HM WALK
HARDWOOD ENGINEERED FLOORING
BY HURFORD'S

Aug 2023

Installation guide for

- HM Walk 5G (retracting end tongue)
- HM Walk 2G (drop lock end joint)

Thank you for purchasing Hurford's HM Walk. The instructions provided below are to be read carefully and understood prior to installation.

HURFORD REQUIREMENTS!

Product acceptance:

- Wood is a natural product with expected variations in colour, grain and feature (e.g. knots and gum veins), and also noting that features may be filled. Although HM Walk generally has little feature, the purchaser must inform their client of these aspects and ensure their client accepts prior to installation.
- The floor's overall appearance is similarly influenced by board feature and colour. Some care in board selection and placement is needed during installation to achieve the overall blended appearance that is usually desired by the owner.
- Floors need to be provided with protection from adverse conditions such as intense sunlight which can accelerate colour change and also affect the board's texture and appearance.
- The flooring is not suitable for designated wet areas in Australia. In New Zealand, the flooring system is to meet the building code E3/AS1 wet area floor requirements.

Skill and workmanship:

- Installing engineered flooring requires a level of skill and Hurford's recommends only qualified tradespeople with suitable experience and the correct tools, install the flooring.

Acceptable methods of installation:

- Adhesive fixed floor (full bed or equivalent coverage to the subfloor)
- Floated floor (boards fixed to each other, not to the subfloor)

Suitable subfloors:

- Most solid surfaces, once prepared, are acceptable including concrete, timber, particleboard, plywood and ceramic tiles (not magnesite or sand cement screeds). Some surfaces (e.g. cork and vinyl) will be acceptable for floated applications but not for adhesive fixed floors.

Job site conditions

- The job site must be such that during storage and installation, the flooring will not be affected by moisture, heat or weather extremes. Room conditions of 10°C to 32°C and relative humidity of 40% to 70% present an acceptable internal climate.

Expansion allowance:

- Allowance for floor movement is to be provided at the floor perimeter. Wider and/or longer floors are to be provided with intermediate control joints.

Detailed Instructions

1. JOBSITE ASSESSMENT

Engineered floors perform best when moderate internal conditions are maintained.

Jobsite evaluation:

- The building must be at a stage where most other trades have completed or near completed their work, therefore providing dry and clean internal conditions.
- Store flooring boxes flat, on top of each other, and on plastic if over concrete. Place in areas not affected by direct sunlight. Do not open the boxes until ready to install.
- Moisture and intense heat are detrimental to engineered flooring. Before installation, thoroughly check for any moisture ingress that may affect the floor. Subfloors located below ground level, and external gardens or patios at near internal floor level can all be potential sources of moisture. Water stains to walls and ceilings are also evidence of leaks.
- Both new and old concrete slabs require moisture assessment. New slabs are to be a minimum of 60 days old. Concrete impedance meter readings are to be below 4.0% or in-slab relative humidity (RH) below 85%. For impedance meter readings above 4.0% or in-slab RH above 85%, specialist advice is needed. Slabs which maintain moisture contents above 5.0% or 90% in-slab RH are not suitable.
- With floors installed over plywood, particleboard or solid timber to joists, and having an enclosed subfloor space with natural ground beneath, the ground must be dry and remain dry during wet weather. Moisture content of timber members in the subfloor spaces should not exceed 14% (in the tropics a little higher). The subfloor space must meet ATFA's ventilation and drainage requirements.
- Plywood and particleboard subfloors also need to be dry (below 13% moisture content). These subfloors often become wet during building but with airflow, above and below, they dry quickly. If a concern, seek advice.
- Consider north and west facing windows and the need for temporary protection prior to awnings, window tinting or window furnishings being installed.

2. SUBFLOOR REQUIREMENTS AND PREPARATION

A problem free floor requires proper subfloor preparation.

Floating floor subfloor requirements:

- With floated floors preparation is essential to achieve a properly performing floor.
- Floated floors must be installed on solid subfloors (not soft flooring such as carpet) nor can they be installed on other floated floors (e.g. laminate or hybrid).
- The solid subfloor needs to be flat to no more than 3mm beneath a 1.0m to 1.2m long straight edge. If outside this tolerance then the methods described below for adhesive fixed floors are needed to bring subfloor flatness to within tolerance.
- After removing all raised contaminants (e.g. plaster) the surface can be cleaned with a vacuum cleaner. It is essential that all debris is removed.

Direct adhesive fixing to concrete slab subfloors:

- Test slab moisture and provide vapour protection based on the result. An applied moisture vapour barrier is to be used with all slab-on-ground installations. Elevated slabs with low readings (impedance meter below 3% and 75% in-slab RH) may not need a moisture vapour barrier.
- Check that the slab is sound and grind as necessary to address any surface weakness and to clean the surface to meet moisture vapour barrier and adhesive manufacturer instructions. Moisture vapour barriers are usually applied prior to levelling compound.
- The slab needs to be flat with no more than 3 mm deviation under a 3m straight edge, when placed anywhere on the slab. Deviations greater than this can be addressed through grinding high spots and applying levelling compound over an appropriate primer to low spots.
- Mixed systems of primer, levelling compound and flooring adhesive are not to be used. Ensure the leveling compound is of a strength suitable for adhering timber floors.
- Prior to adhesive fixing, ensure that any primer outside the levelling compound is removed through grinding *(appropriate equipment with dust control measures and effective personal protective equipment must be used).*

Direct adhesive fixing to plywood and particleboard subfloors:

- Plywood and STRUCTApanel flooring underlay may be installed over concrete slabs, or both plywood and particleboard may be installed on joists.
- **For plywood installed over a slab:** moisture vapour protection is provided with 200µm 'builder's plastic', lapped 200mm and joints sealed with water-resistant plastic tape. It is recommended that at the floor perimeter, the plastic is brought up to the height of the floor, thereby providing added protection against minor perimeter leaks or slab edge dampness. Non-structural plywood, 12mm minimum thickness, in a brick bond pattern, is then fixed to the slab with spike type fixing (e.g. Powers 50 x 6.5mm or similar e.g. Ramset), four rows of seven spikes, evenly spaced and about 75 mm in from sheet edges. STRUCTApanel flooring underlay is to be installed in accordance with the manufacturer's instructions.
- **For plywood and particleboard subfloors on joists**: any noise when walking over the subfloor must be dealt with prior to floor installation. This may require screwing the sheets in place or attending to subfloor framing.
- In terms of flatness, there is to be no more than a 3 mm deviation under a 3m straight edge placed anywhere on the subfloor. Rough sanding will address swollen joints, surface contaminants and the removal of the wax layer on the particleboard and thereby provide a clean surface.

Direct adhesive fixing to strip timber subfloors:

- If the existing strip timber floor is dry (up to 13% moisture content), without observable seasonal movement and flat to no more than 3mm deviation under a 3m straight edge, rough sanding provides a flat clean surface.
- If there is doubt over possible seasonal movement or surface condition, a slip layer of plywood can be added. On addressing any integrity and possible noise issues, plywood about 6.5mm thick can be glued with beads of flooring adhesive 100mm apart, or a full trowel bed, and stapled. Staple 12mm in from edges, 75mm apart around the perimeter and in a 100mm grid pattern across the sheet.

Direct adhesive fixing to other hard surfaces:

- Ceramic tiles or similar can provide a suitable subfloor for adhesive fixing following appropriate preparation which is generally a combination of grinding to provide a flat and clean surface and then the use of a cement-based levelling compound. Hollow sounding tiles are unsuitable and will need to be removed. Floated hard surfaces (e.g. laminate or hybrid) are not suitable and need to be removed.

Heated concrete slab subfloors and floor performance:

- The preferred method is full bed adhesive fixing of the flooring onto the prepared concrete subfloor, which has the heating pipes embedded. Hurford's HM Walk flooring has the benefit of being manufactured at lower moisture contents more suited to this application, and with a thinner floor system heat transfer is better.
- It is necessary to preheat the slab for 2 weeks prior to floor installation in order to lower the moisture content of the slab. The heating is then turned off, the slab is allowed to cool and the flooring is installed. When raising or lowering the temperature do so by a maximum of 2°C per day. Room temperatures between 18°C and 24°C with room relative humidity between 40% and 65% present an acceptable operating internal climate. Note that the temperature on the underside of the board is not to be held above 27°C.
- When the heating is operating, boards will shrink in width and length resulting in some gapping between boards. Some minor checks (surface splits) may also occur but this does not affect the overall performance of the floor. Therefore, this gapping and checking with subfloor heating needs to be accepted. Remove floor rugs when the heating is operating, as this raises floor temperatures and increases the likelihood of checking.

Acoustic underlays:

- With a firm and flat acoustic underlay fixed with adhesive to the subfloor, the flooring can be either adhesive fixed to the underlay or it can be floated. Ensure the underlay manufacturer and adhesive manufacturer accept use with each other's products and that the acoustic underlay is designed for engineered flooring and the method of installation. If floating the floor, also use the recommended floating floor underlay over the acoustic underlay.

3. PLANNING AND PREPARING FOR INSTALLATION

Achieving the desired appearance requires planning.

Floor direction and layout: (refer to Figure 1)

- The preferred visual effect (and for expansion reasons) is usually achieved when floors are run parallel to longer walls and down main hallways. But also consider that light at low angles across board widths can highlight board surface irregularities.
- Walls may not be parallel or perpendicular and it needs to be ensured that boards cut lengthwise adjacent to walls are as wide as possible and board widths either side of hallways are balanced.
- Boards will vary in colour, feature and grain. It is the installer who places the boards and if a board is going to look out of place in an area, then use it in another location with boards more similar, or use where not often seen, or consider not installing.
- If there are concerns with certain boards prior to installation, such as damage or coating imperfections, call your Hurfords representative. Board replacement does not include installation, therefore do not install boards that are of concern.
- End joints need to be placed at least 300mm apart throughout the floor, and boards up to walls should be at least 300mm long.
- Remove all skirtings if present, and undercut door frames. If the skirting is too narrow to provide the necessary expansion allowance, then the wallboard will also need to be undercut or scotia added to the skirting.
- Ensure you have the ancillary products needed for installation including appropriate trims and also with floated floors, the underlay.

4. FLOATED FLOOR INSTALLATION

Due to the foam underlay, there is a softer feel underfoot.

Preparing for installation:

Step 1

Check that the job site evaluation and subfloor preparation requirements have been met as outlined above.

Step 2 **(refer to Figure 1)**

Floating floors, with boards joined to each other and not to the subfloor, can be thought of as a number of 'rafts' bridged by control joints. Floated floors require control joints at doorways between major rooms (e.g. bedroom to hallway) and also to cater for seasonal expansion and contraction of the rafts. Therefore, wide and/or long floors, as well as those with more complicated shapes, need to be broken up or compartmentalised into smaller sized rafts. In deciding on the number of rafts, it also needs to be considered that in warm humid climates, floors are subject to greater movement in summer (e.g. coastal NSW and Qld) and due to this the maximum raft size is not to exceed 6m in width and 10m in length. In cooler climates using more extensive heating over winter months (e.g. Vic and NZ) or moderate climates (e.g. Perth), the maximum raft size can be up to 10m in width and 12m in length. 'H' style trims or similar are often used to cover the gap between rafts.

Step 3 **(refer to Figure 2)**

Next, consider the alignment of the floor to the walls. If there is a hallway or similar leading into an open area, snap a chalk line down the center of the hallway and through the open area. This will enable the assessment of the alignment of the hallway to external walls as well as the balancing of board widths at walls in both the hallway and open area.

Floor installation:

Step 4

The recommended damp proof underlay is Hurford's HUSHwalk or EVERwalk. Other underlays with equivalent thickness and properties can be used. The first length of underlay is laid over the subfloor along the starting wall, which is usually a longer exterior wall. The exposed moisture vapour barrier layer on the underlay is to face toward and be brought up the starting wall.

Step 5 **(refer to Figure 3)**

Depending on the room and if the floor area adjoins other rooms, the first row of boards may need to be cut narrower *(removing from the tongue side)*, and if the wall is not square, undulating or bowed, these boards would also need to be scribed before cutting. Any tongues at board edges or protruding timber at board ends that would be adjacent to walls, needs to be removed to maintain the expansion gap between the floor and walls. Note that if the trimmed board width necessitates that the end joint plastic tongue is removed then the end joint is to be glued with cross-linked PVA adhesive.

Step 6 **(refer to Figure 2)**

Perimeter expansion allowance is to be provided between the walls and the boards. The minimum open perimeter gap when floating the flooring is 10mm for moderate to dry internal climates (Vic, SA, WA and NZ) and 15mm in warmer more humid internal climates (NSW and QLD). Spacers (wedges) are used to set the gap, both along the length of the boards and along board ends. Skirtings or similar will cover the gaps. Note that this expansion allowance is required to all vertical surfaces including door frames, pipework, and cabinets fixed directly to the subfloor.

Step 7

The first row of boards are temporarily fitted over the underlay. With the groove edge facing away from the starter wall and a spacer at the board end, install the first row of boards (usually from left to right) up against the starter wall, but with spacers of appropriate width inserted between the boards and the wall. Take care that the end joint grooves are clean prior to clicking the 5G board end joint in place. Or with the 2G drop lock any minor joint movement can be addressed by applying cross-linked PVA into the end joints. The last board in the row will need to be cut to length including the spacer width to the wall and having a minimum length of 300mm. Install the second row, ensuring an end spacer is in place and board end joints are staggered by at least 300mm. Insert the tongue of each board at an angle into the groove of the first row, aligned so that when folding down both edge and 5G end joints engage. The 2G will simply drop into place. Minimal force should be required but boards may be carefully tapped to ensure joints are tight.

Step 8 **(refer to Figure 3)**

Continue installing subsequent rows and underlay to the main body of the room, with offcuts of sufficient length being used as starting boards for subsequent rows. With Hurford underlay peel the tape off on the moisture barrier layer overlap, and stick securely to the next run of underlay. When it comes to installing the final row of boards, they will likely need to be cut lengthwise. The boards are placed and fitted over the second to last row, with the groove side facing the wall. These are then scribed to the contour of the wall, at a distance that accommodates the perimeter expansion gap and then cut along the line prior to fitting. As with the first row of boards, if the boards that were cut down in width need the 5G end joint plastic tongue removed, the end joints are to be glued with cross-linked PVA adhesive. The 2G also requires adhesive.

Step 9

Various trims will need to be fitted during the installation and are usually involved with transitions to other floor surfaces, the finishing along patio doors and at other external doorways, and in providing control joints between rafts. When fitting trims, it is necessary that the trim is firmly secured to the subfloor and that the correct open space is provided to accommodate both the expansion and contraction of the rafts. Trims are never to be fixed to the flooring. The use of caulking compounds to the perimeter of the floor will restrict raft movement and in more extreme cases can contribute to the floor buckling. If caulking is used that reduces the free movement of the floor and results in problems, this is not the flooring manufacturer's responsibility. Note also that the flooring is to be installed around heavy objects such as kitchen benches, not beneath them. At times, floors require temporary covering and a robust 'breathable' product, made for this purpose, provides reasonable protection. Even so, damage and discolouration can still occur with covered floors and this is not the flooring manufacturer's responsibility.

Step 10
With the floor completed, and spacers removed, it is important that Hurford's care and maintenance instructions (available on Hurford's website) are provided to those caring for the floor and the instructions then followed.

5. ADHESIVE FIXED FLOOR INSTALLATION

Adhesive fixed floors provide a firm feel underfoot and experience less seasonal movement than floated floors.

The adhesive and its application:

- Note that the moisture barrier and/or levelling compound and the adhesive used, need to be from the same manufacturer or an agreed system between manufacturers.
- A non-etching (free of isocyanate) polyurethane or polymer flooring adhesive is to be applied in accordance with the adhesive manufacturer's instructions.
- A full trowel bed of adhesive with the correct trowel specified by the adhesive manufacturer is to be used, and care taken that the correct coverage is achieved. Adhesive manufacturers will have specific instructions relating to product application when their adhesive is to achieve moisture vapour or acoustic attenuation properties. Such properties are only achieved with the specified application method. Note that beads of adhesive often result in hollow sounds from insufficient coverage, although some multi-head bead application tools can provide acceptable equivalent coverage to that of a trowel.
- To reduce hollow sounds, care is needed not to walk on newly installed boards, but also there can be a need to weight areas of the floor to achieve adequate contact with the adhesive during cure. Secret nailing, as necessary can also be used to hold boards in place, but care is needed not to damage board edges.

Preparing for installation:

Step 1
Check that the job site evaluation and subfloor preparation meet the requirements outlined above and particularly when the preparation has been done by others.

Step 2 **(refer to Figure 1)**
Intermediate expansion allowance requires consideration with wider and longer floor areas as well as floors with a more complicated shape. In warm humid climates subject to higher floor expansion forces in summer (e.g. coastal NSW and Qld), additional allowance is necessary where floors exceed 10m in width and 12m in length. In cooler climates using more extensive heating over winter months (e.g. Vic and NZ) or more moderate climates (e.g. Perth), intermediate expansion allowance is necessary in floors exceeding 12m in width and 14m in length. Intermediate expansion gaps of 5mm, can be cork filled or caulked.

Step 3
Next, consider the alignment of the floor to the walls. If there is a hallway or similar leading into an open area, snap a chalk line down the centre of the hallway and through the open area. This will enable the assessment of the alignment of the hallway to other walls, as well as the balancing of board widths at walls.

Floor installation:

Step 4 **(refer to Figures 2)**
A longer exterior wall is usually chosen to begin the installation. Boards for the first row are temporarily fitted beneath the starting wall, with the last board needing to be cut to length *(a minimum length of 300mm)* and with provision for expansion allowance at both ends *(to be the same are the perimeter allowance which is a minimum of 5mm, refer to Step 5).* Offcuts of sufficient length are used to start subsequent rows.

Step 5 **(refer to Figure 3)**
Depending on the room size and if the floor area adjoins other rooms, the first row of boards may also need to be cut narrower *(removing from the tongue side)*, and if the wall is undulating or bowed, these boards would also need to be scribed and cut. Any tongues on boards adjacent to walls are to be removed to maintain the expansion gap between the floor and walls.

Step 6 **(refer to Figure 2)**
Perimeter expansion allowance is to be provided between the walls and the boards. The minimum open perimeter gap when adhesive fixing the flooring is 5mm, with spacers (wedges) used to set the gap, both along the length of the boards and along board ends. Skirtings or similar will cover the gaps. Note that this expansion allowance is required to all vertical surfaces including door frames, pipework, and cabinets fixed directly to the subfloor.

Step 7
With wall line installation, the first row of boards are temporarily placed along the starting wall, measure out from the wall the width of the board including the perimeter expansion gap, plus the width of a second board. Mark the subfloor at each end, and snap a chalk line. Then put the boards aside to expose the subfloor for adhesive application.

Step 8
Trowel spread the adhesive from the chalk line to the starter wall. It is important to use the trowel specified by the adhesive manufacturer and to apply the adhesive with the trowel at a 45% angle. This would be expected to achieve an adequate spread rate and height of adhesive necessary for consistent bonding.

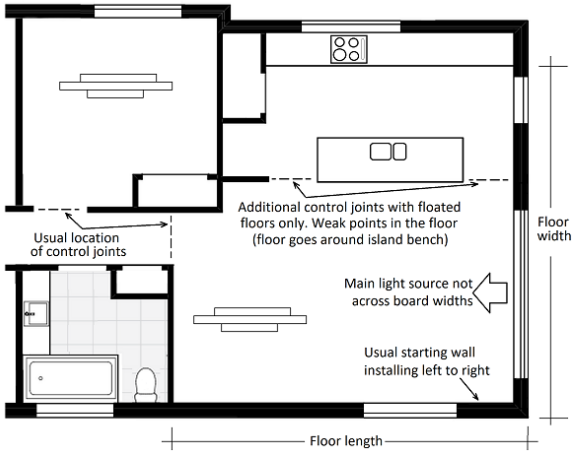
Step 9
Install the first row of boards with the groove side facing away from the starter wall and seat the boards into the adhesive. Maintain the expansion allowance to walls with spacers. When installing the second row of boards, angle the boards at 45°, align the end joints, fit the tongue into the groove of the board in the first row, and fold down in a single action to engage the 5G end joint locking mechanism. Ensure joints are tight, that the end joint has properly engaged, and that the board is firmly bedded into the adhesive. 2G simply drops into place.

Step 10 **(Refer Figures 2 & 3)**
Continue installing the main body of the floor. Spread adhesive the width of 3 or 4 boards over the full row length, ensuring that installation does not leave the adhesive exposed for more than 35 to 45 minutes *(refer to the adhesive manufacturer's instructions)*. The final row of boards will likely need to be scribed and cut lengthwise. Remember to stagger end joints by a minimum of 300mm and avoid regular installation patterns (unless requested). Short boards at walls should also be at least 300mm long. With an appropriately flat subfloor and care taken during installation, there should be minimal hollow spots. The presence of hollow spots should be assessed during installation, with the possible need to weight or fix boards in some areas. If hollow spots are occurring also assess and address the adhesive application by lifting the board. Should the adhesive make its way to the board surface, it needs to be removed quickly to avoid lasting board damage *(consult the adhesive manufacturer for products and methods)*.

Step 11
With the floor completed and spacers removed, it is important that Hurford's care and maintenance instructions *(available on the Hurford's website)* are provided to those who will be caring for the floor and the instructions then followed. At times, floors require temporary covering and a robust 'breathable' product, made for this purpose, provides reasonable protection. Even so, damage and discolouration to floors can still occur when covered and this is not the flooring manufacturer's responsibility. Caulking between the skirting or cabinets, and the flooring is often provided and is usually successful when there is minimal floor movement. Any caulking should not be silicone as it can affect future floor refinishing.

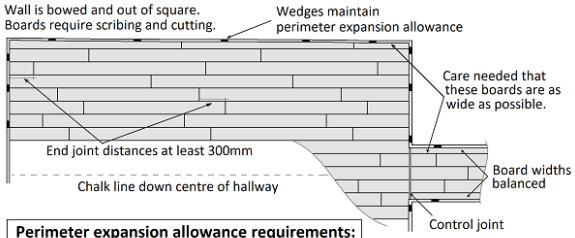
Again, thank you for purchasing Hurford's HM Walk.
www.hurfordwholesale.com.au
www.hurfordwholesale.co.nz

Figure 1 – Layout and control joints



Control joint requirements:	
Adhesive fixed:	Moderate climate - Floor width > 12m; Floor length >14m
	Humid climate - Floor width >10m; Floor length >12m
Floated:	Moderate climate - Floor width > 8m; Floor length >12m
	Humid climate - Floor width >6m; Floor length >10m

Figure 2 – Installation



Perimeter expansion allowance requirements:	
Adhesive fixed:	All climates - 5mm
Floated:	All climates - 10mm

Figure 3 – Scribing

Place the boards to be trimmed on the last row installed and cut a spacer block to a length that includes the expansion allowance required. Draw the contour of the wall on the boards. The boards are then cut to match the wall contour.