C.R. LAURENCE CO., INC.

CRL TRIZACT™

GLASS DEFECT REPAIR SYSTEM

Instructions

CRL 3M™ Trizact™ pads provide a cleaner, longer-lasting abrasive system for repairing defects in TV/CRT screens, table glass, airplane windscreens and windows, architectural glass and more. Reduce rejects, minimize slurry cleanup and costly disposal problems with CRL's innovative Trizact™ system.

CRL Trizact™ Glass Repair System Components

Abrasives

CRL TRIZACT™ FILM PSA DISCS			
CAT. NO. 3" (76 MM)	**MICRON GRADE**	**COLOR**	**CAT. NO. 5" (127 MM)**
TD335P	A35	Green	TD535P
TD320P	A20	Pink	TD520P
TD310P	A10	Blue	TD510P
TD35P	A5	Orange	TD55P
TD3CP	None	White	TD5CP
All Trizact discs sold individually. May be combined for quantity pricing.			

Tools

CRL recommends using a variable speed rotary sander with "on-demand" center water feed, 1500-2500 rpm for the 5" pads. 3" pads can be used with hand held drill at same rpm.

- CRL Cat. No. ZSRPSM 5" system (with sander)
- CRL Cat. No. ZSRPSSKM 3" flat glass system (w/o tool)
- CRL Cat. No. ZSRPSSKS 3" curved glass system (w/o tool)

Accessories

CAT. NO.	DESCRIPTION
02599	5" Medium Density Backer Pad, 5/8-11 Thread
02598	5" Medium Density Backer Pad, M14-2 Thread
ZDP3P58M	3" Medium Density Backer Pad, 5/8-11 Thread
ZDP3P58S	3" Soft Backer Pad, 5/8-11 Thread
5704	Hand Drill Shank Adapter for 3" Pads
GF1	Ground Fault Circuit Interrupter
C0301	Cerium Oxide, 1 Pound Jar
All accessories sold individually.	

Important Things to Know Before You Start

Use of Water

It is very important to avoid generating too much heat. A carefully controlled water flow will keep the glass cool and reduce the chance of breakage. Water also helps to start the cutting action of the aluminum oxide grades and to form the slurry for the final polishing step. Too much water on the final polishing step, however, will wash away the cerium oxide particles that form the slurry and no polishing action will occur.

Cleanliness, Cleanliness, Cleanliness

CRL Trizact™ Repair System utilizes a sequence of progressively finer grades of abrasives. Contamination from abrasive particles left from previous grades can cause micro-scratches that are visible after the polishing step. Cleanliness is the key to such scratch prevention.

A Few Tips to Prevent Scratching:

- Keep tools and work area clean. When not in use, set the sander on it's side so dirt is not picked up on the working surface.
- Use an ample amount of water from the tool, or spray bottle, and a soft paper towel to thoroughly remove any residue and loose particles from the entire glass surface between each abrasive step. Use clean paper towels each time.
- Wipe the debris off the sander frequently. Pay special attention to the center hole area, the sander shaft, and the casing.
- Use a designated back-up pad for each grade of abrasive.
- Always designate a separate back-up pad for the final polishing step (white). Abrasive residue and glass particles from previous grades may contaminate the pad and cause scratching.
- Always use the recommended water filter and water supply tank.

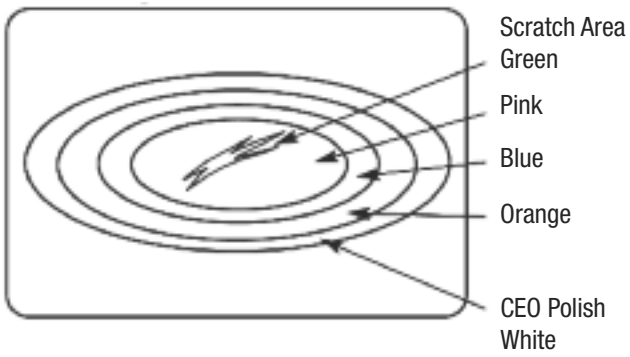
Let's Not Forget About Technique

There are a few polishing techniques that should be followed to get optimal results from this system.

A Few Tips on Technique:

- Always begin polishing by applying a small amount of water to the surface. With the sander running, gently contact the surface. Apply firm, even pressure sufficient to comfortably maintain surface contact. Sanding should be done with small overlapping strokes of the tool. Moving the sander in a clockwise circular pattern helps to reduce jerking. Do not dwell in one area.
- Maintain continuous contact with the glass. Avoid lifting the abrasive off and on the glass surface.
- Lift sander off the glass before stopping it.
- Controlled water flow helps reduce heat and keeps the glass cooler. If the glass gets hot, lift pad off the glass. Apply more water and fan the glass with the pad running 1–2" above the surface.
- Feather the work edge. Overlap each previous grade with the next finer abrasive grade as indicated.

Feather Diagram



Let's Get Started

Step 1 – Scratch Removal

Prepare the surface. Use an ample amount of water (from the tool) and a soft paper towel to thoroughly clean the entire glass surface.

Determine the severity of damage. If the scratch is deep enough to hook a fingernail, start with the green disc. For shallower scratches, scuffs, or acid marks you may be able to start with the finer pink or blue disc. Some trial and error may be necessary to choose your starting abrasive grade. If you begin with too coarse a grade, unnecessary work will be done to the surface. Too fine of a grade may not remove the scratch.

Wipe the face of the back-up pad clean and dry. Remove the selected abrasive disc from it's liner. Press the disc firmly in place ensuring good adhesion to the back-up pad. PSA discs will not adhere well to a wet back-up pad.

Apply a small amount of water from the sander to the glass surface.

With the sander running at approximately 1800 RPM, gently contact the surface. Apply firm, even pressure. Tilt pad until 1/2 to 1/3 of the pad is in contact with the surface. Do not tilt too much. Sanding should be done with small overlapping strokes of the tool. Do not dwell in one area.

Remember: If the glass gets hot, lift pad off the glass. Apply more water and fan the glass with the pad running 1–2" above the surface.

Wipe residue from the glass. Inspect to see that the scratch has been removed or "bottomed out."

Step 2 – Scratch Refining

Use an ample amount of water (from the tool) and a clean paper towel to thoroughly remove any residue and loose particles from the entire glass surface.

Use a designated back-up pad for each grade of abrasive.

Repeat the process using the next finer grade. This will be the pink disc if you started with the green. If you started with the pink disc, you should now be using the blue disc. Remember to overlap your previous work area slightly using the feathering technique described earlier.

When you think the scratches from the previous grade have been refined, wipe the surface clean and inspect the surface. The damaged area should have a hazy or cloudy appearance with no deeper scratches remaining.

If you were using the blue disc, repeat the process with the orange disc. After you have completed the process with the orange disc, you are ready to begin the final polishing step.

Step 3 – Final Polish

Cleanliness is of the utmost importance in the final polishing step. Thoroughly clean the glass surface with water and paper towels as in previous steps. Use CRL 1973 or S50 glass cleaner to assure that all dust and stray particles have been removed.

Use a fresh back-up pad, or a back-up pad that has been designated solely for the final polishing step. Be sure to clean off the residue that may have accumulated on the sander, paying special attention to the area around the sander shaft.

Clean possible contaminants from the polishing disc (white) with an air nozzle or clean water before use. The filtered water from the sander is convenient.

Remember: Jerking of the sander as you polish can cause scratches. Avoid this by maintaining firm pressure.

Apply a small amount of water, approximately a 1–2" puddle, to the glass surface. With the sander running at 2200 RPM, bring the pad down flat onto the surface. Begin polishing with the pad flat, moving slowly in a clockwise circular motion, working from the outside of the work area to the inside. Do not leave the fringe areas to polish last.

After a few seconds of polishing, a milky looking slurry will form. Continue polishing until the slurry is dry. Add more water while the pad is still in contact with the glass and run until the slurry is dry again. Repeat this process as many times as necessary until the glass is visually clear (usually 2–3 times). Remove all residue that remains on the last pass by polishing dry. Lift the sander off the glass near an edge to minimize the possibility of scratching caused by residue being redeposited onto the surface.

Wipe the surface clean and inspect carefully. The glass surface should now be scratch-free and crystal clear.

Overcoat Removal

Defective coatings can be removed by starting the abrasive sequence with the orange disc.

Sand the entire surface of the glass with the orange disc. Use the same procedure as used for scratch removal (see Step 2).

After the coating has been removed, polish the surface using the procedure as indicated in Step 3.