PRECAUTIONS

- Glue products are flammable. Do not expose to an open flame or intense heat.
- Avoid all contact with skin or eyes. Wear appropriate protective clothing such as gloves, protect your eyes, and do not expose glue or sealants to intense heat or sparks.
- If glue or sealant comes into contact with the eyes or the skin, rinse abundantly at once with water and consult a doctor.
- While glue does not normally cause allergic reactions, its by-products are sensitizers that can cause allergic reactions in certain people. So you are strongly advised to always wear protective clothing such as gloves, coveralls and safety glasses to protect yourself from splashes when handling these products.
- Work in a well-ventilated area.
- All application of glue using SPRAY GUN in a closed area such as the plant, garage or enclosure that does not have an external air ventilation system is strictly prohibited.
- The applications will have to be performed wearing a head gear similar to those used by the painters during painting.
- A waiting time of 10 minutes minimum is obligatory after the application in order to permit the different solvents to dissipate.
- All access to the application areas must be closed during the application.
GENERAL DESCRIPTION

The floor covering of the LFS vehicle is composed of PVC, fibre-glass, silicon carbide and non-woven textile. This provides passengers with a safe, non-slip surface, even when wet. Durable and resistant to wear and water, this flexible covering can also tolerate floor movements and vibration. See Figure 1.

GENERAL MAINTENANCE

FLOOR DRAIN

To avoid water build-up during bad weather, floor drains are installed under the passengers seat. One if the kneeling is front only, two if there is a side and front kneeling. The first one is located behind the front door wheelhouse. And the additional one, if equipped with side kneeling, is installed before the rear door.

During general maintenance, check that the drains are free of dirt. The drains should be cleaned if there is any clogging.

CLEANING

To preserve its non-slip properties and appearance, the covering used in the low-floor bus requires some basic maintenance:

• Immediately clean any liquid spilled on the floor covering.

• When cleaning the floor covering, daily if necessary, use the recommended cleaning products, as some cleaning products are unsuitable for maintaining the non-slip features of this safety floor.

• Regular maintenance is required for cleanliness, safety, and appearance

CAUTION:

In winter, more frequent cleaning in a dry location helps reduce the damage caused by calcium, and provides an environment suitable for better drying the floor.

NOTE:

Some shoe heels can leave marks on the safety floor. To remove them, use a polypropylene or abrasive buff, with abrasive powder as necessary.

1. Apply hot water and cleaning product, and scrub the surface to loosen and suspend the dirt particles in the cleaning solution. Spread over the surface with a mop and wait for 15 minutes.

2. Scrub with a short-haired brush.

NOTE:

Do not use steel wire brushes, scouring pads, striking tools or sharp-edged tools.

3. Rinse the flooring with hot water under low pressure, then wipe with a dry cloth and let dry.

CAUTION:

Factory tests show that cleaning the interior with a high-pressure water jet damages the bus interior, particularly the seats and floor.

DRYING

It is recommended to air out the vehicle thoroughly when washing is completed. The vehicle should be parked in a heated area to help eliminate resulting moisture.
REPAIRING THE FLOOR COVERING

**NOTE:**
See the Parts manual, section 12, for the tools required to repair the floor covering.

PREPARING THE SURFACES

1. Sweep or vacuum the preparation area in order to avoid dirt being spread into the vehicle.

**NOTE:**
Wearing overshoes is necessary when working inside the room and inside the vehicle.

2. Using masking tape, mask any surrounding surface that might get soiled with the adhesive (melamine, wheelwell, etc.).

GLUING THE FLOOR COVERING

Application of the contact adhesive can be done with either a pneumatic-electric glue gun mounted directly on the supplier container, or a painting brush.

A new container of adhesive must be opened just before the installation on the glue gun, in order to maintain stability of the adhesive in terms of solvent concentration and viscosity.

**CAUTION:**
- No smoking is allowed in the station when using contact adhesive.
- Use of electrical tools, or any object that could generate flames or sparks, including cell-phones, beepers, etc., is strictly forbidden.
- Only appointed and trained employees are allowed to apply contact adhesive.
- Only employees wearing air induction head gear are permitted to apply contact adhesive.
- Central ventilation must be operating at all times.
- All applications of adhesive must be performed in a closed area equipped with an adequate ventilation system.
- Nobody, without exception, must be present in the room for the 15 minutes following the application.

1. Mark out a rectangular section of the floor that includes the section to be replaced. Other shapes could be used, but it is easier to work a rectangular section.
2. Cut a piece of new floor covering to fit the rectangle.
3. Place it over the section to be replaced, and cut around it to remove the old floor covering.
4. Remove the section to be replaced.

**NOTE:**
Check the condition of the wood under the floor covering. If it is damaged, cut out a larger section of the wood (the size of the wood panel) to replace the damaged part.

5. Carefully clean the two surfaces to be glued (floor and floor covering). Remove all residues (excess putty, excess glue, etc.).
6. Apply the glue to the floor and the floor covering. A contact adhesive is recommended. Test the product before applying the surface. It is very important to shake the container before use.

**NOTE:**
Ensure that the adhesive is spread uniformly on all surfaces; use a paint roller if necessary. Caution not to spread out the adhesive over other surfaces.

7. Allow 10 minutes’ drying time before joining the two surfaces.
8. Apply the new piece to the hole, taking care to leave an equal space all around. Lightly flatten the new piece.

**NOTE:**
The glue is of the contact type. Position the new piece correctly. You cannot reposition it.

9. Lightly flatten the new piece starting on the corners.
10. Use a carpet roller and apply pressure on the floor covering in order to eliminate any air pocket trapped between the floor covering and the wooden floor.
11. Let the glue dry for about two hours before subjecting to cold or hot soldering. See the SOLDERING THE FLOOR COVERING heading in this section.
1. Prepare the PVC joint by using the grooving tool to make a V-shaped groove for the bead of pure vinyl. See Figures 3 and 4.

2. Prepare the hot air soldering gun by installing the soldering tip for a 3/16" bead and setting the heat to position 5 [662°F (350°C)].

3. Use the gun to solder the joint with a vinyl bead. See Figure 5.

**NOTE:**
Never begin a joint in a corner. There is greater likelihood of a break in the joint if it is begun in a corner.

If the gap is too large, adjacent beads can be applied to fill the joint and make it watertight. Wherever possible, end overlapping joints (a new bead over an old one) against a metal blade to avoid burning the flooring. The cutting spatula can be used for this purpose. See Figure 5.

**WARNING:**
The following precautions must be followed when using a soldering gun (see Figure 2):

- Always reset the temperature to 0 and allow the gun to cool for at least 5 minutes before switching it off. This avoids overheating the costly ceramics inside, which makes them very fragile.
- Never leave the hot end of the gun on any surface. At 350°C (662°F), the risk of burns is very high.
- The hot air emitted by the gun can also burn nearby items. Always leave open space around the gun, especially around the heating end.
- Never leave the soldering gun near solvent used to soak glue guns.
- Make sure the gun’s air entry grill is not obstructed by dust, which reduces the air flow at the exit and causes overheating of the interior elements of the gun.
- Do not clean the soldering tip while the gun is hot.
- Move the gun at a uniform rate. Too slowly, and the sides of the flooring will burn. Too quickly will make a poor joint.
4. Let the joint cool and harden for at least 25 to 30 minutes.

5. Smooth the joint and remove the excess with the spatula provided for this use. See Figure 6.

6. If the joint is in an outside or inside corner, it may be helpful to use the two types of corner finishing tools suggested by the floor covering manufacturer. See Figure 7. See the INSIDE AND OUTSIDE CORNERS heading in this section.

7. If the replacement piece is installed against a wall, see the ADJUSTING TO THE WALL HEADING in this section.

PROFILES

See Figure 8.

There are generally three different profiles of vinyl bead. All of these profiles will fit in the soldering gun's tip.

- **Round**: The round bead is used for small welds (one bead), or for large welds, where one or more beads together are required to make a seal.
- **Mushroom**: The mushroom bead is used where a small seal is required.
- **Angle**: The angle bead is used where a 90° corner bead is required.

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Figure 5 - Using a Metal Blade While Soldering

Figure 6 - Soldered Joint Before and After Cutting

Figure 7 – Tools for Corner Finishing

Figure 8 - Vinyl Bead Profiles (Not to Scale)
OUTSIDE AND INSIDE CORNERS

Heating with a soldering gun is recommended for both inside and outside corners to make the floor covering more pliable. Using this method will mould the floor covering more closely to the shape of the corner.

The principle is to avoid any loose areas that trap air pockets in the corner.

Outside corners must be glued as shown in Figure 9. Inside corners must be glued as shown in Figure 10.

ADJUSTING TO THE WALLS

- The floor covering must fit into the notch provided for it under the aluminum trim.
- To prevent water infiltration, the edge must be inserted under the extrusion. To do this, use the cutting template shown in Figure 11. By tracing the protruding portion of the extrusion with the cutting knife, the cut will be both straight and in the right place.
- When you have a good fit of the floor covering, lift up the aluminum trim with the aid of a screwdriver.
- Using the epoxy glue cartridge, glue the back of the floor covering.
- Press the floor covering in place, fitting the floor covering under the aluminum trim.
- Clean off any excess glue.

SEALING THE JOINTS

Except for wall joints that end at the aluminum trim, all joints between the floor covering and other material must be sealed. The polyurethane base sealant Altromastic 100 should be applied as follows:

1. **When sealing the joint between a wheelhouse and the floor covering**, first place masking tape approximately ¼ in (6 mm) from the bottom of the wheelhouse.
2. Mask the floor covering, leaving a strip of sealant of about ¼ in (6 mm) to 3/8 in (9 mm) when smoothed in the apparent zones, where aesthetic conditions must be observed.
3. **When sealing the joint between a wheelhouse and the floor covering**, sand the free surface below the masking tape on the wheelhouse using a scotchbrite pad or small grinding disk.
4. Clean the surface to be sealed with a cleaning solution, such as the Sika 205.

NOTE:

Sika 205 tends to bleach the PVC covering. Consequently, it is necessary to clean the floor covering only in the zones delimited by the masking tape.
REPAIRING THE FLOOR COVERING ON THE ACCESS RAMP

**NOTE:**
Follow the product manufacturer's instructions for cleaning, surface preparation and gluing for optimal results.

REMOVING THE FLOOR COVERING

1. Remove the ramp cover and place it on a workbench.
2. Heat the floor covering on the ramp cover to reactivate the glue, thus making removal easier.
3. Using a rigid knife, remove the floor covering from the plate. Dispose of the floor covering if it is too damaged to be used again.
4. Check the condition of the molding and the plate. Replace if necessary.

PREPARATION OF THE STAINLESS STEEL

5. Clean the surface of the stainless steel plate to be recovered using a cleaner/degreaser product, such as Kent Polyprep AP or similar.
6. Sand the surface of the stainless steel, using a sander fitted with No. 24 grade abrasive paper, until the surface has been roughened. See Figure 12.
7. Use a clean, dry cloth to remove all dust from the surface.
8. Apply masking tape around the edges of the stainless steel cover without going over the inside border. Where there is no border, use floor covering as a template. See Figure 12.

**NOTE:**
If mouldings are superimposed on the various joints, sealing can be applied more liberally to increase sealing effectiveness.

5. Allow to evaporate for 10 minutes.
6. Apply sealant with a manual gun. The conical nozzle should be held against the bottom of the joint and a pushing movement used.

Inserting the nozzle into the bottom of the joint and pushing ensures the joint is properly filled, and air pockets that could compromise the seal are avoided.

7. Shape the joint with a rounded wooden stick to produce a smooth, uniform, concave joint. Finger smoothing is permissible provided the hand is covered with a blue glove. Wipe off any spots or excess on the floor covering with a cloth lightly dipped in thinner.

**ATTENTION:**
Never use sealant in a passageway or place that has high foot traffic, since this product soils easily and is not designed to withstand frequent pedestrian traffic.

8. Remove the masking tape.

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Figure 12 - Preparation of the Stainless Steel Surface
PREPARATION OF THE FLOOR COVERING

9. Cut the floor covering to the desired size.
10. Clean the surface of the stainless steel plate to be recovered using a cleaner/degreaser product, such as Kent Polyprep AP or similar. See Figure 13.
11. If the floor covering is a used piece, remove any excess glue by sanding the floor covering using a sander fitted with No. 24 grade abrasive paper. It is not necessary to sand new floor covering.
12. Use a clean, dry cloth to remove all dust from the floor covering.
13. Apply masking tape around the edges of the surface of the floor covering. See Figure 13.

GLUING AND SEALING THE FLOOR COVERING

☞ CAUTION:
Gluing should be performed in a well-ventilated area. Wearing rubber gloves is recommended. Product containers may be opened a few minutes before use to allow the acrylic odours to evaporate.

14. Cut off the two ends of a double cartridge adhesive pack. Use Kent Metal Bonding Adhesive KT12577. Insert the cartridge into a cartridge glue gun.
15. To ensure that equal quantities of adhesive come from both cartridges, press lightly on the trigger and allow a small quantity of adhesive to squeeze out onto a clean dry cloth.
16. Install the mixing head, included in the double-cartridge pack, to the end of the cartridges and tighten the collar.
17. Apply the adhesive in a zigzag pattern on the stainless steel plate, as well as the underside of the floor covering. See Figure 14.
18. Uniformly spread the adhesive on the two surfaces using a V-notched spreader that has ½ inch V-shaped teeth.

☞ CAUTION:
The pieces must be joined within 45 minutes of the application of the glue.

19. Apply the piece of floor covering taking care to properly align it on the stainless steel plate and ensuring that it does not slide.
20. Using a roller, roll over the floor covering with a light, uniform pressure. The purpose of this pressure is to maintain a good contact between the stainless steel and the floor covering and eliminate any pockets of air. It is important not to apply too much pressure, otherwise this will have the effect of displacing the glue, resulting in poor adhesion. Work from the center out to the floor covering edges. See Figure 15.

☞ CAUTION:
Apply a light pressure on the roller, with a view to expel any air between the two surfaces, but still maintain a good thickness of adhesive between the stainless steel and the floor covering.
21. Clean off any surplus adhesive with a clean cotton cloth moistened with acetone. See Figure 16.

22. Immediately remove the masking tape from the floor covering and other parts. Once the glue has cured, it becomes difficult to remove the masking tape. Remove the masking tape carefully to prevent the floor covering from lifting from the stainless steel plate.

23. Apply clamps and weights, such as bags of sand, evenly distributed over the surface. Be sure that this added weight does not create any leakage of adhesive from the sides. Allow to set for two hours. Wait an additional two hours before reinstalling the part on the vehicle.

REPAIRING THE YELLOW REFLECTING BAND

INSTALLATION

1. Sand the inside and outside of the bands to give a good adhesive key.

2. Wipe the bands with a cloth to remove any residual dust.

3. Cut the floor covering on the podium and steps.

4. In the corners, cut any existing bead to give a tighter fit.

5. Cut the yellow bands in place to ensure a better fit.

6. Before applying the glue, ensure that each piece fits properly.

7. Scrape, sand or wash off any excess glue or putty.

8. Again, clean and dry the bands before installation.

9. Put masking tape on the bands and the floor covering before gluing to facilitate clean-up. See Figure 17.

10. Cut the tape on either side of the bands.

11. Pre-heat the hot-melt polyurethane glue cartridge for 1 hour prior to usage.

CAUTION:

The hot glue gun can burn the skin severely. Be very careful in handling this tool.
12. Apply the hot polyurethane glue to the back of the yellow band. Ensure that the coating is uniform and that there is sufficient for a good seal. This glue has a 3-minute reaction time. See Figure 18.

13. Place the band in position.

14. Clean off any excess glue with a wooden stick or cloth.

15. Use a small roller on the yellow bands to remove any air bubbles and to ensure proper adhesion. If necessary, reheat the glue by passing a hot air blower over the yellow band, while pressing with the hand roller.

**RESEALING THE FLOOR COVERING TO THE YELLOW BANDS**

1. Reapply the masking tape to hold the bands in place during the curing of the adhesive.

2. Lift the floor covering and apply the Epoxy adhesive to the floor covering and the wood floor. Use a fine-toothed scraper to spread the adhesive evenly. See Figure 19.

3. Press the floor covering down firmly and smooth with a roller and clean off excess adhesive with a wooden stick and a clean cloth.

4. The floor covering should overlap the yellow bands with a small selvedge.

5. Screw down the retaining plate. Leave to dry for a minimum of 4 hours.

6. Remove all masking tape and clean off any residual glue or adhesive.

7. Run a bead of vinyl where the floor covering and the yellow bands meet, in order to create a watertight seal.

8. Seal the angled corners on the yellow bands with a bead of yellow vinyl.

9. Follow the procedure under the heading **SOLDERING THE FLOOR COVERING**, in this document.

☞ **CAUTION:**
The yellow vinyl is more prone to burning than the regular vinyl beading. Take care when performing this operation.
INSPECTION

Once the gluing and sealing have been completed, it is important to carefully inspect the work. In doing so, it is important to respect the following points:

1. Clean the floor covering well with a broom and, if necessary, with a damp mop.
2. Provide good illumination to the areas to be inspected.
3. Visually inspect each soldered and sealed joint. Any holes, even small ones, must be corrected.

For soldered joints, a new bead can be welded on top of the old one. As with all joints, it must be smoothed down afterwards. See Figure 20.

For sealed joints, it is sufficient to add another layer provided the joint is clean and the joint is shaped quickly. It is always a good idea to mask the edges, even for repairs.

**NOTE:**

Never walk on a floor covered with glue, even if it has had time to dry. Dirt on the soles of your shoes will transfer immediately to the floor, and this area will not stick to the floor covering.

SPECIFICATIONS

**FLOOR COVERING**
Brand .......................................................... Tarabus by Gerflor

**DIMENSIONS**
- Thickness ............................................ (2.8 mm = 0.11")
- Weight .............................................. 3.4 kg per sq. m
- Width ................................................ (2.0 m = 6'7")
- Length of roll ................................. (20 m = approx. 66')

**PROPERTIES**
- Surface resistance ................................ not affected by water and many chemicals
- Heat ............................................ resistant to air temperatures between 140 °F (60 °C) and -5 °F (-20 °C)
- Static load limit ................................ 700 lb./sq. ft (4826 kPa)
- Rolled load limit ............................ 3,000 lb./sq. ft (20 684 kPa)
- Cleanliness ............... Permanently retards bacterial growth

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**Figure 20 - Soldering a New Bead over Existing Bead**