

Repairing KYDEX® Thermoplastic Sheet

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

TB - 161

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, Plastic Welder II or for a flexible repair try Devcon's Flex Welder. 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.

Repairing KYDEX® Sheet

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.

KYDEX, LLC

ISO 9001 and 14001 Certified

Customer Service

6685 Low St, Bloomsburg, PA 17815 USA
 Phone: 800.325.3133, +1.570.389.5810
 Outside the US: +1.570.389.5814
 Fax: 800.452.0155, +1.570.387.7786
 Email: info@kydex.com

Technical Service

Phone: 800.682.8758
 Fax: +1.570.387.8722
 Outside the US: +1.570.387.6997
 Email: techservice@kydex.com

www.kydex.com

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