cleaning after each grinding interval.

2 Cleanliness

- In order to avoid new scratches on the glass surface, it is important to keep the machine and the work space clean.
- Remove all grinding residues from the surface before switching to the next finer grade. In this way you avoid carrying along larger grains into the finer grading steps.
- Use new paper towels for each step.
- Every now and then remove dirt and residues from the support discs.
- Never position the machine on the support disc.

3 Basic Technique

Please always make use of the following technique in order to achieve optimal results:

- First carefully clean the surface to be ground.
- Thoroughly inspect the kind and the degree of damage.
- Mark the damage (if possible from the rear).
- Trace the damage with a waterproof marker pen also on the front side for the scratch to remain visible during grinding.
- Before grinding all nearby rubber seals, frameworks or hinges should be sealed with 3M™ fabric tape.
- The grinding tools have to be sharpened and trimmed before being used.
 - Use the die-cut abrasive disc center.
 - The abrasive disc is sharpened by pulling off the surface.
- The support disk should only touch the glass surface when it has reached its maximum speed (1200-1700 rpm).
- Evenly move the abrasive disc over the surface to be treated, applying light pressure.
- Focus on the actual damage while grinding.
- Do not remain on one spot. In this way you avoid:
 - the lens effect
 - punctual overheating
- Completely lift the machine off the glass before switching it off.

4 How to determine the degree of damage

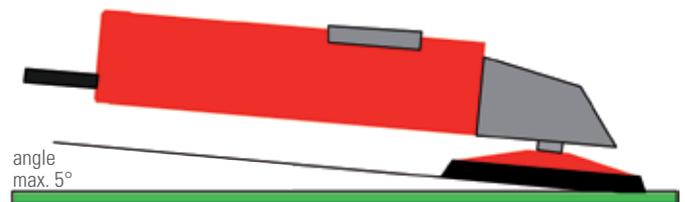
Type	Check	Damage	Material
Art.-Nr. Deep scratches	BO 53 008 04 Clearly noticeable (acid test); scratches from abrasive paper; penetration of welding beads	> 20µ (0,02 mm)	A35 green
Art.-Nr. Medium scratches	BO 53 008 03 Hardly noticeable (acid test), but clearly visible; scratches from household sponges; penetration of grinding sparks	< 20µ	A10 blue
Art.-Nr. Light scratches	BO 53 008 02 Not noticeable, but visible	< 5µ	A5 brown
Art.-Nr. Corrosion and sediments	BO 53 008 01 Rough, matt surface; sedimentation of concrete, copper or zinc	< 2µ	P white or Polishing Compound

Before starting the grinding process it is recommended to clearly define the type and degree of damage and to strictly adhere to the above usage guidelines.

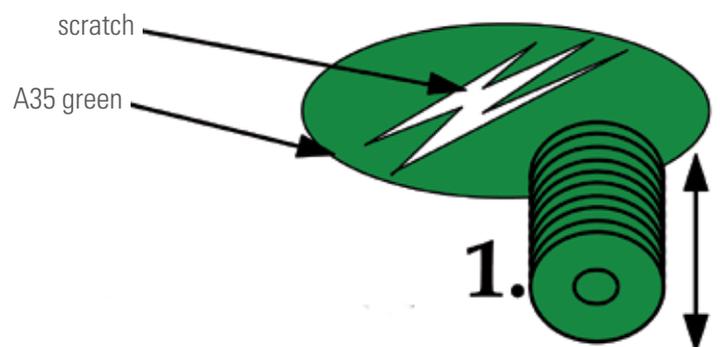
The more the system is used the shorter the processing time and the smaller the workload.

5 Deep scratches

- After thoroughly cleaning the glass surface mark the scratches from both sides.
- Start using the green abrasive agent 3M™ 286XA A35.
- Then trim the abrasive disc by removing the abrasive surface.
Use the die-cut disc center or another abrasive disc of the same grain size and color.
- Spray a little water on the glass.
- When the abrasive disc has reached its full speed of 1200 rpm. (machine set on level 2 max.), position the disc on the glass surface.
- Do not tilt the grinding machine too much.
- The angle between the support disc and the glass surface should not exceed 5°.
- The abrasive disc must never remain on one single spot. It should start moving over the glass surface immediately after touching it.



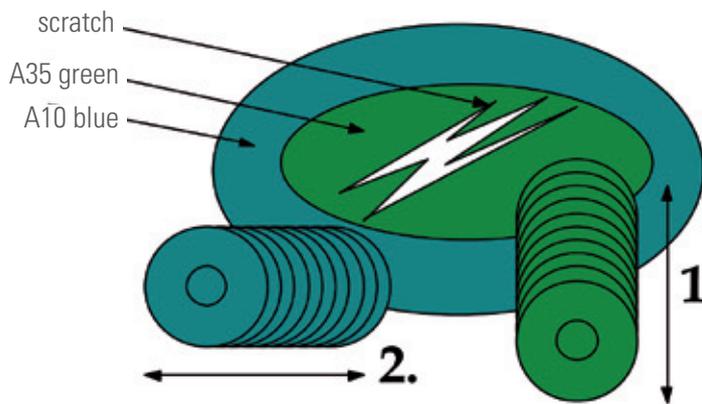
The scratch has to be ground out completely. After grinding out the scratch, the glass surface is left with a dull spot (shown in green/grey).



1. 90° against direction of scratch

6 Remove fine scratches (finish-grinding of scratches)

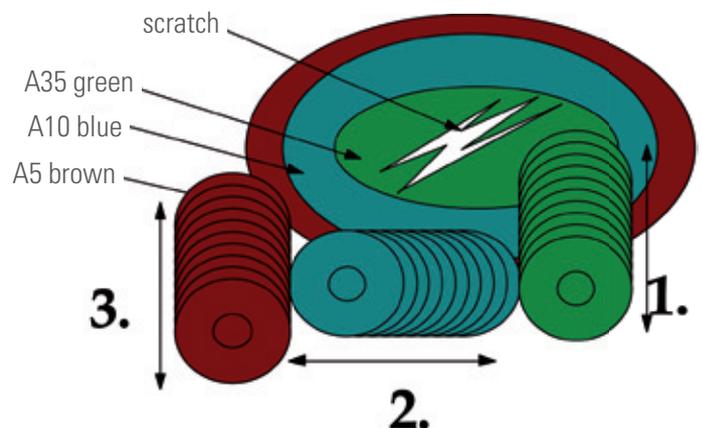
- Clean the tools and the surface to be ground using clean paper towels.
- After cleaning, mark the scratch (or the dull spot) on both sides.
 - If you grind the dull spot produced by A35 abrasive agent, add 1 cm to the surface when marking it. In that way the previous grinding step will be completely overlapped.
- Use grain size 3M™ 268XA A10 blue for grinding out the fine scratches.
 - Afterwards trim and remove the abrasive surface either using the die-cut center or another abrasive disc of the same grain size / color.
- Spray a little water on the glass.
- When the abrasive disc has reached its full speed of 1200 rpm (machine set on level 2 max.), position the disc on the glass surface.
- Do not tilt the grinding machine too much.
- The angle between the support disc and the glass surface should not exceed 5°.



- The abrasive disc must never remain on one single spot. It should start moving over the glass surface immediately after touching it.
- Focus on the previously marked area. Make sure to overlap the previous grinding area.
- Continue grinding until the surface is uniformly matted.
- Grind 90° offset to the first grinding direction using a finer grain size (1. – 2.).
- All grinding marks of the first grade have to be completely removed.

7 Remove finest scratches (superfinishing)

- Clean the tools and the surface to be ground using clean paper towels.
- After cleaning, mark the scratch (or the dull spot) on both sides.
 - If you grind the dull spot produced by A10 abrasive agent, add 1 cm to the surface when marking it. In that way the previous grinding step will be completely overlapped.
- Use grain size 3M™ 268XA A5 brown for grinding out the finest scratches.
 - Afterwards trim and remove the abrasive surface either using the die-cut center or another abrasive disc of the same grain size / color.
- Spray a little water on the glass.
- When the abrasive disc has reached its full speed of 1200 rpm (machine set on level 2 max.), position the disc on the glass surface.
- Do not tilt the grinding machine too much.
- The angle between the support disc and the glass surface should not exceed 5°.



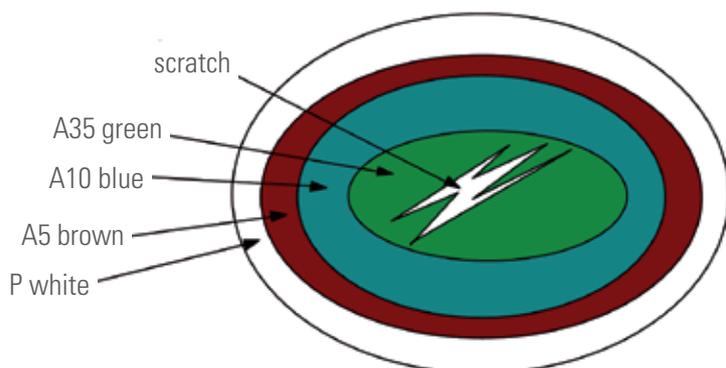
- The abrasive disc must never remain on one single spot. It should start moving over the glass surface immediately after touching it.
- Focus on the previously marked area.
- Make sure to overlap the previous grinding area.
- Continue grinding until the surface is uniformly matted.
- Grind 90° offset to the second grinding direction using a finer grain size (1. – 2. – 3.).
- All grinding marks of the second grade have to be completely removed.

8 Polishing with Trizact™

- Clean the surface to be polished with glass cleaner.
- Afterwards mark the damaged area (or the dull spot) from both sides.
- If you grind the dull spot with A5 abrasive agent, add 1 cm to the surface when marking it. In that way the previous grinding step will be completely overlapped.
- Insert the second red / black support disc.
- Use grain size 3M™ 568XA P white for polishing the fine scratches.
 - Trim and remove the abrasive surface either using the die-cut center or another abrasive disc of the same grain size / color.
- Spray a little water on the glass.
- Clean the attached polishing disc again with some water.
- When the disc has reached its full speed of 1200 rpm (machine set on level 2 max.), position the disc on the glass surface.
- The angle between the support disc and the glass surface should not exceed 5°.
- The polishing disc must never touch the surface in a completely flat position.
- The disc must never remain on one single spot. It should start moving over the glass surface immediately after touching it.
- After the water has completely evaporated, wet the surface again (2-3 times).
- Finish the polishing after the surface has completely dried.
- Thoroughly check the polishing results.
- Repolish the areas which are still dull.
- The polishing direction is irrelevant for the result.

The polishing process is much quicker than when using a polishing paste. However, the surface to be polished has to be completely free of dust. Any dirt particle will cause new scratches.

Polishing paste residues can easily be removed with alcohol.



9 Polishing with the 3M™ glass-polishing compound

- Clean the surface to be polished with glass cleaner.
- Afterwards mark the damaged area (or the dull spot) from both sides.
- Insert the green/red support disc.
- Use the felt discs for polishing fine scratches or for removing sediments and corrosion.
- Wet the back side (red side) of the felt discs with water.
- Then press the center of the red side onto the velcro hooks of the polishing disc.
- Shake Compound well.
- Evenly spread one tablespoon full of Compound on the felt disc.
- When the felt disc has absorbed the Compound you can start polishing.
- When the disc has reached its full speed of 1200 rpm (machine set on level 2 max.), position the disc on the glass surface.
- The disc must never remain on one single spot. It should start moving over the glass surface immediately after touching it.
- Thoroughly check the polishing results.
- Repolish the areas which are still dull.
- The polishing direction is irrelevant for the result.

The polishing process with Compound is slower than when using Trizact™. Nevertheless, the surface does not need to be completely free of dust. Smaller dirt particles can sink into the soft felt surface and do not cause any further scratches. Polishing Compound residues can easily be removed with alcohol.

Important:

The previous information is based on our present empirical values. The user is obliged to check whether the product is suitable for the use intended by the purchaser before using it. Please pay special attention to complying with the relevant standards for glass building products. Contact your glass manufacturer in case of doubts. All questions of guarantee and liability are laid down in the sales contract unless legal regulations explicitly state otherwise.

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