COMPLETE VINYL SOLUTION FOR SHOWERS AND WET ROOMS

sarlibain system

onyx FR Wall covering
surestep® Floor covering
safestep® Floor covering

creating better environments
Finding a long-life product that satisfies usage requirements for care personnel, comfort for occupants and safety for everyone is often a challenge. The only way to find a good solution is to use the global health care services approach, through the use of products that are unique on the market and high-level segmentation depending on the application.

**sarlibain system**

**A COMPLETE SOLUTION FOR SHOWERS AND WET ROOMS**

The SARLIBAIN concept of a shower with no tray is perfectly suitable for wet rooms in hospitals and clinics, nursing homes, retirement homes, etc. This complete solution designed for multiple floor and wall combinations has the potential for a pleasant and relaxing room.

**texture**

**THE COMPACT ACOUSTIC PVC PRODUCT RANGE SPECIFICALLY FOR NURSING HOMES AND RETIREMENT HOMES**

Residents can feel « at home » during a long term stay in a hospital or clinic. The Texture range has been developed around easily identifiable textures and materials to create a feeling of well-being and safety.

**sarlon® Sparkling**

**THE COMPACT ACOUSTIC PVC PRODUCT RANGE DEDICATED TO HOSPITAL ENVIRONMENTS**

There are many constraints and requirements applicable to hospital environments. The Sarlon Sparkling collection with its colour range wider than anything else on the market and the unique technicity of its products provides the ideal solution for hospitals and clinics.
CHAPTER 1
Matching with private rooms for perfect harmony

CHAPTER 2
On the floor, all the expertise of a suitable covering

CHAPTER 3
Complementary accessories

CHAPTER 4
SARLIBAIN system installation guide

Wall: onyx ref 22839
Floor: surestep 171812
YOUR PERFECTLY MATCHED WET ROOM!

Forbo’s new Sarlibain system was designed to be compatible with the Sarlon Sparkling and Texture health product ranges thus guaranteeing perfect harmony between the different spaces, because we do everything we can to make your life easier. It is now easy to maintain aesthetic coherence between the bathroom, the bedroom and the corridor!

MATCHABLE WITH SARLON SPARKLING

Create the atmosphere of your choice using a selection of 21 colours adapted for floors and walls: stimulating and dynamic with lively, bright, soft and relaxing colours with neutral and natural shades. Find several possible combinations for each colour, using the acoustic compact vinyl collection Sarlon Sparkling!
Matchable with Texture

Make your wet room into a relaxing and peaceful cocoon using the palette of soft and neutral colours inspired from natural materials. The freshness of mineral colours and the authenticity of warm woody colours immediately creates a cosy reassuring atmosphere.

Find several possible combinations for each colour, using the compact acoustic vinyl range, Texture!

Matching with private rooms for perfect harmony!

Northern Spirit

Allow for the renowned sobriety of Northern design. You can use the six wall references to add a graphic touch easily matchable to a more neutral floor.
On the floor, all the expertise of a suitable covering

USER SAFETY GUARANTEED BY LIFE-LONG SLIP RESISTANCE

There is always a risk of falling in wet spaces. Therefore slip resistance is an essential criterion for any shower system.

The triple certification -R10 (DIN standard 51130), Esb/Esf (EN standard 13845) and C (DIN standard 51097)-, make the Surestep and Safestep* ranges unique on the market. They guarantee slip resistance when barefoot or wearing shoes on a floor wetted with soapy water.

**MEASUREMENT OF SLIPPERINESS: THE INCLINED PLANE METHOD**

Slipperiness is characterised by using an inclination factor taking account of the nature of the body in contact with the covering (shoe or barefoot), the nature and quantity of water and lubricant present on the floor, and mechanical factors related to the person (slipperiness of the heel, contact pressure, etc.).

The walking style and particularly the dynamics of the heel are complex phenomena that cannot be easily reproduced by machines. The operator walks forwards and then backwards on the plane on which the floor covering to be tested has been laid.

The plane is progressively inclined until the operator (protected from falling) loses his balance.

This method thus determines the maximum angle of inclination.

Discover the video of a test: www.bit.ly/1 ssFzc7

* Excluding technical review
A SYSTEM TO FACILITATE ACCESS

The Sarlibain system was designed to respect access standards for Persons with Reduced Mobility. It is very comfortable for all users; the fact that there is no tray, no step and no door makes it easy to access the shower area and provides greater freedom of movement and manoeuvre. With Sarlibain, you can create a wet room ideal for satisfying constraints in hospitals and clinics, and also for homes.

REINFORCED HYGIENE

Hygiene in wet rooms must be irreproachable, to guarantee users’ well-being and health. Aqua Surestep and Safestep have a PUR Pearl™ surface finish exclusive to Forbo that has proven its worth, and is the only treatment capable of uniformly covering the wear layer and providing optimum protection on the surface and also in areas with relief. It provides a barrier to staining by chemicals (particularly Betadine and Eosin) and prevents soap and lime residues from forming to facilitate faster cleaning. Finally, PUR Pearl™ avoids the need for metallisation throughout the product life.

ASSURED LONG LIFE OF YOUR FLOOR COVERING

The homogeneous structure of the Aqua Surestep and Safestep wear layer guarantees durability and long life of decors. The slip resistant particles included throughout the depth of the wear layer guarantee slip resistance for the entire life of the product. With its new transparent crystal particles, Forbo’s product range becomes even more aesthetic without losing any of its high slip resistance.

A resistant floor with lifelong efficiency for guaranteed satisfaction!
THE BACKING FORM
There are two versions designed for the Sarlibain system, namely:
- 15 x 15 mm white, for vertical reentrant angles so that the wall covering can perfectly fit into corners.
- 20 x 20 mm black, for backing the floor covering wall turnup making corners long lasting while preventing perforation.

TREATMENT OF COLD JOINTS
It is recommended that the C type treatment should be used for wall coverings, for example below the Onyx in the Sarlibain system, thus sealing the covering at the skirting turnup.

THE WATERPROOFING SILL
This sill is used and placed in the door rebate. It makes the junction and waterproofing, and prevents water from passing from the wet room to the bedroom.

REDUCER PROFILE
The reducer profile is placed above the skirting turnup. It compensates for the thickness of the flooring for installation of the wall covering.

Accessories form an integral part of the SARLIBAIN system. Impermeability of the system depends largely on use of the right accessories.
THE FLOOR TRAP

There are four versions designed for the Sarlibain system, namely:

- the PVC DUSCHBRUNN with vertical outlet

![Image of PVC DUSCHBRUNN](image1)

REF. 6347 white
Conditioning unit.

- the PVC FREJA with horizontal outlet

![Image of PVC FREJA](image2)

REF. 6321 white
Conditioning unit.

- the PVC BRAGE, special renovation

![Image of PVC BRAGE](image3)

REF. 6330 white
Conditioning unit.

- steel with or without tamper-proof grillage

![Image of Steel Trap](image4)

REF. 6348
Conditioning unit.

ADHESIVE

The adhesive is specially designed for gluing Surestep flooring and Onyx wall covering.

![Image of Adhesive](image5)

REF. 820601
Packaging: Fût de 20 kg.
**DESCRIPTION OF THE SYSTEM AND ITS INSTALLATION**

**SARLIBAIN CLASSICAL VERSION**

The SARLIBAIN system is a concept for wet rooms as described in 1.2 associating hot-sealed flooring and wall coverings, placed on the entire area of the room (floors and walls) and including:

- the use of drainage accessories (floor traps);
- the use of forming accessories (backing forms for corners, reducer profiles and waterproofing sills);
- the formation of slopes.

Before the SARLIBAIN system can be considered to be complete, it must be demonstrated that:

- the floor of the room is fully and uniformly covered with the same flooring;
- the support is made with no surface discontinuity;
- skirting turnups and wall overlaps are made around the entire periphery of the room;
- the walls of the room are fully and uniformly covered with the same covering over the full height.

**SARLIBAIN COMFORT VERSION**

The Classical version can be used with a SARLIBASE ACOUSTIC underlay to improve the acoustic performances of the SARLIBAIN Classical version with an acoustic attenuation of shock noise equal to $\Delta L_w = 18$ dB.

**APPLICATIONS**

The SARLIBAIN is intended for use in new or old rooms with the following classifications:

- depending on exposure of walls to humidity according to CSTB Handbook 3567 May 2006, ratified by Special Group No 9 « Plaster partitions and liners »:
  - EB+ private rooms (on slab¹ and floor based on hydraulic binders or wood);
  - EB+ private rooms (on slab¹ and floors based on hydraulic binders);
  - EC (on slab¹ and floors based on hydraulic binders above crawl space).

- Depending on the UPEC classification of rooms – CSTB Handbook 3509 November 2004:
  - U2s P2 E2 C1 (if there is a floor trap, these systems will be classified E3 in practice): private individual showers in apartment buildings, hotel rooms and similar, in private bathrooms in student residences;
  - U3 P2 E3 C2: collective washrooms with showers in student residences and in sports facilities (stadiums, gymnasiums, etc.);
  - U3 P3 E3 C2: wet room adjacent to the bedroom and collective washrooms in hospitals and similar, nursing homes and retirement homes;
  - U4 P3 E3 C2: Balneotherapy in nursing homes and retirement homes.

**FLOORING**

- SURESTEP: reinforced compact vinyl flooring in strips with particle inclusions, NF UPEC certified.
- AQUA SURESTEP: flexible vinyl flooring in strips, NF UPEC certified.

**WALL COVERING**

- ONYX FR: non-reinforced multi-layer calendered vinyl flooring in strips, with printed wear layer.

¹The requirements described in standard NF DTU 53.2 April 2007 shall be taken into account for slabs, excluding special systems with inserted underlay.
**ROUGH SUPPORTS FOR FLOORING**

The following supports are envisaged:
- new supports described in Table 4 below;
- old supports from which the old flooring has been removed so that they are among the typical supports described in the following table.

Excluding screeds based on calcium sulphate, dry screeds and prestressed or reinforced cellular concrete slabs with composite slab and continuous at supports.

<table>
<thead>
<tr>
<th>Nature of Rough Supports Allowable for Flooring</th>
<th>Special Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slabs on grade according to NF P 11-213 (ref. DTU 13.3)</td>
<td></td>
</tr>
<tr>
<td>Floors on solid concrete slab, continuous at supports, cast in situ, according to NF P 18-201 (ref. DTU 21)</td>
<td></td>
</tr>
<tr>
<td>Floors on shuttering slab, continuous at supports, cast in situ, according to CSTB Handbook 3221 and NF P 18-201 (ref. DTU 21)</td>
<td></td>
</tr>
<tr>
<td>Concrete floor with floor beams and structural floor units with compression flange, continuous at supports, cast in situ according to CSTB Handbook 2920 (trap in line with structural floor units)</td>
<td></td>
</tr>
<tr>
<td>Composite floor, continuous at supports for which there is a valid Technical Recommendation authorising this use (provide insulation between the steel trough and the trap)</td>
<td>Allowable floating screeds</td>
</tr>
<tr>
<td>Traditional built-in or add-on bonded cement-based screeds according to NF DTU 26.2</td>
<td>Allowable floating screeds FORMATION OF SLOPES</td>
</tr>
<tr>
<td>Fluid cement-based bonded screeds for which there is a valid Technical Recommendation authorising this use</td>
<td>Away from sloping zones OPENING FOR THE SHOWER AREA</td>
</tr>
<tr>
<td>Floors made of wood-based panels according to NF P 63-203 (ref DTU 51.3)</td>
<td>Limited to EB+ private rooms</td>
</tr>
</tbody>
</table>

**WALL SUPPORTS**

Wall covering envisaged over the full height to ceiling
Wall covering work is done:
- on new supports;
- in renovation after removal of the old covering and after refreshment of the support with a rendering capable of restoring a surface condition corresponding to « finish A » as defined in standard NF P 74-204 (DTU 59.4).

See tables 9 and 10 at the end of the brochure.

**PLENUM**

Plenum with no covering
Two cases can arise:
- continuation of the covering a few centimetres above the ceiling;
- stop under the ceiling, joints between the covering and the false ceiling support angle. In this case, do not stretch the covering when caulking, so that it will not move back from the joint.
Support S11, S12 and S13 are allowed if the covering on the other face is unaffected by water. Supports S7, S10 are allowed only in EB+ private room. Other supports are allowed under the same conditions as those specified in allowable support tables.

Plenum with covering
Refer to cases of full height wall coverings described above.

**DESIGN OF ROOMS**

The SARLIBAIN systems requires that the CSTB General Guide « Installation of a floor level shower in wet rooms for personal use in new works » and the following special requirements are taken into account at the design stage of the building or rooms:

- **Trap**:
  - Minimum distance between the wall (or partition) and the centre-line of the trap = 0.30 m for satisfactory gluing;
  - If possible located not more than 1 m from the drain pipe for easy maintenance;
  - Minimum distance between door frame and trap = 1.20 m;
  - For hydraulic binder based supports, the civil works contractor will make an opening and the trap will be partially installed ready for the plumber to finalise its

- **Support**:
  - **Slope**:
    - 1% minimum towards drains in the area exposed to water (over a minimum distance of 1.8 m around the trap and the attachment point of the shower hose if water splashes are not contained), however ideally there will be a slope over the entire area. Slopes are made by the civil works contractor for new work and by the joiner on wood supports. On supports based on hydraulic binders and particularly in the case of renovation work, the system placement contractor may adjust the slopes using an appropriate levelling product.
  - If the opening in the support is too small and slopes cannot be achieved considering the level in the adjacent room, an additional thickness may be provided allowing for a maximum step of 2 cm (Swiss type sill);
  - drain system layout drawings will be supplied to contractors;

- **Joints**:
  - expansion joints shall not pass through the room;

- **Pipe crossing**:
  - **On the floor**: there is no vertical penetration through the slab (supply or drain). Provide a special adaptation:
    - down from the ceiling;
    - routed in an adjacent room;
    - routed in service duct;
    - routed in corner with concrete plinth and 4 cm clear space from the vertical wall.
- **At the wall:**
  - supply and drain pipes shall project by not more than 5 cm;
  - the space between pipes and the wall shall be not less than 4 cm to facilitate installation of the wall covering;
  - the door shall also be not less than 1.20 m from the shower head attachment point.

- **Service ducts:**
  - The distance from the service duct to the water supply shall be not less than 1 m unless there is a waterproofing system;
  - Inspection doors shall be placed outside the room, otherwise they shall be located:
    - at least 1 m from the zone affected by shower heads;
    - less than 1 m from the zone affected, if a waterproofing system is included in the design.

- **Sanitary appliances and fittings:**
  - Wall attachment of sanitary appliances according to standard NF D 12-208 « Sanitary Appliances - Built-in Frames » (appliances removed during application of flooring and wall coverings, drains and ready-to-connect water supplies). Penetrations shall be limited and shall be designed to be waterproof (flexible washer or PU mastic); make a sealing bead (PU mastic) around each base acting as a support for appliances, as illustrated on Figure 3. Attachments shall be tightened using a torque wrench so that all tightening is reasonable and identical at all attachment points;
  - Respect the manufacturer’s instructions; the built-in frame, the partition or the surface and the attachments shall be stiff enough to prevent any movement during use of the equipment. In the case of bowls suspended on plasterboard supports, make sure that the plasterboard is thick enough or even doubled up, otherwise it is recommended that an appropriate resin or stainless steel protection and stress distribution plate should be inserted (on the wall covering and at least 1.5 mm thick) to consolidate the assembly. The thickness of an insert plate can also help to solve the problem of the limit stop that can develop at skirting turnups in the case of very low bowls;
  - Horizontal drainage;
  - Floor attachment planned:
    - by 5 cm thick concrete base (with skirting turnup of the flooring and coverage of the top part).
    - This requires the use of an extra-low bowl;
    - using chemical anchors, but at least 1.2 m from the shower and trap attachment points.

- **Waterproofing sill required when:**
  - The shower is close to the door (closer than 1.80 m);
  - The flooring in the adjacent room requires special protection from water.
LAYING THE FLOORING
(SARLIBAIN CLASSICAL VERSIONS)

Preparation of masonry supports

Cracks shall be treated according to standard NF DTU 53.2 April 2007.
Floor preparation products shall be used to make the horizontal parts and uniform slopes towards the trap to prevent water retention zones:
- levelling product for forming slopes;
- self-smoothing makeup product with a Class P3 CERTIFÉ CSTB CERTIFIED certificate valid for the support considered after application of an appropriate bond primer.

For new supports, refer to the requirements in CSTB Handbook 3634 « CPT Application of indoor floor renderings for laying flooring - New work ».
For old supports, refer to the requirements in CSTB Handbook 3635 « CPT Application of indoor floor renderings for laying flooring - Renovation ».

Preparation of wood supports

Slopes shall be made towards the trap, either by:
- the joinery contractor responsible for their installation;
- the flooring package contractor using an appropriate levelling product after application of a bond primer on the tongued and grooved wood-based panels.

Storage and laying conditions

In accordance with standard NF DTU 53.2 April 2007, materials will be stored for at least 48 hours in closed, ventilated rooms protected from moisture and at an ambient temperature equal to +10°C or more.
Rolls will be stored vertically.
Strips will be cut the day before they are laid and will be spread out overnight respecting at least all storage conditions.
Flooring is used when the ambient temperature and the temperature of the support are at least +10°C and at least 3°C above the dew point for the support (corresponding to the beginning of condensation of moisture contained in the air on the support).

Laying the flooring

The laying contractor shall have received the QUALIBAT 6224 qualification (plastic flooring for rooms with strict constraints so that no additional insurance premium is necessary).
No perforation for the passage of pipes or drains is allowed in the flooring. Only the following solutions are accepted:
- Building into the partition;
- Routing in service duct;
- Routing in an adjacent room;
- Concentration in a corner and built-in box;
- Down from the ceiling.
The solution using sleeves can be acceptable in some renovation cases for:
- hot and cold water supply pipes and sink drain water;
- heating pipes;
- WC vertical outlets (out of reach of water splashes from the shower).

The following describes the different flooring and wall covering installation operations (see illustrations and details in the Technical Recommendation).

- Install the sleeves.
- Install a corner profile (backing form) at the bottom of the skirting as shown below (see adhesive recommendations table).
- Respect normal installation conditions stipulated in standard NF DTU 53.2, April 2007 for application of the flooring to the support with skirting turnups (see table 5 Adhesive recommendations).
- No horizontal joint between strips will be tolerated within a radius of 50 cm around the trap. Joints
shall be made in a zone with no relief.
- The back of the flooring and the support shall be marked so that positioning can be done precisely during manipulations of the flooring (use a lead pencil only). Turn the strips over. Put the strips into position according to the marks with tight joints.
- Use a skirting marker to mark the limiting adhesive line on the skirting turnup on the wall support (skirting height 10 to 12 cm). Apply either the dry strip, or the adhesive using an A2 type toothed spreader up to the mark that you have just made.
- Carefully spread adhesive around the trap, so that the flooring bonds perfectly.
- Lay the flooring in position on the adhesive and apply pressure working outwards from the centre of the strip. Do not use a metallic tool because it might damage the flooring. Make sure that the flooring is in good contact with the skirting backing forms by pressing.
- Cut the flooring at the location of the trap by making a circle in the flooring so that it will be blocked in position by the ring of the trap. Warm up the flooring. Put the tightening ring into position and check the bond and the seal. Inside the trap, the trimmed and free edge of the flooring is fitted with a polyurethane seal.
- Trap models DUSCHBRUNN, FREJA and BRAGE 50 made by PURUS can be used.
- Trap models SITAR and SITAR BAS made by NICOLL and model TARAFON made by KESSEL/NORHAM can also be used.
- Stainless steel type traps are recommended.

- Make reentrant corners:
  - cut off excess flooring 5 mm above the floor, using a knife;
  - apply the flooring perfectly on one of the two partitions, using a roller to apply firm pressure in the corner;
  - cut off excess flooring at 45° (using a straight edge at 45°) at the partition corner, thus facilitating the weld to be made later and assuring a good seal;
  - fold and cut the remaining excess at 45° using a straight edge placed along the previous cut.

- Make salient corners:
  - fold the flooring facing the edge forming two equal angles on each of the wall panels and cut along the line of the edge to 5 mm above the floor, perpendicular to the fold;
  - fold the flooring to form the skirting;
  - prepare a flooring part (slightly higher than the height of the skirting turnup) using a square and cut the back of this part to mid-thickness using a groove gouger, starting from the tip;
  - apply the part in the corner and use it as a guide to cut the two skirting turnups.

- Make the hot welds not less than 48 hours after the flooring has been glued:
  - form grooves in the joints (manual groover and gouge);
  - weld using FORBO 4 mm weld bead;
  - cut off using a trimer gouge after the bead has cooled.
  Seal door frames by placing a bead of polyurethane mastic on the floor when the flooring is laid to make a mastic seal of the turnup when the flooring is placed (see Table 5 Adhesives and Mastic Recommendations).
- Make the connection between the wet room and the adjacent room:
  - press the flooring at the polyurethane mastic joint;
  - make a hot weld if possible depending on the contiguous flooring (vinyl flooring with similar thickness);
- use an appropriate PVC door sill profile among the three references given below, by gluing to the support using a PU contact adhesive and hot weld the vinyl flooring for waterproofing sills or at the flooring joint on the convex sill (in this case, the flexible flooring on the two sides will overlap the sill and be welded at the top of the sill).

### Adhesives and Mastic Recommendations Table (Classical version)

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>FORBO</th>
<th>HB FULLER</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backing profile</td>
<td>PU M 25</td>
<td>TEC 222, TEC 233</td>
<td>-</td>
</tr>
<tr>
<td>Flooring</td>
<td>Adhesive V22</td>
<td>TEC 566, TEC 522</td>
<td>250 g/m²</td>
</tr>
<tr>
<td>Bottom of frame</td>
<td>PU mastic</td>
<td>SWIFT SEAL 2100</td>
<td>-</td>
</tr>
<tr>
<td>Door sill profile</td>
<td>Adhesive V22</td>
<td>TEC 566, TEC 522</td>
<td>-</td>
</tr>
</tbody>
</table>
LAYING THE FLOORING SYSTEM (SARLIBAIN COMFORT VERSION)

■ Lay the acoustic underlay

Start on the prepared support and put the underlay into position by applying adhesive over the entire foam surface on the support to cover the horizontal part only as far as the bottom of the partitions (and as far as the bottom of the door sill profile if there is one), around the trap (collar set back by about 3 cm to facilitate subsequent positioning of the flooring in the collar). See following table Adhesives Recommendations Comfort version (Type A2 toothed spreader).

The strips are placed adjacent to each other without cutting the edges, if possible depending on the condition of the edges. The laying direction is the same direction as the flooring with the joint offset by not less than 20 cm from the joint in the flooring.

■ Placement of the corner profile

Put the skirting backing profile into position and glue it onto the acoustic underlay as described in section 5.3, before the flooring is laid and at least 24 hours after the underlay was laid (see Adhesives Recommendations table below).

■ Placement of the flooring

Gluing is applied using an acrylic adhesive (see Adhesives Recommendations Comfort version table below using an type A2 toothed spreader, taking special care to respect the gumming time, applying the flooring and forcing air out using a pressure block as the strip is unrolled to avoid the presence of air pockets.

Respect the recommendations given above at singular points (skirting turnup, reentrant and salient corners, traps, door frames, door sill profile, hot welds).

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Adhesives and Mastic Recommendations Table (Comfort version)

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>FORBO</th>
<th>HB FULLER</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acoustic underlay</td>
<td>Adhesive V22</td>
<td>TEC 522</td>
<td>200 to 250 g/m²</td>
</tr>
<tr>
<td>Profile backing</td>
<td>PU M 25</td>
<td>TEC 222</td>
<td>TEC 233</td>
</tr>
<tr>
<td>Flooring</td>
<td>Adhesive V22</td>
<td>TEC 566</td>
<td>TEC 522</td>
</tr>
<tr>
<td>Skirting turnup</td>
<td>50 and 85 mm DRY STRIP</td>
<td>50 and 85 mm BATHROOM STRIP</td>
<td>-</td>
</tr>
<tr>
<td>Bottom of frame</td>
<td>PU mastic</td>
<td>SWIFT SEAL 2100</td>
<td>-</td>
</tr>
<tr>
<td>Door sill profile</td>
<td>Adhesive V22</td>
<td>TEC 566</td>
<td>TEC 522</td>
</tr>
</tbody>
</table>
INSTALLING THE WALL COVERING

- **Supports**

As described above (new or old) complying with standard NF P 74-204 (ref. DTU 59.4). The support must be clean, smooth, dry and free of cracks.

It must satisfy planeness requirements for which tolerances are:
- 5 mm with a 2 m straight edge;
- 2 mm with a 0.20 m straight edge;

It shall satisfy verticality requirements:
- ± 12 mm over the full height.

Check that the edges of reentrant and salient corners are straight and vertically in line to prevent offsets of strips. If they are not, correct the situation by making a joint close to the corner (about 5 cm from a reentrant corner and 20 cm for a salient corner) to achieve verticality.

Perform whatever preparatory work is considered to be necessary, dust and other particles must be thoroughly removed to obtain a support suitable for placement of the wall covering. This preparatory work may require the application of finish rendering. A white glycerophthalic primer type substrate stabiliser shall be applied on new and old supports (including cardboard surfaced plasterboard).

In renovation, the same preparation is applied on for supports with different colour paint (apply a second coat if necessary). Loose paint and wallpaper shall be eliminated before a substrate stabiliser is applied on the support.

- **Storage and placement conditions**

The conditions described above for flooring are applicable for wall covering. However, a temperature of 18°C is recommended to facilitate placement at corners and a minimum temperature of 15°C must be respected.

- **Placing the covering**

The placement contractor shall have received the QUALIBAT 6224 qualification (plastic flooring and wall coverings for rooms with strict constraints so that no additional insurance premium is necessary). Since the wall covering is intended to overlap the flooring skirting turnup over 2 to 3 cm, apply an infill rendering or a reducer profile to compensate for the difference in thickness between the wall and the flooring (see Adhesives Recommendations Table below).

Marks on the support or on the covering shall be made using only a lead pencil, since ball point markers can leave marks that could migrate through the covering.
Adhesive shall be applied on the support (see Adhesives Recommendations Table below) using a type A4 fine toothed spreader followed by a lacquer type medium nap roller in the perpendicular direction. Apply adhesive carefully with the spreader over about 2 to 3 cm of the skirting turnup which is the width that will be overlapped by the wall covering, or apply a dry adhesive strip covering the reducer profile and 2 to 3 cm of the skirting turnup. Apply the covering; the strips may be applied by unwinding vertically or horizontally using a 2 m width and a 0.50 m strip at the top identical to the lower covering, allowing for a 2 to 3 cm overlap of the lower strip. A hot air blower shall not be used for placement in corners due to the excessive stresses that can be applied on the covering. Force out air by pressing, working vertically, without stretching the covering to avoid future shrinkage. Do not use a tool that could damage the covering. Micro-movements of the screed relative to the building will be absorbed by the skirting upturn; the flexible adhesive film will allow slight movement without the adhesive film breaking.

**Making the joints**

No vertical joint shall be made less than 75 cm from the shower hose or head attachment point. Allow an 1 to 2 cm overlap so as to make a uniform joint after the superposed cut. Do not damage the support while cutting.

**Going around salient corners**

For single gluing (see Adhesives Recommendations Table below), press on the covering as far as the corner and turn the covering while pressing on the corner working in the vertical direction using a cloth and the salient corner roller. Continue pressing the covering beyond the corner.

For double gluing (see Adhesives Recommendations Table below), use a single-component polyurethane adhesive, respecting setting times. With a dry strip, it is recommended that the strip layout for corners described in the Technical Recommendation should be respected.

**Going around reentrant corners**

Made in single gluing (see Adhesives Recommendations Table below). Adjust the covering in the corner, using the corner roller. Go around the corner, pressing on the return part of the covering and working vertically. For dry strips, see the section above describing salient corners and the previous figure.

**Pipe crossings and special points**

Supply and drain pipes shall project by not more than 5 cm; The space between pipes and the wall shall be not less than 5 cm so that the ONYX FR can be installed. After a polyurethane mastic bead has been applied on the support around the pipework (see the Adhesives Recommendations Table below), make the penetration in the wall covering by making the smallest possible incision at the centre of the pipe and soften the covering using a hot air blower to facilitate placement of the ONYX FR on the support. The covering must satisfactorily surround the pipe. Make a polyurethane mastic joint at door frames, window frames and under-ceiling joints (see the Adhesives Recommendations Table below).
Cuts

Cut the wall covering at the ceiling, and along door frames and window frames. Make the joint waterproof using a polyurethane mastic seal. Cut the wall covering at the skirting using a straight edge (after making using a skirting scriber), taking care not to damage the floor covering. Remove all traces of adhesive from the wall covering. Apply a thick cold treatment at the bottom of the wall covering to create a waterproof joint around the entire periphery of the room to prevent bacterial growth under the covering.

Joint welds

Considering the technical skills necessary for wall welds, this solution should not be considered except by a contractor who has attended a special training course given by FORBO SARLINO or another manufacturer holding a Technical Recommendation. Avoid excessive gaps and noticeable tightness of the joints. A joint opening of 0.2 mm is acceptable and will make it possible to bevel the edges during grooving, thus facilitating welding. Make hot welds less than 48 hours after the wall covering has been glued:
- eliminating all traces of adhesive at the joints;
- creating a manual joint using a manual gouger, taking care not to damage the support while cutting;
- welding the covering using a weld bead, trimming in two passes after the bead has cooled.

Adhesives Recommendations Table (wall covering and accessories)

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>FORBO</th>
<th>HB FULLER</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reducer profile</td>
<td>PU M 25 50 mm DRY STRIP(1)</td>
<td>TEC 522 / TEC 233 50 mm BATHROOM CONTACT STRIP(1)</td>
<td>-</td>
</tr>
<tr>
<td>Wall covering</td>
<td>Adhesive V22</td>
<td>TEC 566 TEC 522</td>
<td>200 g/m²</td>
</tr>
<tr>
<td>Single glued salient corners</td>
<td>Adhesive V22</td>
<td>TEC 566 TEC 522</td>
<td>200 g/m²</td>
</tr>
<tr>
<td>Salient and reentrant corners and overlap (wall/floor) of the reducer profile and the skirting turnup by ONYX FR</td>
<td>50 mm DRY STRIP(1) : Contact the FORBO Technical Department</td>
<td>50 and 85 mm BATHROOM CONTACT BAND</td>
<td>-</td>
</tr>
<tr>
<td>Double glued salient corners</td>
<td>PU M 25</td>
<td>TEC 222</td>
<td>2 x 150 g/m²</td>
</tr>
<tr>
<td>Door frames, window frames, ceiling joints</td>
<td>PU mastic</td>
<td>SWIFT SEAL 2100</td>
<td>-</td>
</tr>
<tr>
<td>Pipes</td>
<td>PU mastic</td>
<td>SWIFT SEAL 2100</td>
<td>-</td>
</tr>
</tbody>
</table>

(1) This solution should not be considered except by a contractor who has attended a special training course given by the FORBO company, followed by assistance in starting the work.
PUTTING INTO SERVICE

The work can be put into service after the adhesive has dried. Recommended drying times:
- 48 hours drying is sufficient for absorbent surfaces;
- a week might be necessary for non-absorbent surfaces.

CONTRACTOR TRAINING AND TECHNICAL ASSISTANCE

As mentioned in section 5.3, the contractor responsible for application of the system shall have received the QUALIBAT 6224 qualification (plastic flooring in rooms with particularly severe constraints). If requested, the FORBO Company will assign a technician to work with the Contractor on a site to describe special measures for application of the process.

The FORBO Company organises training courses on installation of the SARLIBAIN system for contractors who request these courses, in its Reims, Rennes, Tours and Montpellier centres.

CLEANING - MAINTENANCE

Cleaning recommendations

<table>
<thead>
<tr>
<th>Description</th>
<th>Putting into service</th>
<th>Daily cleaning</th>
<th>Weekly cleaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flooring</td>
<td>Initial cleaning with a push broom</td>
<td>Wet and mop with neutral detergent.</td>
<td>Clean with push broom and neutral detergent. Wipe.</td>
</tr>
<tr>
<td>Wall covering</td>
<td>Clean with neutral detergent.</td>
<td>-</td>
<td>Wash with neutral detergent.</td>
</tr>
<tr>
<td>Trap</td>
<td>Clean the inside of the trap with neutral detergent.</td>
<td>-</td>
<td>Clean the entire trap with neutral detergent.</td>
</tr>
</tbody>
</table>

The manufacturer keeps detailed cleaning instructions available for users.

MONITORING - REPAIR

The operator shall verify that the facilities remain in good condition and shall notify the client or the installer about any problems that could reduce the long life of the work. The installer can do the resulting work if it is necessary to satisfy his contractual and legal obligations. The user will notify any accidents that caused damage to the work and that could have consequences on use of the rooms and the life of the system, for repair if necessary.

ALLOWABLE SUPPORTS FOR WALL COVERINGS DEPENDING ON EXPOSURE OF THE WALLS TO WATER

Wall covering over the full height to ceiling.

<table>
<thead>
<tr>
<th>Supports concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure of the wall to water</td>
</tr>
<tr>
<td>$S_1$</td>
</tr>
<tr>
<td>EB+ private rooms</td>
</tr>
<tr>
<td>(1)</td>
</tr>
<tr>
<td>(3)</td>
</tr>
<tr>
<td>(7)</td>
</tr>
<tr>
<td>(4)</td>
</tr>
<tr>
<td>(5)</td>
</tr>
<tr>
<td>(6)</td>
</tr>
<tr>
<td>EB+ collective rooms</td>
</tr>
<tr>
<td>(2)</td>
</tr>
<tr>
<td>(2)</td>
</tr>
<tr>
<td>(2)</td>
</tr>
<tr>
<td>(5)</td>
</tr>
<tr>
<td>(6)</td>
</tr>
<tr>
<td>EC</td>
</tr>
<tr>
<td>(2)</td>
</tr>
<tr>
<td>(2)</td>
</tr>
<tr>
<td>(2)</td>
</tr>
<tr>
<td>(5)</td>
</tr>
<tr>
<td>(6)</td>
</tr>
</tbody>
</table>

- Support allowable for directly glued placement
- Support not allowed

(1) : Covered with a smooth S5 type rendering or a smooth plaster or cement based levelling coat.
(2) : Covered with a smooth rendering or a smooth cement based levelling coat.
(3) : Smoothed and/or covered with a smooth cement based levelling coat (as defined in DTU 59.4).
(4) : $S_{11}$ with hard plaster based finish.
(5) : $S_{12}$ covered with a special smooth cement based rendering (as defined in DTU 59.4), described in the Technical Recommendation for the support.
(6) : Covered with a special cement based rendering for smooth cellular concrete (as defined in DTU 59.4).
(7) : $S_6$ is acceptable in EB+ rooms for renovation only.
## WALL SUPPORTS NOMENCLATURE

<table>
<thead>
<tr>
<th>Nature of new supports for wall coverings</th>
<th>Reference</th>
<th>Reference documents for the works concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Concrete walls or prefabricated concrete panels</td>
<td>S1</td>
<td>• NF P18-210-1 - DTU 23.1 : Poured concrete walls</td>
</tr>
<tr>
<td>- with rough concrete surface</td>
<td>S2</td>
<td>• NF P10-210-1 - DTU 22.1 : Walls made of prefabricated panels</td>
</tr>
<tr>
<td>• Cement based rendering on concrete walls and brick partitions</td>
<td>S3</td>
<td>• NF P15-210-1 - DTU 26.1 : Traditional rendering</td>
</tr>
<tr>
<td>- cement mortar rendering</td>
<td></td>
<td>• CSTBat certification of single-coat sealing coats</td>
</tr>
<tr>
<td>- lime mortar rendering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- sealing rendering with compression strength class CS IV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Plaster-based rendering on brick walls and partitions</td>
<td>S4</td>
<td>• Technical Recommendation</td>
</tr>
<tr>
<td>- rendering with minimum Shore C hardness ≥ 40</td>
<td>S5</td>
<td>• NF B12-301 Plaster for manually or mechanically applied indoor rendering with normal or very high hardness$^{(1)}$</td>
</tr>
<tr>
<td>• Work made using non-waterproofed plasterboards (cardboard faces)</td>
<td>S6</td>
<td>• NF P71-201 - DTU 25.1 : Indoor plaster rendering work</td>
</tr>
<tr>
<td>- thermal insulation systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- partitions or wall linings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Works using waterproofed plasterboard facing panels - type H1 (green or special identification)</td>
<td>S7</td>
<td>• NF EN 520$^{(2)}$ - Plasterboards</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• NF P72-203-1 - DTU 25.41 : Works using plasterboard facing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• NF P72-204-1 - DTU 25.42 : Works using lining and cladding systems and sandwich panels - plasterboard facing - insulation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Technical Recommendation or Technical Application Documents for partition and wall lining processes</td>
</tr>
</tbody>
</table>

$^{(1)}$ Shore C hardness is a measure of the hardness of a material, with higher values indicating greater hardness. $^{(2)}$ NF EN 520 and NF P72-203-1 provide specific requirements for plasterboards and plasterboard applications, respectively.
### Nature of new supports for wall coverings

<table>
<thead>
<tr>
<th>Nature of new supports for wall coverings</th>
<th>Reference</th>
<th>Reference documents for the works concerned</th>
</tr>
</thead>
</table>
| • Plaster tile partitions  
  - standard plaster tile partitions (white)  
  - waterproofed plaster tile partitions (blue)  
  - “plus” or “super” waterproofed plaster tile partitions (green) | S8 S9 S10 | • NF EN 12859  
• NF P72-202 - DTU 25.31 : Construction of plaster tile partitions  
• NF EN 12859  
• Technical Recommendation or Technical Application Documents for waterproofed plaster tiles  
• Technical Recommendation or Technical Application Documents for “plus” or “super” waterproofed plaster tile partition systems |
| • Bare baked clay tile partitions (not rendered)  
  - construction of partitions made with a plaster-based binder-adhesive  
  - construction of partitions made with a cement-based binder-adhesive | S11 S12 | • Technical Recommendation or Technical Application Documents for baked clay tile partitions |
| • Bare cellular concrete block walls  
• Bare partitions constructed with a cement based binder-adhesive | S13 | • NF P14-306 : Autoclave cured cellular concrete blocks, Category C elements  
• NF P10-202 - DTU 20.1 : Works made with small bricks - Partitions and walls |

(1) The current classification of plasters for rendering is given in standard NF B 12-301. Specifications for the hardness of plaster renderings are given in DTU 25.1 (clause 5.5). The correspondence with plaster designations given in standard NF B 12-301 is given below:  
- minimum Shore C hardness ≥ 40 : this requirement is satisfied for PFM (formerly PFC) plasters and PGM (formerly PGC) plasters  
- minimum Shore C hardness ≥ 60 : this requirement is satisfied for PFP, PGP, PFM-THD, PGM-THD, PFP-THD, PGP-THD plasters (formerly spatterdash and very hard plaster). Very hard plasters with a minimum Shore C hardness of more than 75 satisfy this requirement.

(2) European standards EN 520 currently being issued. There is an NF mark for plaster facing panels.

(3) European standards EN 520 currently being issued.

(4) There is an NF mark for type H1 waterproofed boards.