

ATTENTION: Always refer to the most current technical information available at www.lonseal.com, and review completely prior to starting the job. Lonseal reserves the right to change its products' design and material, or to improve products or processes at any time without notice. Installation procedures and use of Lonseal products must be in strict accordance with Lonseal's technical documentation for warranty terms to be valid.

RELATED TECHNICAL DATA SHEETS:

- ▶ Lontape (for permanent installations)
- ▶ Welding Thread

ADDITIONAL MATERIAL REQUIRED*:

- ▶ Joint Sealant
- ▶ Seam Tape
- ▶ Moisture Barrier Tape
- ▶ Double Face Aircraft Tape
- ▶ Edge Sealant

*Depending on the type of aircraft or installation conditions, some items listed may not be necessary. Lonseal does not stock these items. Please contact your local distributor to purchase.

APPLICATION:

1. Acclimate all products to the installation location for a minimum of 48 hours prior to installation.
2. Loose lay the flooring in the aircraft. Make any relief cuts as necessary, and leave extra width and length to be trimmed after installation. If using patterned or heavily embossed material please refer to the **Notes** section below for additional information regarding layout and cutting.
3. Ensure the substrate (e.g. fiberglass or metal panels) is free of contaminants prior to installing any sealant, moisture tape, or double face tape.
4. If required, apply a bead of joint sealant between the floor panels, and allow the sealant to fully cure per the manufacturer's recommendations. Once cured (unless noted otherwise by the tape manufacturer), apply seam tape centered on the seam, smoothing the tape against the substrate to avoid air bubbles. Ensure the tape is wide enough to extend 1 in. to 1.5 in. (2.5 cm to 3.8 cm) at either side of the seam. Due to the thickness of the carrier in some tapes, telegraphing of the tape may occur.
5. If required, install the moisture barrier tape following the manufacturer's recommendations.
6. Apply a full spread of double face aircraft tape or Lontape to the substrate or moisture barrier tape (if present). Do not overlap the tape and minimize gapping. Due to the thickness of the carrier in some tapes, overlapping or gaps will telegraph to the surface of the flooring. Note that full spread applications of tape reduce the risk of the floor bubbling or buckling from rolling loads or dimensional changes due to temperature fluctuations.
7. Remove the tape liner just prior to placing the flooring. Depending on the liner used for the tape, use caution as they may be slippery.
8. Place the flooring into the tape, making sure to align any patterns at the center or focal point of the installation area (see **Notes** below for additional information). Minimize any repositioning of the flooring after placing it into the tape, as each repositioning may result in a weaker overall bond.
9. Roll the flooring in both directions using a minimum 100 lb. (45.4 kg), three-section roller. If unable to utilize a large roller due to the size of the aircraft or accessibility, a three-section laminate roller may be used. When using a smaller roller, the installer must put enough weight behind it to ensure strong, positive contact.
10. Trim any excess flooring to ensure a proper fit.
11. Heat weld all seams of adjacent flooring, except for flooring that is too heavily embossed to be properly heat welded (see **Notes** below for additional information).
12. If required, apply sealant around the perimeter of the installation and any exposed edges of the flooring following the manufacturer's recommendations. The sealant bead should not exceed applicable height restrictions. When installing, ensure the beads are continuous, and wipe up any excess sealant with a clean, dry towel. If the manufacturer has a specific chemical or solvent recommendation for clean-up, ensure it is compatible with vinyl before installation by testing it on a scrap piece of flooring.
13. Once the tape and perimeter sealant (if used) has cured, perform initial maintenance. See **Maintenance** below for additional information.

RETROFITS:

The following section is meant to provide guidance on flooring replacement. While typical of larger passenger aircraft, some steps could still apply to other aircraft types where Lontape has not been used*. Use caution during each step, in an attempt to preserve as much of the flooring system (e.g. moisture barrier tape, floor panels, etc.) as possible for reuse

1. Remove any sealant from the perimeter or edges of the flooring.
2. Remove the flooring in its entirety from all necessary areas. If using a utility knife to cut out sections, use extreme caution to avoid damaging any other parts of the flooring system. Use of a hook blade is best suited for this, and will help minimize the chance of damage. In most cases, the flooring will pull away from the double face aircraft tape before that tape pulls away from the moisture barrier tape. If the double aircraft face tape does pull up from the moisture barrier tape, make every effort to ensure the moisture barrier tape stays adhered to the substrate.

3. Once the flooring has been removed, begin removing the double face aircraft tape from the moisture barrier tape, following the manufacturer's recommendations for removal, if available. Depending on the bond strength of the tape to the moisture barrier, it may not be possible to remove it. If this is the case, skip to step 5.
4. Inspect the moisture barrier tape for any damage. If the moisture barrier tape and any items below it are determined to be in satisfactory condition, complete the new installation following steps 6 – 13 under **Application** above.
5. If the water barrier tape is damaged or cannot remain intact, follow the manufacturer's recommendations for removal. Use caution when pulling it up to avoid pulling up the seam tape (if present) with it.
6. Inspect the seam tape and sealant. If they are determined to be in satisfactory condition, complete the new installation following steps 5 – 13 under **Application** above.
7. If the seam tape or seam sealant is damaged, remove them in their entirety following the manufacturer's recommendations. The retrofit will now be considered a new installation and follow the complete instructions under **Application** above.

*Lontape is meant for permanent installations of flooring. Flooring replacement where it has been used would be considered a new install following the instructions under **Application** above. In these instances, the flooring and Lontape would be removed in their entirety and the substrate sufficiently cleaned and prepared to be in "as new" condition.

REPAIRS:

- ▶ **Small Cuts or Gouges** – Groove the cut or gouge with a hand groover, and apply the color matched welding thread the same method as a heat weld. Depending on the extent of the damage, it may be possible to repair heavily embossed flooring that cannot typically be heat welded. For those instances, please contact Lonseal's Technical Department for assistance in determining the closest matching welding thread.
- ▶ **Large Cuts, Tears, or Surface Damage** – Depending on the complexity of the flooring system, these types of repairs may need to follow the instructions under **Retrofits** above. Otherwise, cut out the damaged area using a hook blade to prevent damaging the substrate. Remove the existing tape, clean the substrate of any residue, and apply new tape. Cut new flooring to fit and place into the tape after removing the liner. Roll the flooring as noted in step 9 under **Application** above, and heat weld the perimeter with matching thread.

MAINTENANCE:

1. Remove all gross soiling (food, gum, residues, etc.). Take care if using a scraper or putty knife to avoid permanently damaging the surface of the flooring.
2. Clean the flooring with a microfiber dust mop. If necessary, use a vacuum to first pick up large particles.
3. Using a cleaner suitable for use with sheet vinyl (see below for recommendations), apply it to the flooring as directed by the manufacturer's instructions.
4. Use a microfiber wet mop to clean the floor. If necessary, a scrubbing pad may be used to help loosen soiling prior to mopping. A blue pad may be used in most cases, but do not use anything more aggressive than a red pad for flooring with Topseal. See **Notes** below for more information.
5. If necessary, use a clean microfiber mop pad and clean water to remove any remaining residue.
6. Allow the floor to fully dry.
7. If a field applied finish was used for the installation, additional finish should be applied at this time. While 1 – 2 coats are recommended, additional coats may be needed depending on the condition of the existing finish and frequency of maintenance. See **Notes** below for more information.

NOTES:

- A. When cutting flooring to fit the installation location, be aware that sheet vinyl is subject to dimensional change. Lonseal accepts no responsibility for dimensional changes to flooring that is cut into shapes or cut outside recommended environmental conditions. The amount of change will depend on the environment in which the flooring is cut versus the environment in which it is installed. Keeping the flooring acclimated in similar, if not the same, environments can help reduce or eliminate this natural occurrence, as can cutting the flooring slightly larger than needed and trimming it to the correct size after installation. Optimal acclimation and installation conditions will be in a controlled environment between 65 – 85 °F (18.3 – 29.4 °C).
- B. When cutting using templates for aircraft installations, allow for potential dimensional changes. Lonseal recommends a test cut first, prior to beginning full scale fabrication. The test cut should mimic the same procedures that will be followed during production. This should specifically include expected temperatures conditions during cutting, storage prior to installation, and installation. From the test cut, you will be able to determine the most appropriate tolerance to allow for cuts made with the flooring.
- C. For all patterned flooring seams, it is recommended to match the pattern at the center of the installation or focal point, and work the pattern out toward the perimeter from there. Embossed patterns will not always side-match along the length of the entire seam. When installing, seams should appear balanced throughout the length, and not taper off into the seam.
- D. Certain heavily embossed flooring are not able to be properly heat welded due to the height or spacing of the embossing. For this flooring, seams should be double- or underscribe-cut to ensure they are as tight as possible. This will minimize any gaps that could collect soiling.
- E. MEK, acetone, and other abrasive solvents should not be used to clean the flooring. These substances could cause permanent damage or discoloration.

- F. Standard single-disc machines and auto-scrubbers may not be useable or logistically possible in some cases. For these instances, the 3M™ Doodlebug™ Pad Holder or the Rubbermaid® Upright Scrubber Pad Holder use small rectangular versions of the same pads used by the larger machines.
- G. Lonseal always recommends following proper maintenance procedures, as shown in the appropriate Maintenance Guide for the installed flooring. Should an installation be left unfinished, it will require additional effort to maintain the flooring properly and prevent permanent damage.
- H. DFT and Lonsealer must not be used in aircraft installations.

RECOMMENDED MAINTENANCE PRODUCTS: The following products have been approved for use with Lonseal's aircraft flooring by their respective manufacturer.

Manufacturer	Product			
	General Cleaning	Heavy Duty Cleaning	Disinfectant	Deodorizer
Aviation Cleaning Supply <i>www.aviationcleaningsupply.com</i> (518) 705-4038	MPC-404 Multi-Purpose Cleaner	Quat Plus TB (increase dwell time up to 10 minutes)	Quat Plus TB	Quat Plus TB
Callington / PSA¹ <i>www.callington.com</i> +61 2 9898 2788 <i>www.psa-paris.com</i> +33 (0)1 64 11 33 22	Ki-Ose 365/CH220 -or- Aircraft Gum & Ink Remover -or- Ki-Gum -or- Ki-Kleen -or- Ki-Ose RTU Liquid/ Ki-Ose Concentrate	n/a	Netbiokem DSAM -or- Ki-Ose RTU Liquid / Concentrate	Fresh+Clean
Celeste Industries Corporation <i>www.celestecorp.com</i> (800) 447-5775	Next Generation Interior Cleaner Complete	n/a	Sani-Cide EX3	Biozyme EX3
Creative Chemical Manufacturers GmbH <i>www.ccm-liquid-glass.com</i> +49 (0) 2206 / 938 590-0	Bacoban® -or- SiOban®	Biosativa® (1:10 ratio)	Bacoban® -or- SiOban®	n/a
Uniters, S.p.A. <i>www.uniters.com</i> +39 0444 499099	NFT Cleaner	n/a	n/a	Aircraft Anti Odour

¹Additional, compatible products are available, but not included in this list. Please contact the manufacturer for a complete list.

Note: All warranties and support for these products will be through the noted manufacturer.