

Sept 2020

## INSTALLATION METHODOLOGY OF FLOORWORX SUPERFLEX FULLY FLEXIBLE VINYL SHEETING

### GENERAL

The final appearance and durability of any resilient flooring installation depends largely on the condition of the surface upon which it is laid. A good concrete sub-floor is the result of sensible planning, careful design and detailing, adequate specifications, good workmanship and proper inspection.

All resilient flooring materials require a smooth, hard, clean and level surface, not only for appearance but also for achieving a satisfactory adhesive bond and long-term durability. Any traces or patches of oil, grease or any oil-based paint must be removed from the sub-floor surface. This can be done using either paint strippers or degreasing compounds. Once clean the sub-floor must be thoroughly washed to remove any stripper or residue and then allowed to dry thoroughly.

### RESPONSIBILITY

The specifier and main contractor shall ensure that the sub-floor is acceptable to receive the resilient flooring specified in respect of levelness, smoothness, soundness and cleanness, with a minimum requirement of a Grade 1-floor finish as set out in SANS 10070. This finish is generally achieved with a high-quality, reliable self-levelling cementitious compound.

The flooring contractor shall also ensure that the sub-floor is sufficiently dry prior to the installation of the flooring material. All sub-floors should be tested for dryness by using a suitably approved Concrete Moisture Meter. (*Tramex CME 4, Romus/Caisson VI-D4 Pinless Concrete Moisture Meter, GE Protimeter Mini or a Hygrometer*).

### MATERIAL SPECIFICATION

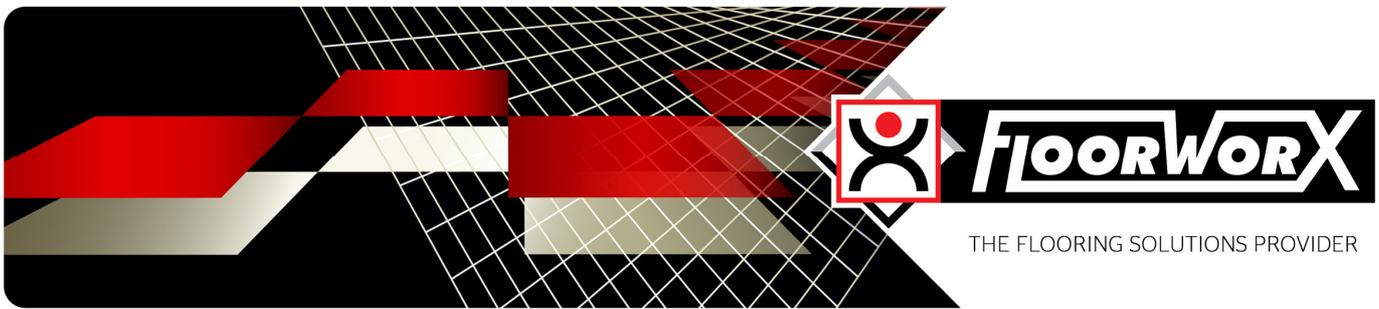
Supply and fix 2.0mm / 2.5mm thick x 1.2m wide Superflex fully-flexible vinyl sheeting manufactured in accordance with SANS 786 and laid in FloorworX No. 62 acrylic adhesive which has been spread using a TKB-A2 notch trowel fitted at a rate of between 5.5m<sup>2</sup> and 6.5m<sup>2</sup> per litre or FloorworX No.71 contact adhesive spread using a flat trowel, brush or paint roller at a rate of approximately 3,5m<sup>2</sup> per litre (single surface application), on a previously prepared Class 1 sub-floor in accordance with SANS 10070, using a reliable Self-Leveler when required, including all cutting and waste. The sheeting must be rolled in both directions with an articulated 68kg three-sectional roller immediately after it has been laid into the adhesive. Joins must be butted, grooved and heat welded using FloorworX Welding Rod, ensuring that the welding rod bonds to more than 70% of the sheet thickness. The newly laid floor must, after 48 hours, be stripped using FloorworX Stripper, scrubbed using a diluted solution of FloorworX Rinse and then sealed with 3 coats of FloorworX Silk Matt or Gloss Sealer.

### APPLICATION

Ensure that all recommendations for substrate and job site conditions are met prior to beginning the installation. Beginning the installation is an implied acceptance of site conditions by the parties involved and liability for any failure directly related to inadequate site conditions becomes the responsibility of the installer and/or flooring contractor.

Note - Sub-floor temperature should not be less than 6°C or more than 27°C.

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## ADHESIVE RECOMMENDATIONS AND APPLICATION

Superflex Sheeting should be laid in FloorworX No 62 water-based acrylic adhesive which has been spread using a trowel fitted with a TKB-A2 notched blade at a rate of approximately 5.5 to 6.0m<sup>2</sup> per litre (depending on the porosity of the floor), alternatively FloorworX No 71 contact adhesive where applicable applied to both the sheet and the previously prepared floor using a flat trowel, brush or paint roller at the rate of approximately 3.5m<sup>2</sup> per litre per single application.

### Note the following:-

- Notch trowels will wear during use, check the trowel both before and during use to ensure that the proper, specified trowel notch is used and maintained.
- The adhesive must be spread evenly over the entire floor area with particular attention to edges – this will ensure that the product is fully bonded at the perimeters.
- Ensure that the material is rolled afterwards with a 68 kg articulated roller, rolling in all directions to ensure a firm bond. It is important to only spread sufficient adhesive that can be covered within the open\* time of the adhesive.
- Areas that cannot be rolled with the large roller e.g. abutments such as door frames or skirting boards should be rolled with a hand roller.
- Always clean away excess adhesive with a damp cloth before it is allowed to dry.

(See **FloorworX Technical Bulletin No. 35: Floorworx Adhesives and their Applications**).

\*The open time of the (acrylic) adhesive will depend on site conditions and porosity of the substrate. It is best practice to conduct an adhesive bond test before starting the installation, as this will assist in identifying both the working characteristics of the adhesive (waiting and working time) for the site conditions and also any potential bonding problems. When the adhesive feels tacky but not wet, the flooring can be laid. Ensure that the flooring is laid into the adhesive before it dries.

### Note:-

- If the flooring is laid into the adhesive too early, the volatiles which have not flashed off will be trapped. This will prevent the adhesive from curing and will result in a poor bond. The problem will manifest itself in the peaking or lifting of the flooring.
- If the flooring is laid into the adhesive too late, there will be little or no bond which will result in the flooring lifting. Trowel notch marks will show through the flooring once it has been trafficked.
- When FloorworX No 71 Contact Adhesive is used, it must be allowed to flash off and to become touch dry before the flooring is installed.

## MATERIAL

Before installation, the sheeting should be checked to ensure that the correct colour, batch number, and quantity have been received and that the material is in good condition.

Only use material from the same batch/dye lot. (The use of different production batches will always result in visible shade differences. These batch and roll numbers are marked on the outer packaging and must be checked before the commencement of the installation).

**Rolls must be stored standing up, as storing the rolls laying down will result in distortion and potential damage.**

Unroll the sheeting 24 hrs before the installation to eliminate any roll stress and allow it to acclimatise.

## INSTALLATION METHODOLOGY

### Preparation

- Plan the installation to try and avoid joins in main traffic areas or doorways. (It is appreciated that this is not always possible due to material widths and numerous other influencing factors on-site).

Refer to Figs 1 & 2 below.

- Unroll the sheeting for 24 hours before installation to allow it to acclimatise.
- Ensure at all times that the batch and roll sequences are strictly adhered too. Under no circumstances must different batches be mixed or rolls installed out of roll number sequence. Rolls must be used in an ascending or descending sequential numerical to ensure colour continuity.**

**Failure to comply with this rule will render the installation vulnerable to shade and contrast variation.**

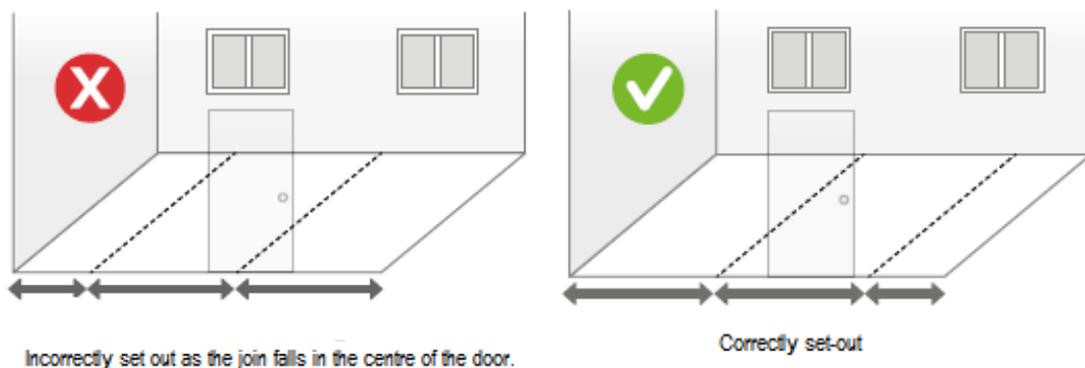


Fig 1.

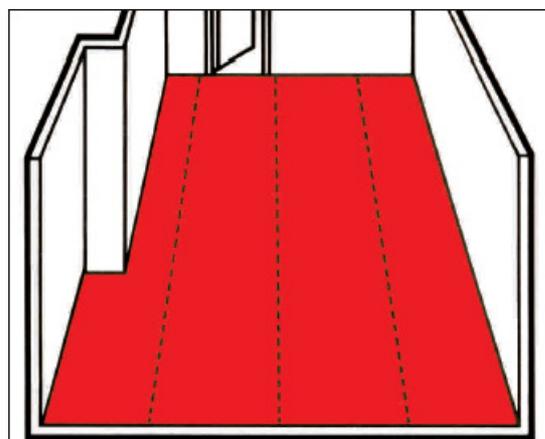


Fig 2.

Note: - If the room is reasonably square, the sheets should run parallel to the incoming light. In long, narrow rooms it is best to install the sheets along the length of the room.

### Cutting or Scribing the Sheeting

- Pre-cut the required length of sheeting allowing extra material at either end for waste (extra +/- 50mm)
- Place (or loose lay) the cut sheeting in the area to be installed
- Place the second length of sheeting alongside the first allowing an overlap along the length.
- Continue until the last length is parallel and close to the sidewall.

Refer to Fig 3.

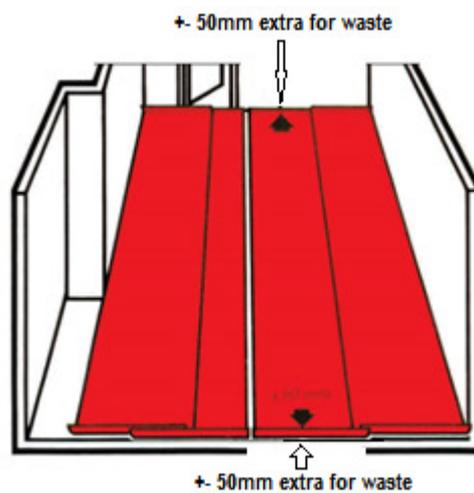


Fig 3.

- Set the long scribe to approximately 12mm longer than the greatest gap between the wall and the edge of the sheeting. Refer to Fig 4.
- Holding the long scribe perpendicular to the sheeting scribe along the sheet so that the contour of the wall is transferred onto the sheet.

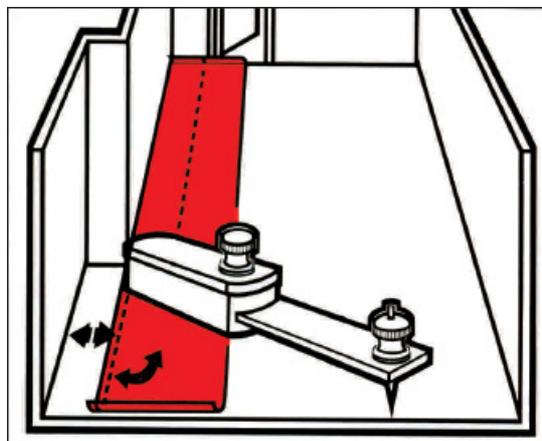
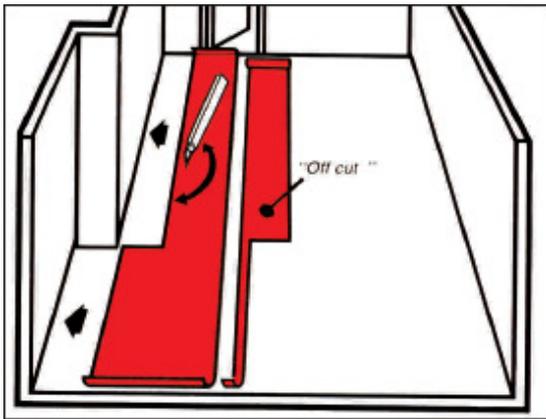
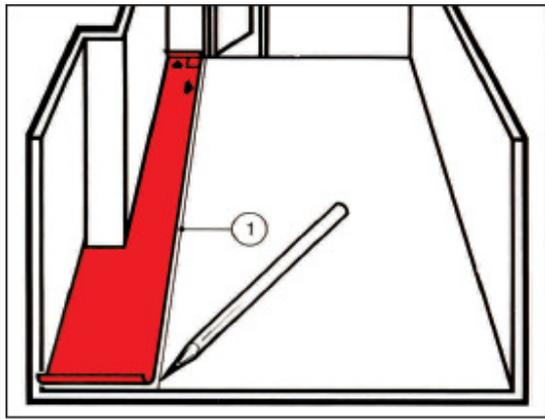


Fig 4.

- Cut along the line made by the long scribe, remove the off-cut and place the sheeting hard against the wall. **Refer to Fig 5.**
- Draw a pencil line (1) onto the subfloor along the uncut edge of the sheeting. **Refer to Fig 6.**

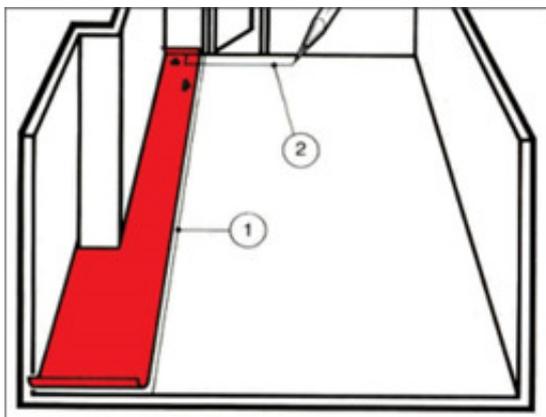


**Fig 5.**

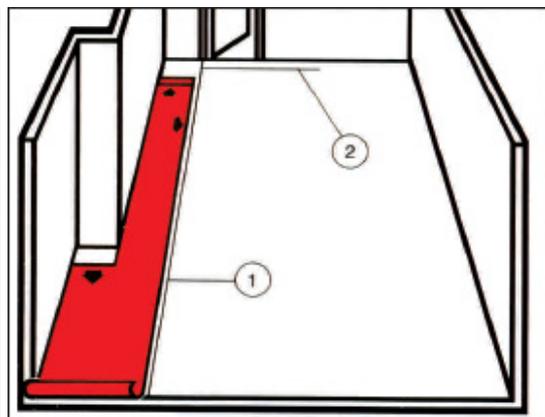


**Fig 6.**

- Strike a second line (2) at right angles to the first along the sub-floor and sheeting near the end of the length of the sheet. **Refer to Fig 7.**
- Slide the complete length of sheeting away from the end wall so that it lies along the first pencilled line with the one end now close to the wall and all the excess riding up the opposite wall. **Refer to Fig 8.**
- The second pencil line has now split - half on the sub-floor and half on the moved sheeting.



**Fig 7.**



**Fig 8.**

- Set the long scribe to the distance between the two cross lines. **Refer to Fig 9.**

- With the long scribe against the end wall and perpendicular to the sheeting scribe across the end of the sheeting length.

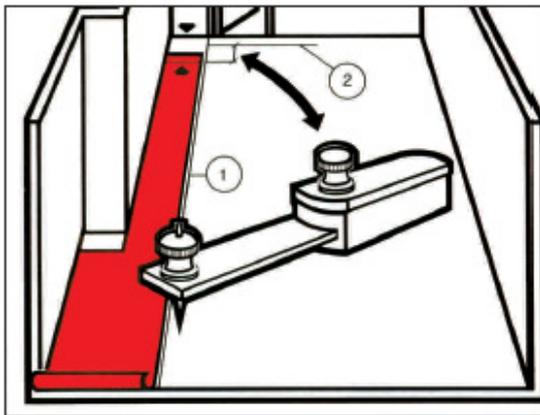


Fig 9.

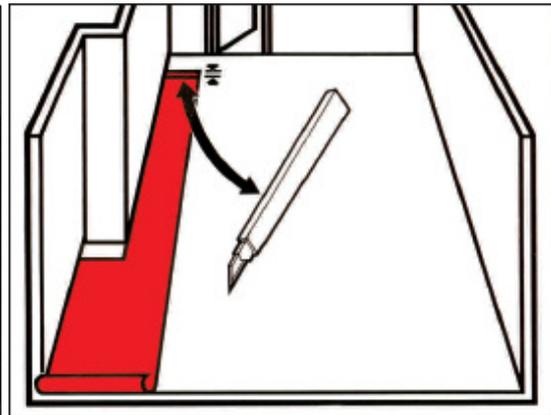


Fig 10.

- Cut along the line made by the long scribe, remove the off-cut and place the sheeting hard against the end wall. **Refer to Fig 10.**
- The sheeting is now cut and fitted against the sidewall and one end wall. **Refer to Fig 11.**
- Using a straight edge, cut off the remaining material.
- Place the second length of sheeting alongside the first allowing an overlap along the length.
- Scribe and fit the one edge of the material - as previous.
- Repeat the procedure with all lengths of sheeting until the whole area has been loosely laid with end wall sections scribed and suitable overlaps at each length join. **Refer to Fig 12.**

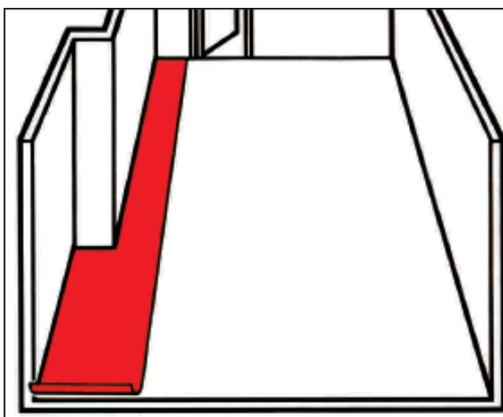


Fig 11.

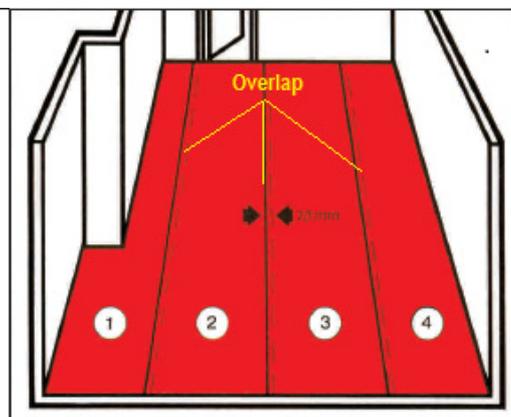
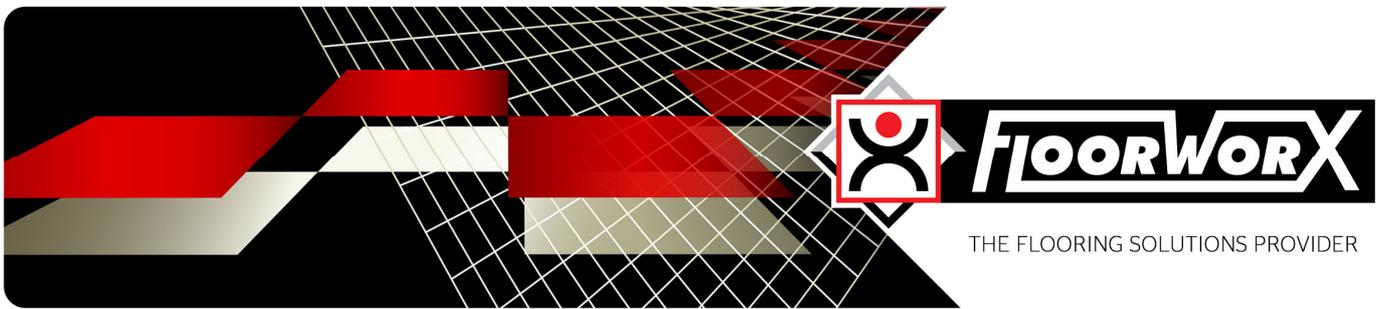


Fig 12.



- Using a straight edge and sharp knife, cut through the overlaps (or both layers of sheeting) before the lengths are adhered onto the sub-floor.
- Remove bottom off-cut and smooth the two sheets together to form a perfect join.
- Repeat the procedure with all lengths of sheeting until the whole area has been loose laid
- All perimeter lengths must be trimmed against the long wall and end walls if the material is finishing alongside the wall, alternatively along the leading edge of the border material or the skirting.

### **Applying the FloorworX No 62 Acrylic Adhesive and installing the material**

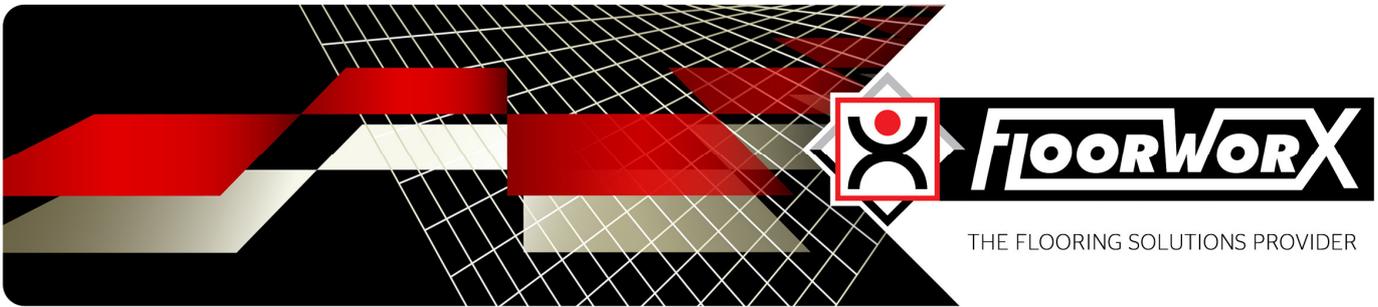
- Fold back each length of sheeting approximately halfway.
- Sweep the back of the sheets, ensuring that they do not move.
- Ensure that the sub-floor is swept or preferably vacuumed, to remove all dust and dirt. (Under no circumstances apply the adhesive to a dusty sub-floor unless it has been primed with a suitable primer).
- Ensure that the job has been correctly planned and set out before any adhesive application.
- Stir the adhesive thoroughly before spreading.
- Evenly spread the adhesive using a TKB - A2 trowel
  - Do not leave bare spots, pools or overlapping ridges of adhesive.
  - Do not spread large areas of adhesive.
- Allow sufficient time for the volatiles in the adhesive to flash-off.
- When the adhesive feels tacky but not wet place the first length into the adhesive, smoothing down the sheeting to avoid the formation of air bubbles.
- Fold back the second half of the sheeting and repeat the process
- Bed the flooring into the adhesive using a 68kg three-sectional metal flooring roller in both directions before the adhesive has hardened or dried to ensure good adhesive transfer and to further eliminate air bubbles.
- Do not use solvent-based cleaners to remove adhesive from the flooring surface. Such adhesive should be removed immediately using a clean, damp rag, warm water and detergent.

### **PRECAUTIONS**

- Do not use *FloorworX No. 62* when the temperature is below 6°C.
- Adhesives should be stored indoors on a wooden pallet at a temperature of not less than 6° to prevent freezing.

### **Applying the FloorworX No 71 Contact Adhesive and installing the material**

- Fold back each length of sheeting approximately halfway.
- Sweep the back of the sheets, ensuring that they do not move.
- Ensure that the sub-floor is swept or preferably vacuumed, to remove all dust and dirt. (Under no circumstances apply the adhesive to a dusty sub-floor unless it has been primed with a suitable primer).
- Ensure that the job has been correctly planned and set out before any adhesive application.



- Stir the adhesive thoroughly before spreading.
- Evenly spread the adhesive using a flat trowel, brush or roller on the floor and the back of the sheeting
  - Do not leave bare spots, pools or overlapping ridges of adhesive.
- Allow sufficient time for the volatiles in the adhesive to flash-off and for the adhesive to be touch dry.
- When the adhesive is touch dry on both surfaces place the first length into the adhesive, smoothing down the sheeting to avoid the formation of air bubbles.
- Fold back the second half of the sheeting and repeat the process
- Bed the flooring into the adhesive using a 68kg three-sectional metal flooring roller in both directions to improve the adhesive bond.
- Any excess adhesive on the surface of the flooring should be removed immediately.

## WELDING METHODOLOGY

### Hot Welding the Fully Flexible Vinyl to form an impervious finish.

This is a thermo-fusion process – a combination of melting and fusion between the rod and the flooring material

**Hot Welding** is performed in five stages: *Butting, Grooving, Welding, Trimming and Glazing.*

#### 1. BUTTING

When the flooring is to be welded, adjacent sheets must be tightly butted together. It is preferable to overlap the sheeting, scribe the join using an under scribe, and then cut the material – thereby removing the factory edge - to achieve a relatively tight butt joint.

#### 2. GROOVING

Do not groove immediately after laying the vinyl flooring. Allow 24 hours for the adhesive to set. The groove must be cut immediately before welding. This prevents dirt and dust collecting in the groove, which will adversely affect the strength of the weld.

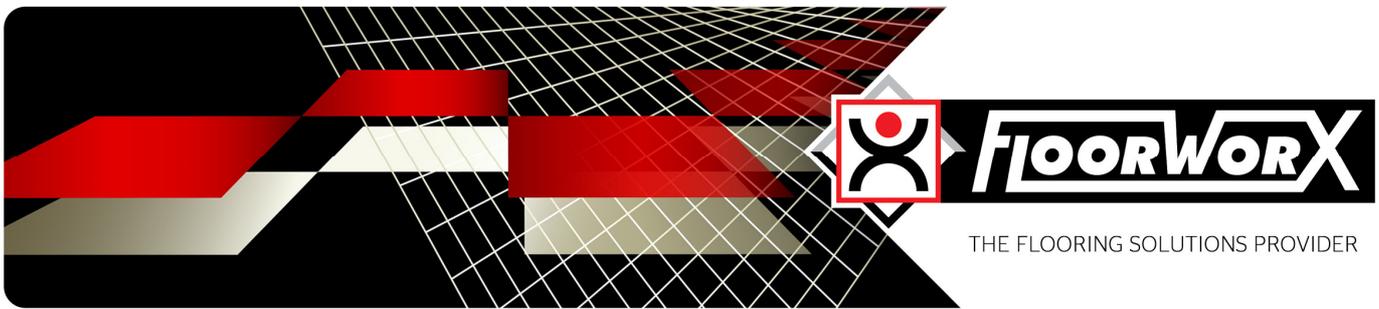
The groove must be cut along the butt joint, using either a hand grooving tool (usually a P-type or triangular groover) or an electrically powered grooving machine. Cut the groove to a depth of approximately 70% of the flooring's thickness or  $\frac{2}{3}$  through the material.

#### 3. WELDING

When welding, use either a hand-held hot air welding gun and feed roller or a hot-air welding gun fitted with a speed nozzle. The temperature of the hot air supplied by the welding gun is adjustable; therefore it is important that the appropriate temperature setting is selected to achieve a good weld. A good weld has been achieved when a fine bead of molten material can be seen on either side of the welded joint. It is good practice to establish the correct temperature settings before welding therefore it is recommended that physical testing be carried out on a sample piece.

##### 3.1. HAND-HELD HOT AIR WELDING WITH FEED ROLLER

The hot air welding gun is held in one hand and the feed roller in the other. The welding rod is fed through the handle of the feed roller, around the brass wheel and into the groove previously cut into the flooring. The feed roller is drawn along the groove in the flooring, feeding the welding rod into the groove.



Simultaneously the hot air welding gun is also lightly drawn along the groove in front of the feed roller. The hot air from the nozzle of the welding gun melts both the surface of the groove and the welding rod. Hand pressure on the feed roller and the speed at which the roller travels along the groove must be kept constant.

### **3.2. HOT AIR WELDING GUN FITTED WITH A 5.0 MM SPEED NOZZLE**

The speed nozzle effectively replaces the feed roller mentioned above, making it possible to weld with one hand. The welding rod is fed through the heated tube of the speed nozzle and is pressed into the groove. To produce a uniform weld, both the speed at which the welding gun is drawn along the groove and the pressure on the welding rod must be kept constant.

Welding too fast will compromise the procedure and the joint will not be secure, however, welding too slow will damage and possibly discolour the material on either side of the weld due to the excessive heat.

## **4. TRIMMING**

### **4.1 Using a spatula knife and spatula guide plate**

The weld or joint seam is trimmed in two stages. While the welding rod is still warm, trim off most of the top half using a spatula knife and spatula guide plate which fits over the welding rod. Carry out the final trimming using the spatula knife only, when the welding rod has completely cooled.

### **4.2 Using a Mozart Knife 0.5mm**

The weld or joint seam is trimmed in two stages. During the precut the spacer claw is swung in place below the blade so that, as the cut is performed, a residual seam remains. For the subsequent trimming cut, swing the spacer claw 90 degrees to the side and trim the seam flush with the material.

**Irrespective of the tool must use, the process is carried out in two stages. If both cuts are performed whilst the welding rod is still hot, there will be severe concaving on the join.**

## **5. GLAZING**

The trimmed welding rod will tend to soil more rapidly than the sheeting. It is therefore important to glaze the surface of the trimmed welding rod. This is accomplished by directing the hot air jet from the speed nozzle onto the surface of the trimmed welding rod about 20-25mm above the welded joint. This will then glaze the weld to match the sheeting.

**Maintenance.** The completed floor should not be washed or cleaned for 48 hours after completion of the installation, to allow sufficient time for the adhesive to cure properly. It is recommended that the product is sealed with an acrylic emulsion (FloorworX Sealer) for further protection and a proper maintenance regime implemented. It may be advisable to appoint a company specialising in floor care to carry out the respective maintenance procedures.

#### **DISCLAIMER**

THIS INFORMATION IS BASED ON OUR EXPERTISE AND IS GIVEN IN GOOD FAITH BUT WITHOUT WARRANTY. WE CANNOT ACCEPT LIABILITY FOR ANY DAMAGE, LOSS, OR ACCIDENT CAUSED DIRECTLY OR INDIRECTLY BY THIS PRODUCT.

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