



**WOOD
INTERNATIONAL
AGENCY**

Wood International Agency Limited create multi-performance architectural doorset systems through rigorous testing alongside some of the most recognised component providers in the industry.

This guidance is to help you ensure our products perform as intended. Further considerations may be required for specific products or applications.

Our team is on hand to answer any questions that arise.

Email us - doors@woodia.co.uk

CARE OF TIMBER DOORS

INCLUDING BLANKS, CORES AND ASSOCIATED PRODUCTS

GUIDANCE FOR STORAGE, HANDLING AND PRODUCT SELECTION

The Right Product

Doorsets may need to perform multiple requirements (fire, thermal, mechanical, acoustic, environmental, etc.) so please check that what you are ordering is suitable for all intended end uses.

You can download our evidence at wearedoors.co.uk or contact one of our team.

On Receipt

It is good practice to check goods are as per your order, are in sound condition and that moisture content is within acceptable tolerance (5-16% depending on product) upon receipt and endorse damage etc on the delivery paperwork.

Unlipped cores/blanks (referred to from here as 'doors') are designed to be reduced in size so any minor damage should not be an issue and is likely to be left on the workshop floor.

Storage

Never store outside for any period of time, even if protected from the elements. Doors must be stored in dry, well ventilated conditions in a suitable workshop/warehouse on a flat and level floor on the pallet / bearers they are supplied (ideally a minimum of 3).

Once in situ please remove all bands/straps to allow the doors to acclimatize to the ambient conditions, these packs could have been banded at source around 3-4 months before arriving at your premises. Doors and many other timber products need time to condition before any work is carried out, movement can occur a short time after removal of bands, so please allow at least 4 days (longer if possible) before working on these products to allow for the natural movement of timber as it acclimatizes. The protective packaging should be retained to protect the packs in storage. You may notice blanks moving after removal of packaging, this is normal and they will flatten given the correct conditioning time.

Handling

Take care unloading with forklift trucks, door pallets are often narrower (915mm and below) than panel products (typically 1220mm) and can be speared during careless unloading.

Dragging doors off their pallet can cause scratching/damage to the delicate surface of the doors, use suction lifts or careful manual handling.

Please leave doors on their delivery pallet on a flat floor to ensure even loading and avoid bow/distortion. Never store a door upright on their edge or side.



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External Use

Our plywood faced doors are suitable for external use provided the correct preparation, protection and processes are followed.

They must be preconditioned to provide moisture contents as recommended by reference to BS EN 942:2007.

Moisture content is one of the most important aspects of the specification of joinery and BS EN 942:2007 places the responsibility on the joinery manufacturer to supply components to the purchaser at the correct moisture content for the site and that this moisture content is maintained on site. If the moisture conditions on site haven't stabilised and are liable to change then the site is not ready for timber joinery.

Door leaves should be hardwood lipped on all edges using a hardwood selected by reference to BS EN 942:2007 as 'suitable for external use without preservative treatment'. Lippings should be bonded to the door edges using an exterior quality adhesive that conforms to the supporting evidence for the application.

All apertures cut into the door blank for vision panels, louvres, letter plates, etc. should be lined with hardwood aperture liners, materials and adhesives in accordance with supporting evidence for the application.

After reworking to the size and specification required the finished door should be sealed or primed on all faces and edges. All parts of the door that become inaccessible after installation should have the full finishing system applied before fitting externally. The full finishing system should be applied to the rest of the finished door immediately after fitting. Fitting should only be attempted on a dry day.

Choice of colour is extremely important, especially for South and Southwest facing doors, in the hotter months the use of dark coloured finishing systems will cause a build-up of heat on the external face, causing an imbalance leading to distortion, cracking and the possibility of resin exuding from the face of the door.

External doorsets should ideally be set back from the outer face of the wall and protected from the accumulation of standing water with an overhead canopy and the use of drip bars. Water collecting on top or underneath a door is likely to cause moisture ingress and probable distortion even with the full finishing system applied.



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Internal Use

All of our doors are suitable for internal use if preconditioned to the intended site's conditions. This usually requires the products supplied to site to be allowed to condition for at least 5 days prior to fitting. The site's environmental conditions must have stabilised and all wet trades completed prior to delivery.

At certain times of year there is likely to be a large temperature and moisture variation between the internal and external faces of the finished door if fitted as an internal front entrance door, for instance off the enclosed corridor of a multi-storey building. This needs to be planned for at the design stage, with either the incorporation of a vapour barrier within the design close to the faces of the door, or a robust non-hygroscopic/non-vapour permeable finishing system, paint or stain, to minimize the possibility of moisture ingress and egress from the opposing faces (hygroscopic paints do not block moisture changes, they allow the movement of moisture in and out of timber).

We have designed doors with a uniform density construction throughout that are made with timber with low distortion characteristics that can lessen, but not remove, the movement natural to timber products when you have a large disparity of temperature and moisture between opposing faces.

Internal doors must be allowed time to condition to the sites ambient conditions before fitting, and fully finished before or just after fitting.

Special notice must be paid to the colour of the doors with regard to location/lighting. Dark coloured gloss and semi-gloss finishes in conjunction with overhead lighting can result in the telegraphing of the construction of the door, showing through the faces and visible to the naked eye but within recognized manufacturing tolerances.

Specifying solid chipboard designs such as Marksman™ or doors with thicker facings can reduce the chance of these issues occurring.

Decorative Faces

For internal applications our advice for veneer or laminate finishes is that you use a solid chipboard door core such as our Marksman™ product because they are designed for this purpose.

We suggest you calibrate any door that is going to have additional faces to ensure surface flatness, good adhesion and a blemish free surface. Any high & low points should be removed after calibration.

If you do need a timber lamel core option, this must also be calibrated before use. Calibration and the application of decorative facings may prove more challenging on plywood faced door blanks.

It is highly recommended that facings applied are balanced, and therefore the same material, thickness, colour and surface area to each side. Unbalanced facings can contribute towards movement and distortion of the leaf.

We do not recommend applying additional faces to external door leaves.



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Hygrothermal Bow

Wood is hygroscopic, this means it can absorb and lose moisture with ambient conditions, especially but not exclusively through the end grain. The cells of the timber will expand with moisture ingress and contract with egress, thus causing swelling or shrinkage in the region of 1% across the grain for every 4% variation in moisture content.

Hygrothermal bow happens when the humidity and/or temperature is different between the 2 faces of the door. Common examples where this is prevalent include front entrance doors or a riser cupboard doors. Some building designs place a heat source adjacent to the entrance door, this is particularly problematic.

In a typical scenario the warm dry internal face will contract, and the cold wet external face will expand, causing the door to cup in the direction of the hotter drier internal face. The distortion is usually exacerbated on the lock side as there are additional restraining points on the hinge side.

The timber used in doors/joinery is kiln dried to a low moisture level before being used in production. Timber is naturally a seasonal product and as such is at greatest risk in its first season in the field. Therefore, hygrothermal bow is most likely in the first year, for instance if a door is fitted in the summer months it is most likely to suffer hygrothermal bow during its first autumn/winter period. Please note that when the disparity between the internal and external faces lessens in the following spring/summer period doors tend to return to their original flat state and are much less affected by hygrothermal bow in their second season.

How much a door is affected is dependent on several factors, elevation, exposure, direction of fitting, the colour and type of finishing system and how the door was conditioned prior to site delivery are all contributory factors.

In summary:

- Check that the doors you are ordering are suitable for all intended end uses.
- Check goods are as per your order, in sound condition/moisture content and endorse damage on the delivery paperwork.
- Store horizontally in dry, well-ventilated conditions on a flat, level floor on the pallet/bearers supplied.
- Handle with care, doors are easily damaged.
- Manufacture your door set in accordance with our test evidence for fire, acoustic, thermal, mechanical etc and in accordance with our recommendations for internal/external use, including sufficient conditioning time.
- Calibrate blanks before bonding veneer or laminate.
- It is best to take the potential for hygrothermal bow into account at the planning/quotation stage.

This phenomenon affects all timber core blanks and timber panel products.

If in doubt, contact our team for advice.

