

Repairing KYDEX® Thermoplastic Sheet

For information applicable to KYDEX® FST please refer to 300 series technical briefs.

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Scratches

Light surface scratches and abrasions can often be concealed with an application of a vinyl cleaner such as Armor All or by waxing with Simoniz paste wax. Deeper scratches may be removed by lightly buffing with a fine grade of rubbing compound, fine steel wool, or a Scotch-Brite pad. Any buffing or sanding has the potential to leave a slightly matte finish so this process should be followed by an application of the wax or Armor All. After waxing, polish the surface lightly with a clean cotton flannel or jersey. After polishing, wipe gently with a damp cloth to ground any electrostatic charges that may attract dust particles.

Minor Cracks

Minor cracks can be reinforced through the use of several of the adhesives mentioned in Technical Brief 150-A: Bonding KYDEX® sheet.

- The best color-matched repair can be obtained using viscous solvent cement consisting of about 10% KYDEX® sheet shavings or sawdust dissolved in a 50/50 mixture of tetrahydrofuran (THF) and methylethylketone (MEK). The KYDEX® sheet shavings should be dissolved in the straight THF first, before adding the appropriate amount of MEK. Both of these solvents are available from lab supply companies such as Fisher Scientific (web: <http://www.fishersci.com>) Ashland Chemicals (web: <http://www.sigmaaldrich.com>), or other chemical distributors.
- Without the KYDEX® sheet shavings, a relatively fast-acting capillary adhesive and crack filler can be made by using only the 50/50 THF and MEK mixture. THF works well at 100%, but it tends to flash off too quickly resulting in a poor joint. The addition of MEK slows down the evaporation rate and affords greater time to work with the joint.
- Minor cracks can also be filled with a 2-part acrylic based adhesive such as the Devcon Plastic Welder or Plastic Welder II. These adhesive adhere extremely well to KYDEX® sheet and will prevent further cracking. These adhesives can not be color-matched and are mainly for reinforcing the damaged area. If the repair is in a visible area, then sanding and painting the area may be needed, see Technical Brief 101: Painting KYDEX® sheet.

Major Cracks

Major cracks and punctures can be repaired in a manner similar to cracks but for aesthetic purposes the part or panel may need to be replaced. If repairing the damaged area is the only option then following a repair process similar to an automotive repair is possible.

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Start by reinforcing the back side of the part, if possible, by applying one of the Devcon adhesives around the perimeter of the damaged area followed by a fiberglass patch. Once the adhesive dries, it can be filled in from the opposite side with the same adhesive. Fill in the area a little at a time allowing each layer to dry before applying the next. Once dry, sand the area and apply the appropriate paint, if necessary.

Note: All repair techniques frequently result in a noticeable difference in the gloss level around the repair site. These methods will help hide and prevent further cracking or damage but if aesthetics is an issue, the part should be replaced.

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SATTO® (SA20-21) Repair Kits

Repair Procedure

SATTO (SA20-21) is a two-part repair system for non-structural plastic (monolithic) components and parts within the aircraft cabin. Interior components that can be repaired include seat shrouds, rub strips and arm caps, fairings, decorative panels, non-structural seat components, tray tables, shrouds and kick panels.

1. Clean damaged area using an appropriate cleaner* and follow with an alcohol wipe using Isopropyl Alcohol.
2. Cut out damaged area and remove burrs and rough edges using a standard grinder.
3. Remove dust and debris from the cut area and wipe with IPA.
4. Mask off area to be repaired about 0.040" (1mm) from each edge.
5. If through crack is present, tape off back side to keep SATTO in place during curing process.
6. Add SATTO powder (SA20-21 Part B – Powder) to a mixing cup.
7. Add SATTO liquid (SA20-21 Part A – liquid) activator to the powder, approximately two parts powder to one part liquid until a consistency is reached similar to a "porridge" mixture.
8. Add repair solution to damaged area. Take care to reduce overspill.
9. If further applications are required, allow to cure for ten minutes then reapply.
10. Once fully cured, sand area to produce desired finish.

Important note: All repairs will leave a noticeable difference in texture. If aesthetics are important replacing the part is most likely the best option.

For a more detailed repair procedure, as well as burn test results and usage guidelines, please refer directly to the SATTO website.

*Referencing KYDEX® Technical Brief 160-A: Cleaning KYDEX® Sheet

For general (routine) cleaning, the following mild detergents and multi-purpose cleaners are recommended:

- Top Job with Ammonia
- Spic & Span
- Johnson's Pledge
- Joy Detergent
- Fantastik
- Mr. Clean
- Janitor in a Drum
- Formula 409
- Cascade
- Isopropanol
- All Detergent (Powder)

SATTO® is available exclusively through Specialist Aviation Limited.

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