PHARMACEUTICAL CLEANROOMS
WALL AND CEILING REPAIR PROCEDURES

Instructions available in Spanish

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TABLE 1.1: REPAIR SELECTION CHART

REPAIR OPTION	COLOR MATCH	VISUAL APPEARANCE	CHEMICAL RESISTANCE	UV FADE	EASE OF INSTALL
2-PART EPOXY PAINT	2	2	3	2	3
PVC AEROSOL PAINT	3	3	2	2	4
COLD WELD REPAIR (minor scratches)	2	2	4	3	4
UPVC PATCH REPAIR	3	2	4	4	3
UPVC WALL PAPER REPAIR	3	4	4	4	2
ACRYLIC SPRAY PAINT (Not recommended)	1	1	1	1	4

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FILLER MATERIAL APPLICATION FOR DENTS AND HOLES

Step 1: Smooth the damaged area

- Using a hammer or other tool, flatten out any large burrs that protrude from the panel surface.
- Sand the damaged area with 180 grit sandpaper to remove any remaining burrs.

Figure 1: Damaged Panel
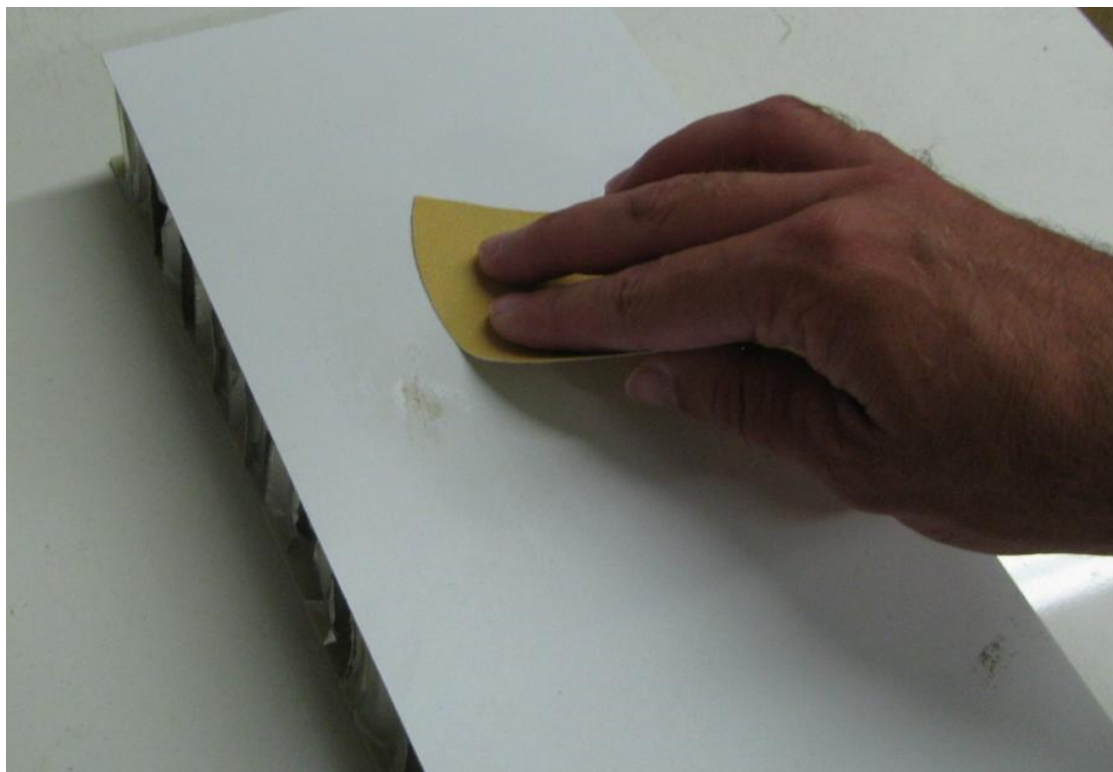
Figure 2: Sand damaged area to remove burrs and rough spots. Sanding also scuffs up finish to receive bondo.

Step 2: Thoroughly clean the damaged area

- Using IPA (isopropyl alcohol) or other approved cleaner, thoroughly clean the damaged area to provide optimal adhesion of filler material.

Figure 3: Clean area thoroughly with IPA

Step 3: Mix filler material

- Assemble the filler material components. A metal filler (bondo), mixing pad, mixing tool, application tool.
- The metal filler is not provided by Plascore, however any standard automotive bondo is acceptable.
- If required, mix the filler (bondo) per manufacturer instructions.

Figure 4: Suggested tools

Figure 5: Two part filler material

Figure 6: Mixed filler material

Step 4: Apply Filler material to damaged area

- Apply enough filler material to completely fill/cover the damaged area. It may be necessary to apply multiple layers for large dents or holes.

Figure 7: Apply filler material to damaged area to fill in any holes, gouges, or dents.

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Step 7: Sand filler material smooth

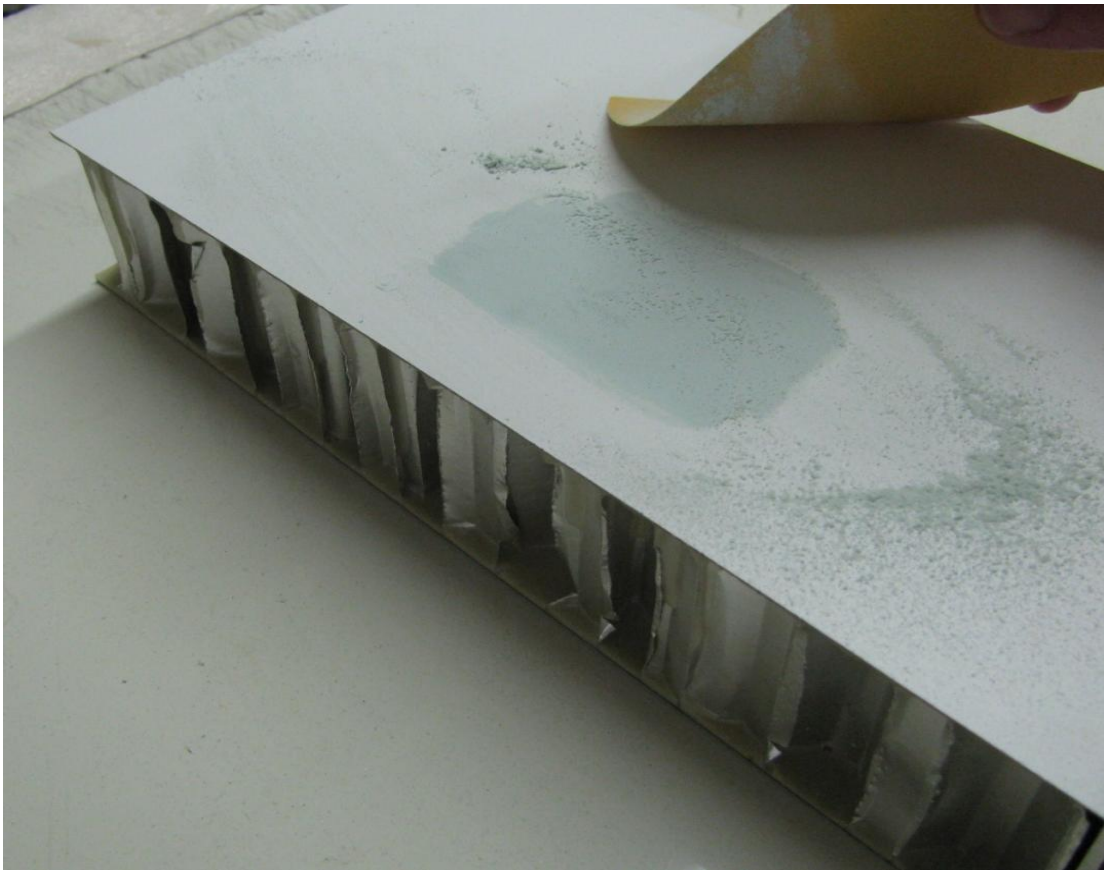- Use 180 grit sandpaper to sand the filler compound flush with the panel surface.

Figure 8: After filler material cures, sand with 180 grit sandpaper.

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Figure 9: Thoroughly clean panel where repair finish is going to be applied.

TWO PART EPOXY PAINT
REPAIR PROCEDURE

Step 1: Evaluate damage

- Determine if damage is substantial enough to require repair. If so, evaluate the damage location and determine if the two part epoxy paint repair technique can be used.
- Determine the paint color required for the finish to be repaired.
    o uPVC coated Walls require paint part# 41708W.
    o Snow white powder coated surfaces (doors/frames/etc.) require paint part# 41708D.

Step 2: Prepare area to Paint

- For surface scratches and minor repairs, the area should be sanded if necessary and cleaned thoroughly before applying the touch up paint.
- For holes, dents, or deep scratches proceed to page #3 for instructions on preparing areas with filler material.

Figure 10: Prepared paint patch area.

Step 3: Mix Paint

- The two part epoxy paint comes in pre-sized bottles of paint (A) and converter (B).
- Add the full contents of the clear converter (B) to the full contents of the paint (A).
- Mix thoroughly and allow 15 minutes before applying.

Figure 11: Add converter to paint

Figure 12: Mix thoroughly

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Step 4: Apply paint to damaged area

- Paint may be applied with brushes, rollers, or air brush (recommended).
- Brushes or rollers would be ideal for relatively small areas with low visibility.
- An air brush would provide the highest level of blending and would be ideal for larger areas or high visibility areas.

Figure 13: Apply paint to the damaged area

Figure 14: Blend in patch

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PVC AEROSOL SPRAY PAINT REPAIR PROCEDURE

Step 1: Evaluate damage

- Determine if damage is substantial enough to require repair. If so, evaluate the damage location and determine if the PVC aerosol spray paint repair technique can be used.

Step 2: Prepare area to Paint

- For surface scratches and minor repairs, the area should be sanded if necessary and cleaned thoroughly before applying the touch up paint.
- For holes, dents, or deep scratches proceed to page #3 for instructions on preparing areas with filler material.

Figure 15: Prepared paint patch area.

Step 3: Apply a primer (not provided by Plascore)

- Apply a metal primer coat. Primer should be Rust-Oleum (or equivalent) flat primer designed for metal applications.
- Feather primer out away from the damaged area for best blending results. Apply to the smallest area possible to cover the defect.
- Follow all primer manufacturer's application instructions.

Figure 16: Apply primer coat

Step 4: Apply PVC paint to damaged area

- Paint is supplied in an aerosol spray can for easy application.
- Apply paint over the primer coat, feathering into the original finish for optimal blending. Apply to the smallest area possible to cover the damage.
- Apply two coats as necessary.

Figure 17: Apply paint to the damaged area

COLD WELD ADHESIVE REPAIR PROCEDURE

Step 1: Evaluate damage

-   Determine if damage is substantial enough to require repair. If so, evaluate the damage location and determine if the cold weld repair technique can be used. The cold weld repair procedure should only be used on small scratches in low visibility areas.

Step 2: Apply Cold Weld Material

-   Completely clean the scratched area with IPA to create the proper bonding surface for the cold weld adhesive.
-   Apply a bead of cold weld adhesive over the scratched area so that the scratch is completely covered.
-   Allow the cold weld adhesive to cure completely before cleaning.

Figure 18: Apply cold weld adhesive bead to scratch

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uPVC PATCH
REPAIR PROCEDURE

Step 1: Evaluate damage

- Determine if damage is substantial enough to require repair. If so, evaluate the damage location and determine if the uPVC patch repair technique can be used.

Step 2: Prepare area to patch

- For surface scratches and minor repairs, the area should be sanded if necessary and cleaned thoroughly before applying the touch up paint.
- For holes, dents, or deep scratches proceed to page # 3 for instructions on preparing areas with filler material.

Figure 19: Thoroughly clean area where patch is to be applied

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Step 3: Cut patch material to size

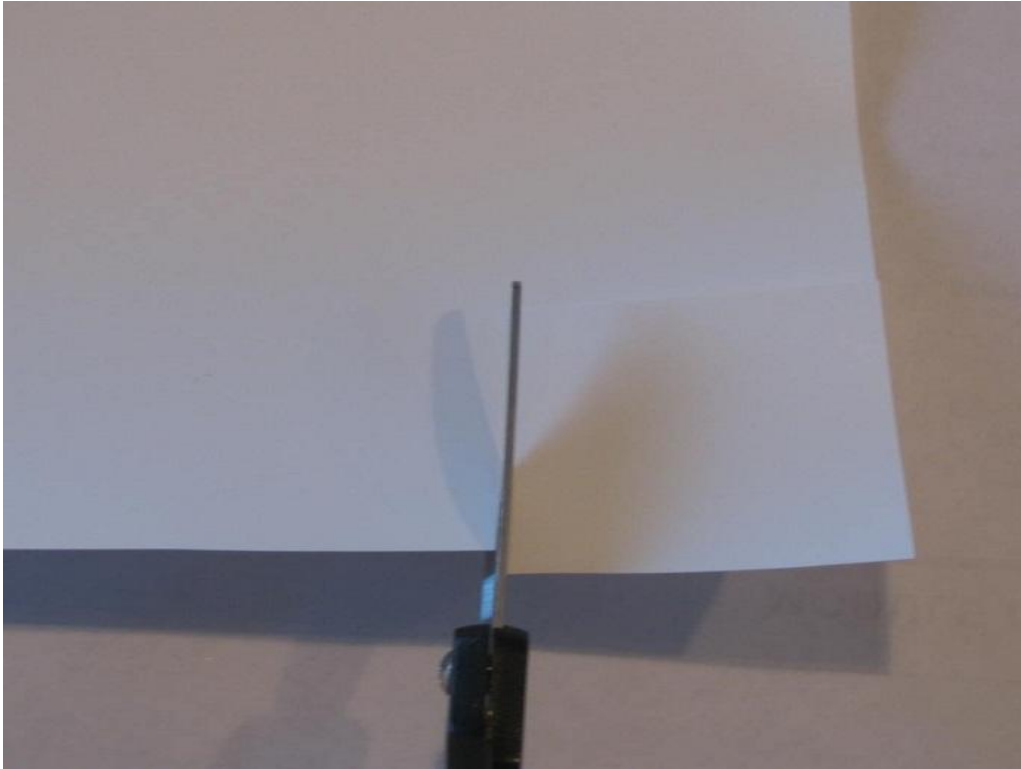- Cut the uPVC patching material to the desired size and shape to completely cover the damaged area.

Figure 20: Cut patch material

Figure 21: Be sure patch is sized to completely cover the damaged area

Step 4: Peel back the protective backing

- The uPVC patching material comes with a pressure sensitive adhesive on one side with a clear protective film cover.
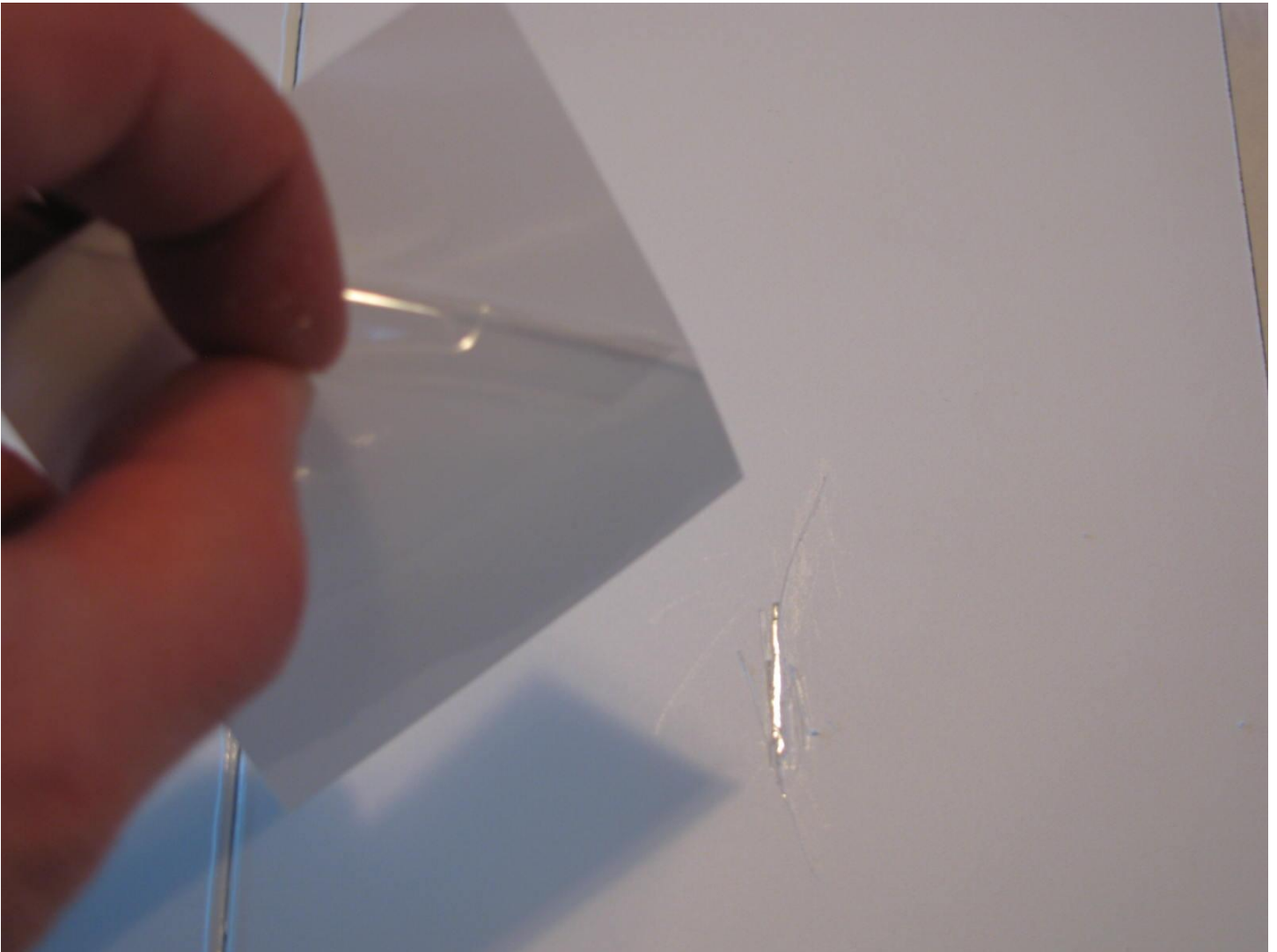- Peel back the protective film cover to expose the pressure sensitive adhesive.

Figure 22: Peel back the film, be sure not to touch the side with the pressure sensitive adhesive

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Step 5: Apply the patch and seal

- Apply the patch over the damaged area. Apply firm pressure to the patch to ensure complete bonding to the panel and smooth out any air bubbles that may form.
- Apply a bead of cold weld adhesive to the perimeter edge of the patch to chemically seal the perimeter of the patch to the panel.
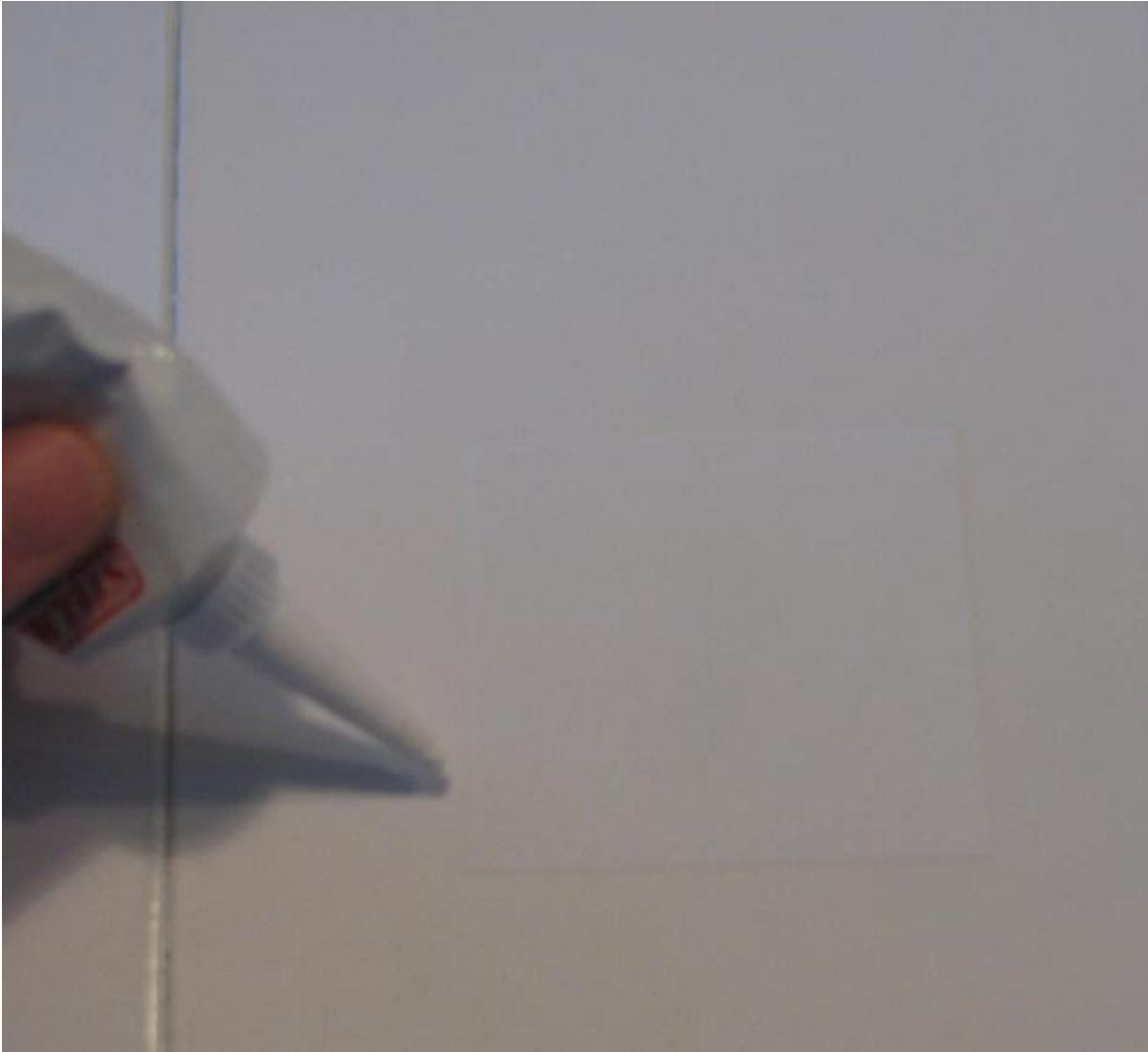

Figure 23: Apply patch and seal around the perimeter

uPVC WALL PAPER REPAIR PROCEDURE

Step 1: Evaluate damage

- Determine if damage is substantial enough to require repair. If so, evaluate the damage location and determine if the wall paper repair technique can be used. The wall paper needs to fall on a seam or be covered on all four edges so that it may be sealed and seamless.
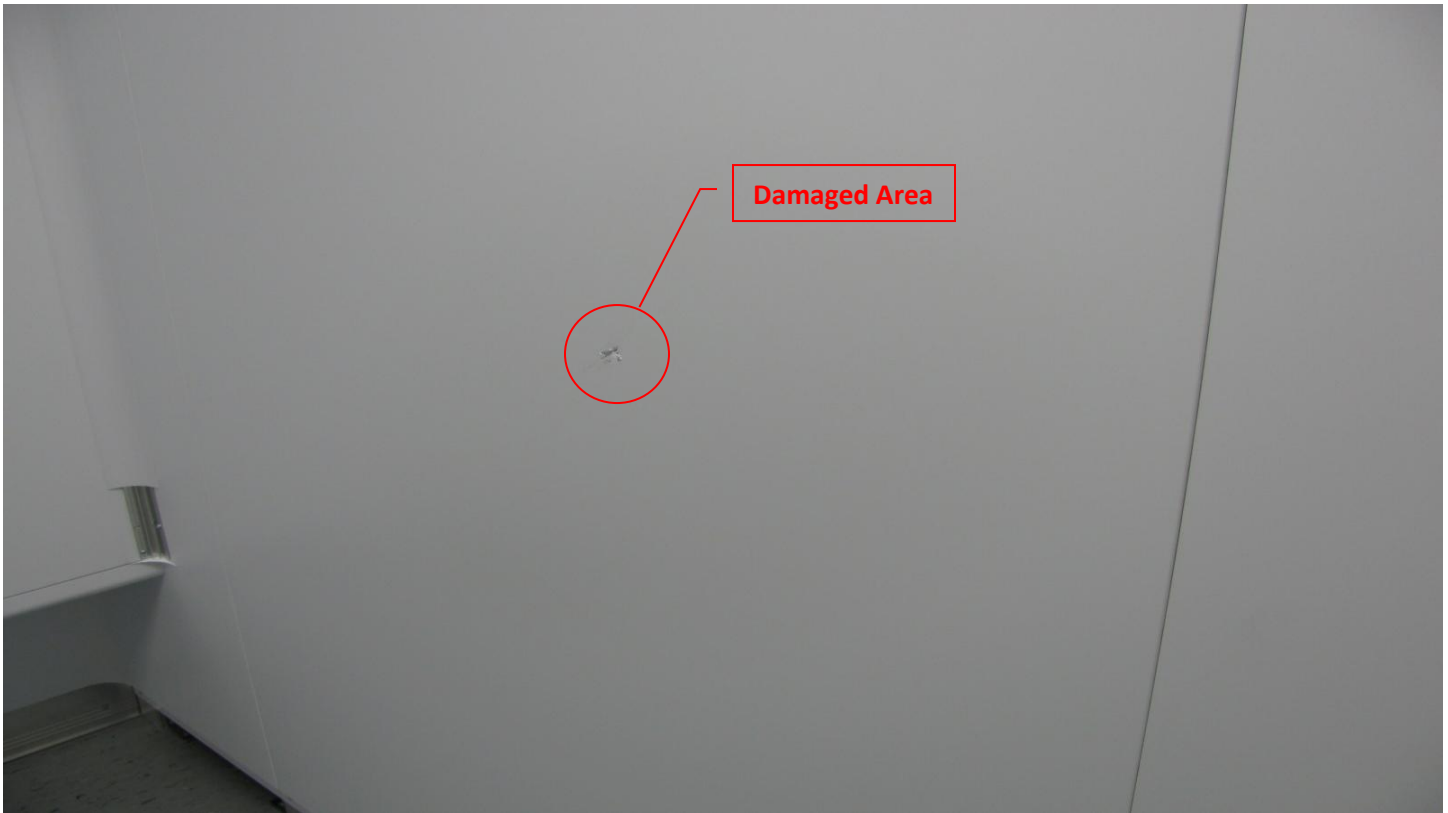

Damaged Area

Figure 24: Damage location

Figure 25: Close up of damage

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Step 2: Remove coving

- If coving is installed, remove the section of coving that goes across the top of the panel to be repaired. Coving will be re-installed over top of the wall paper to hide the top seam.

Figure 26: Remove coving

Figure 27: Coving removed above damaged panel

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Step 3: Prepare damaged area

- Using a hammer or other tool, flatten out any large burrs that protrude from the panel surface.
- Sand the damaged area with 180 grit sandpaper to remove any remaining burrs.

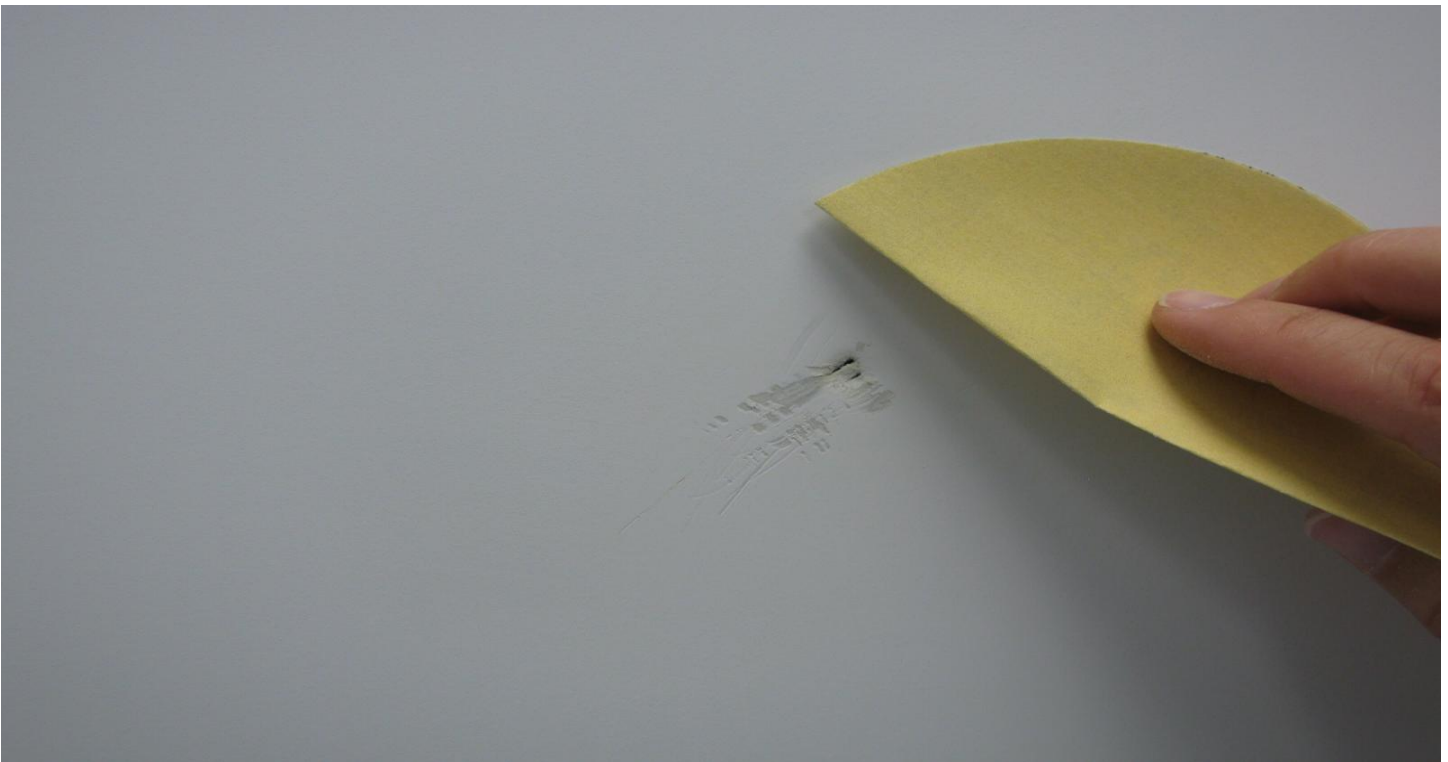Figure 28: Sand the damaged area

Figure 29: Sanded surface

Step 4: Clean surface

- Thoroughly clean the sanded area with IPA (isopropyl alcohol) to remove any dust/dirt/debris.

Figure 30: Clean sanded area

Step 5: Mix filler material

- Assemble the filler material components. A metal filler (bondo), mixing pad, mixing tool, application tool.
- The metal filler is not provided by Plascore, however any standard automotive bondo is acceptable.
- If required, mix the filler (bondo) per manufacturer instructions.

Figure 31: Suggested tools

Figure 32: Two part filler material

Figure 33: Mixed filler material

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Step 6: Apply Filler material to damaged area

- Apply enough filler material to completely fill/cover the damaged area. It may be necessary to apply multiple layers for large dents or holes.

Figure 34: Apply filler material

Figure 35: Filler material

Figure 36: Panel with filler repair

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Step 7: Sand filler material smooth

- Use 180 grit sandpaper to sand the filler compound flush with the panel surface.

Figure 37: Sand filler material

Figure 38: Close up of sanded filler material

Step 8: Clean the panel surface

- Thoroughly clean the entire panel surface with IPA in preparation for wall paper lamination. Any residue or dust left behind will hinder the wall paper adhesion.

Figure 39: Spray down panel surface with IPA

Figure 40: Clean entire panel surface

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Step 9: Tape off adjacent panels

- Tape off a minimum of 3" of the adjacent panels on either side with a low tack masking tape. This will allow the excess wall paper to be easily removed once trimmed.

Figure 41: Tape off adjacent panels

Figure 42: Tape off adjacent panels

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Step 10: Cut and position wall paper

- Cut a section of uPVC wall paper 2-4" longer than the panel length that is to be covered. The panel length distance is measured from the bottom of the aluminum cove base to the top of the floortrack.
- Roll up the uPVC wall paper with the clear filmed adhesive side facing outward.
- Tape the free edge of the roll to the existing panels with the uPVC surface facing outward. The top of the sheet should start at roughly the bottom of the aluminum cove base.

Figure 43: Tape uPVC wall paper roll in place

Figure 44: Tape uPVC wall paper roll in place

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Step 11: Unroll wall paper

- Unroll the wall paper with the clear backer film still attached and allow it to hang loosely against the existing wall.

Figure 45: Unroll wall paper

Figure 46: Allow wall paper to hang loosely

Step 12: Peel off clear projective backer

- Starting at the top, peel back the clear protective film and adhere the uPVC wall paper to the existing wall.
- Pull straight down on the clear film as it is peeled back to keep the hanging wall paper as close to the existing wall as possible.
- Use straight edges to press the wall paper against the existing wall as the clear film is peeled back, this will help minimize air bubbles. Most minor air bubbles can be removed after the wall paper is adhered.
- Be sure to keep the clear plastic film from folding up on itself underneath the wall paper as it is removed.

Figure 47: Slowly peel back clear film

Figure 48: Smooth wall paper as clear backer film is removed

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Figure 49: Removing clear backer film

Figure 50: Smooth uPVC film as backer is removed

Figure 51: Keep clear backer film from bunching up under wall paper

Figure 52: Remove backer film completely

Step 13: Smooth out air bubbles and wrinkles

- Use a wall paper brush or straight edge to smooth over the entire surface of the uPVC wall paper. Pressure should be applied to ensure good contact of the PSA adhesive to the existing panel surface.
- Most air bubbles under the uPVC wall paper can be smoothed out using a wall paper brush or straight edge. Generally, air bubbles should be worked out starting from the center and moving towards a seam. It may be necessary to use a smaller straight edge for some bubbles to get more direct pressure.

Figure 53: Suggested tools

Figure 54: Start by smoothing over with wide straight edge or brush

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Figure 55: Wide straight edge will take out most bubbles

Figure 56: Smaller straight edge may be required for some bubbles

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Step 14: Trim uPVC wall paper

- Use a utility knife to trim the uPVC wall paper at the vertical seams. The blade will follow the groove of the seam, and the tapered body of the utility knife will help push the wall paper into the seam as it cuts.
- Use a utility knife to trim the wall paper at the top and bottom. Trim the top as close to the aluminum cove base as possible so it is covered by the coving when it is re-installed. The bottom of the panel can be used as a guide for the utility knife.

Figure 57: Use utility knife to trim vertical seams

Figure 58: Remove tape and excess wall paper from edge

Figure 59: Trim wall paper along top edge

Figure 60: Trim wall paper along bottom edge

Figure 61: Completed repair