Technical Bulletin - Marmoleum
Characteristics Installation Problems

Characteristics of Marmoleum

As a rule of the thumb linoleum will shrink in the length of the sheet by approximately 1 mm per metre of sheet length. Shrinkage must be allowed for at the time of the linoleum installation.

As a rule of the thumb linoleum will expand laterally in the width of the sheet by approximately the thickness of a business or credit card. Expansion must be allowed for when the seams are undescribed (slight gap) or peaking of the seams or lipping at the wall could eventuate.

**Hint:** Fit and finish one run at a time, do not pull back and glue up multiple runs as this can be hard to judge the amount of lateral width expansion gap needed.

**Note:** Once the Marmoleum is correctly bonded to the subfloor shrinkage in the length of the sheet and lateral expansion in the width of the sheet will no longer take place.

The recess scriber being adjusted with a small gap the thickness of a credit/business card.

Marmoleum seam peaking and is usually attributed to the seam being recess scribed to tight.
This photo shows three reasons for a failed Marmoleum seam installation.

1. The adhesive has not been applied correctly under the seam.
2. The correct adhesive trowel notch has not been used or is worn down.
3. The adhesive has dried off before wet adhesive transfer to the back of the Marmoleum has been possible.

- Other possibilities: The Marmoleum was installed on construction timber subfloor (particle board, ply sheeting) and the wax surface moisture repellent was not removed prior to applying the adhesive which if not removed can inhibit the adhesive from keying into the subfloor leading to seam peaking, bubbling or both. The presents of moisture and alkalinity in the concrete subfloor, could affect the adhesive bond to the Marmoleum and the subfloor.

Remedial Work:

- If the material can be pulled back successfully without damage apply the same adhesive used in the fist instance, roll the material and weights the bubbles down for 24 hours or until the adhesive has dried.
- If the material has intermittently bonded and can not be pulled back without damage, inject the bubble with PVA wood adhesive. **Do not use contact adhesive.**
- Weight down the bubbles for 24 hours or until the adhesive dries.
End of Roll Curl or Roll Set:

End of Roll Curl is an inherent characteristic of most resilient floorcoverings. End of Roll Curl is caused at the time of manufacture and is not a product fault or failure.

End of Roll Curl is caused when the sheet is rolled up hot during manufacture. As the roll cools to normal room temperature a tension forms within the roll which inhibits the material from lying flat; see photo below.

Note: Each time a length or multiple lengths are cut from a roll of Marmoleum / linoleum sheet there will be "Roll Curl "at both ends of the cut length. There is no tension at the side of linoleum which will lay flat.

To ensure the end of the linoleum sheet beds well into the adhesive, fold the end of the sheet back diagonally and feed the hessian backing down into the adhesive with a 'bouncing action (de-stressing) being careful not to crack the linoleum as illustrated to the right.

This will ease the tension across the width of the linoleum and will have good contact with the adhesive. Roll thoroughly with a 64 kg 3 wheeled roller. Wait 20 – 25 minutes for the adhesive to tack up and then re-roll the linoleum with the heavy roller.
Expansion Bubble:

The photo above shows a typical lateral expansion bubble in the width of the sheet, circled in red. The bubble is caused by the material being cut into the wall skirting to tight.

Remedial work:

- Heat the bubble and trim off the fullness.
- Inject the bubble with PVA wood adhesive. **Do not use contact adhesive.**
- Weight down the bubble for 24 hours or until the adhesive dries.
End of Roll Curl Bubbles

The photo above shows typical “End of Roll” bubbles and shrinkage of the sheet length against the wall; circled in red. The coin in the photo is to give the viewer a reference for the size of the coin in relation to the size of the bubble.

Remedial Work:

• If the material can be pulled back successfully without damage apply the same adhesive used in the first instance roll the material and weight down the bubbles for 24 hours or until the adhesive has dried.
• If the material has intermittently bonded and can not be pulled back without damage, inject the bubble with PVA wood adhesive. **Do not use contact adhesive.**
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Bright Marks In Linoleum

During the maturing of linoleum the material hangs in large drying rooms in continuous festoons up to 16 metres high. At the top, the linoleum passes over a pole, face inwards, and at the bottom forms a loop, or bight, face outwards. During the 2-3 week curing process the weight of the material causes the linoleum to mould a little to the pole causing a mark across the width which is always cut out at the factory.

The fold or “bight” at the bottom is however more gentle though sometimes detectable as a slight ridge across the middle of a full roll about 15 cm wide. With modern flexible linoleum formulations this can usually be stuck down in 2.5 mm or 2.0 mm linoleum using normal adhesive spreading techniques provided the site is warm and the bright mark area is well rolled, firstly across the sheet and then along it until the bight has bonded securely.

Typical “Bight Mark” which is found in the centre of a full roll of Marmoleum or in some cut lengths.
**Bight Mark** bubbles may be one or several that run across the width of the roll in a reasonably straight line; in most circumstances the bubble will look to be elongated in form.

**How to fix small “Bight Mark” bubbles in 10 easy steps:**

1. Cut a small slit in the marbling at each end of the bubble just big enough to insert the needle of the syringe into.
2. Hold one end of the slit open with a small nail or similar so the air inside the bubble can be pushed out.
3. Heat the bubble up with a hot air gun to make the air inside the bubble expand, push the air out so the bubble is as flat as possible.
4. Partly fill a syringe with PVA wood adhesive and insert the needle into a slits at one end of the bubble.
5. As the adhesive is injected fan the syringe gentle for side to side inside the bubble, be careful not to break the side of the slit when fanning the adhesive from side to side.
6. Disperse the adhesive around inside the bubble by rolling it with a wall or seam roller or rub over with a carpet stair tool wrapped in a damp cloth. Take care not to scratch the Marmoleum surface.
7. It is imperative that all excess adhesive is removed from the bubble otherwise a crater rim will be seen around the bubble when the adhesive dries.
8. The PVA wood adhesive extruding out at the ends of the bubble slits will seal them off; tap the ends of the slits down to make good.
9. Clean off any excess surface adhesive with a rag dampened with water.
10. Weight the bubbles down with a square piece of thick particle board or similar with a couple of bricks sitting on top to help disperse the weight evenly. Leave the weights on top of the bubble for 24 hours to help the adhesive bond.

**Warning:** Do not inject or use contact adhesive for remedial work. The solvents in the contact adhesive cannot escape out of the bubble and could emulsify the linoleum adhesive or similar adhesives and a good adhesive bond may not be possible.

**Installing Bight Marks:**
Mark the subfloor where the bight mark falls, use the normal linoleum adhesive and flat trowel (no teeth) the adhesive on the back of the Bight Mark. Apply the adhesive to the subfloor with the correct trowel notch and proceed with the installation as normal. Roll the Bight Mark in both direction to get good wet adhesive coverage to the back of the Bight Mark and the subfloor, roll again 20 – 25 minutes after the initial rolling or once the adhesive has started to track up.
Drying Room Yellowing

The key raw materials of linoleum are natural. During the maturing process in the ovens a yellow tint, caused by the oxidation of the linseed oil, may appear on the surface of the linoleum. This is most noticeable on white, grey or blue colourways. This discolouration is, however, only temporary.

When exposed to light this “oxidation film” disappears, and the linoleum regains its standard colour. This process may take only a few hours in bright sunshine but could take up to several weeks in an area lit only by poor artificial light. The discolouration will disappear even if the linoleum has received a coat of polish. It is the blue part of the light spectrum which removes the tint.

A Quick Test

Cover half a tile and expose the tile to sunlight. After a few hours compare the covered part with the exposed part and you will see that the latter has brightened. Therefore, if you notice a shade difference between linoleum you are about to lay and that laid the day before from the same batch it is probably the effect of this normal and traditional phenomenon, which in no way affects the performance of the product.

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