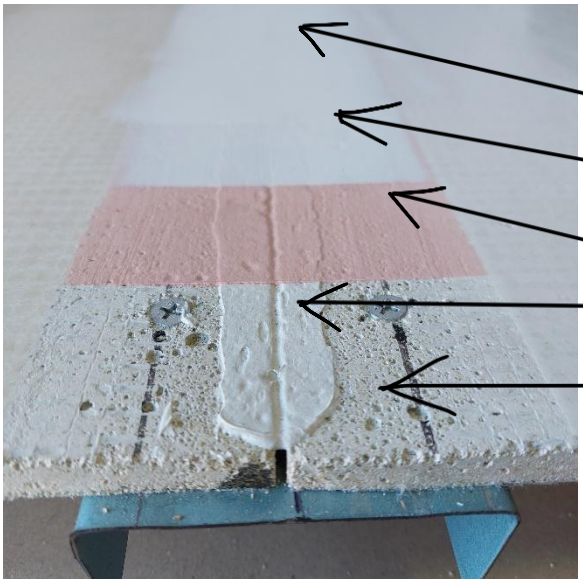
Panelok Joint Application Guide

Purpose

This guide describes the application of the compounds used to seal the joints between boards in the Panelok jointing system. The same process applies to internal and external joints, prior to internal painting or external rendering.

Products Used (in application order)

1. **Penetrating Sealer / Primer**
2. **Rubber Caulk**
3. **Ultra Flex (base coat)**
4. **Topping Compound** — Internal (white) or External (same colour as the external Shellcoat render) applied in **two coats**



Key Properties & Handling

- All compounds are **water-based** with **high polymer content** to provide flexibility and movement, helping to prevent cracking at joints.
- These products are **difficult to sand**. Work cleanly and keep the board face tidy during application.
- Products will **shrink as they dry**. Allow full drying and shrinkage before subsequent coats.
- **Tool care:** Lightly spray tools with **silicone release spray** for easier cleaning. Keep tools clean — cured material is difficult to remove.

Environmental & Drying Conditions

- Apply between **10–35°C** with **≤60% relative humidity** where possible.
- If conditions are outside the above (cold, heat, high humidity), expect **longer drying times**.
- **Each coat must be completely dry and clean** before applying the next. Many variables (humidity, temperature, airflow) affect drying; adjust time as needed.

Typical guidance:

- **Ultra Flex:** Minimum **4 days** drying. Longer is required in **>60% RH** (including very high humidity up to 100%). Ultra Flex contains high moisture; **moisture must exit through the face** — it cannot release through the back due to the penetrating sealer on the board.
- **Topping Compound:** Typically **24 hours** between coats at 10–35°C and ≤60% RH. In extreme conditions (cold/heat with high humidity), allow **48 hours** between coats.

Board Installation (Prior to Joint Treatment)

1. Ensure all panel surfaces are **clean, dry, and free from dust and grime** before starting.
2. **Stand panels with a 2 mm gap** between each panel and install top plates.
3. **Screw fixings:** Every **600 mm vertically**, **25 mm** from the board edge.
4. **Screw sequence:** Always screw off the boards on the **left-hand side of the joint first**, and complete **one side of the panel first** to keep surfaces flush. After fully fixing one side of the joint, screw off the other side.

Scheduling tip: Once all panels and top plates are installed and screwed off, begin **Steps 1–3 (through Ultra Flex)** on joints and rebates. This gives Ultra Flex **maximum drying time** while other works proceed (trusses, roofs, fascia, gutters, etc.).

Special Details

Gable Ends — External & Internal

- External gable sheeting attached to the top plate and end truss must include a **3 mm expansion gap** between the **top of wall panels and the gable sheeting**. Treat these as **gaps >2 mm** per the joint process below.
- Vertical gable joints on **butt joints** require a **rebate** and a **3 mm gap**, treated per the joint process below.
- **Alternative:** Use a **10 mm H-mould** (no rebates) with a **3 mm gap** for expansion and contraction.
- To allow for movement, **screw off only one side** of the joint at **≤600 mm centres**.

Detail placeholder: *Insert drawings for gable expansion gaps, rebated butt joints, and H-mould option.*

External & Internal Corners (inside the building)

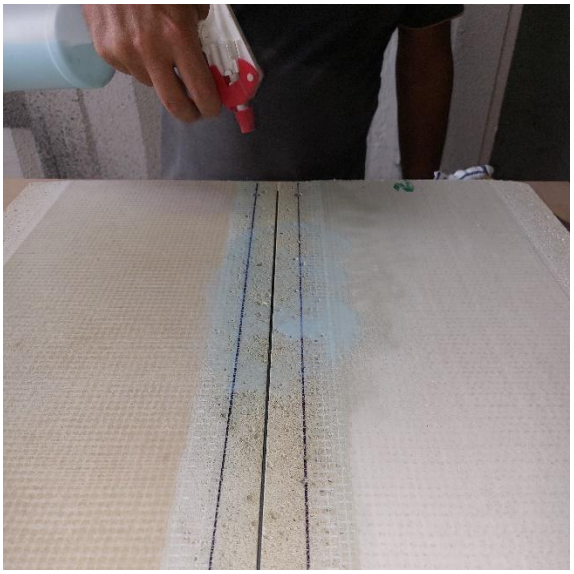
- **External corners (inside):** Use **plastic or aluminium corner beads** and follow **standard plastering procedures** with **standard setting compounds**.
- **Internal corners:** Use **standard plastering procedures** with **standard setting compounds**.

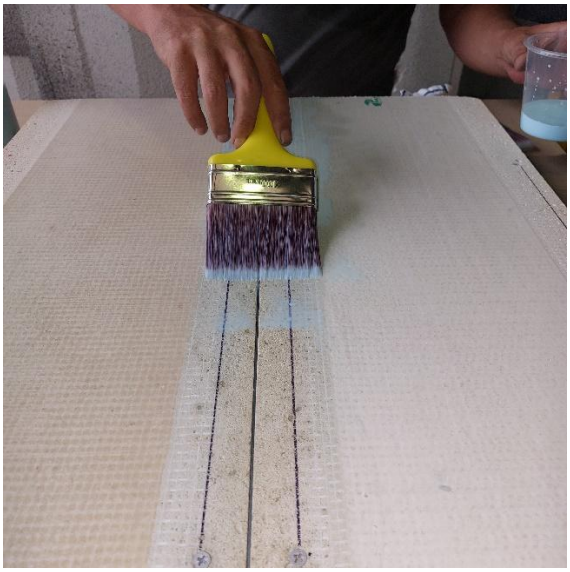
Detail placeholder: *Insert corner bead details (internal/external) and standard setting compound placement.*

Joint Application Steps

Step 1 — Penetrating Sealer / Primer (Joints Only)

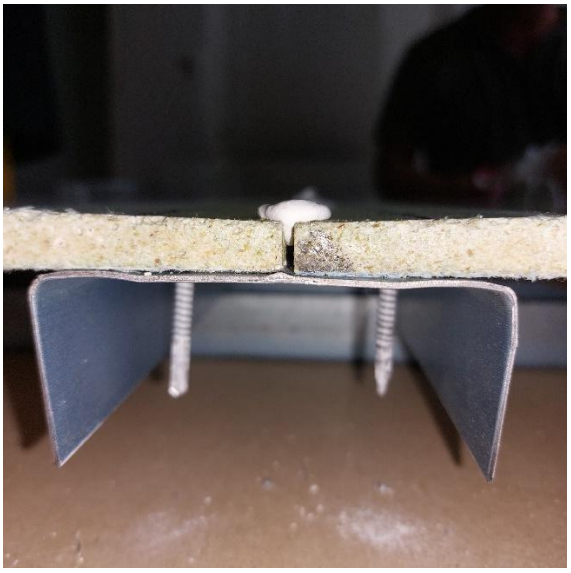
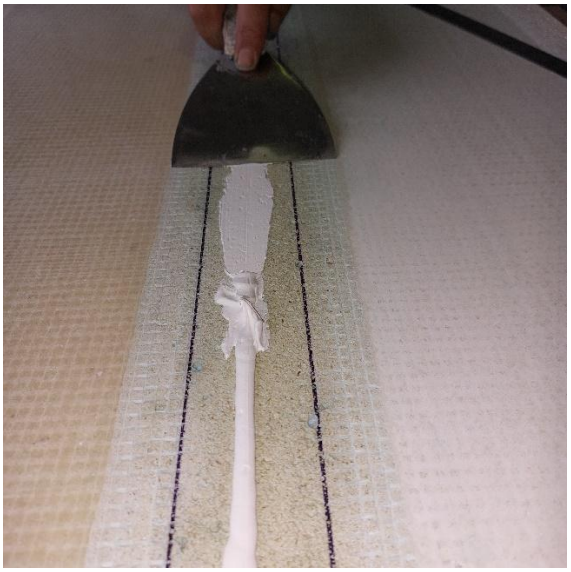
- **Apply two coats** by spray or brush **to the joints only** at a **total of 180 g/m^2**, allowing **3 hours between coats**.
- **Apply Rubber Caulk and Ultra Flex within 3 days** of this step to avoid dust/grime contamination and ensure adhesion.
- **Important:** The penetrating sealer's role is to **consolidate and seal the board surface at the joint** so Ultra Flex **adheres strongly** to the board.





Step 2 — Rubber Caulk (Joint Gap Fill)

- Using a Caulking gun, place grey **Flame Proof Caulk** in **all joints**, filling gaps from **2 mm (minimum) up to 5 mm (maximum)**.
- Place a bead over the 2 mm joint and level it **flush with the board face**. Ensure the **gap is completely filled**.
- **Clean off any excess** outside of the rebate.
- **Drying:** Allow a **minimum of 24 hours** to dry and **shrink back** fully before the next coat.
- **Important:** Filling the joint with Rubber Caulk **pre-fills the gap** so the subsequent Ultra Flex can **span evenly** without seeping into the joint, allowing **expansion and contraction** without failure. Let the product **dry completely** so it **shrinks back totally** before the next coats. When dry, the joint line will be **clearly visible**.

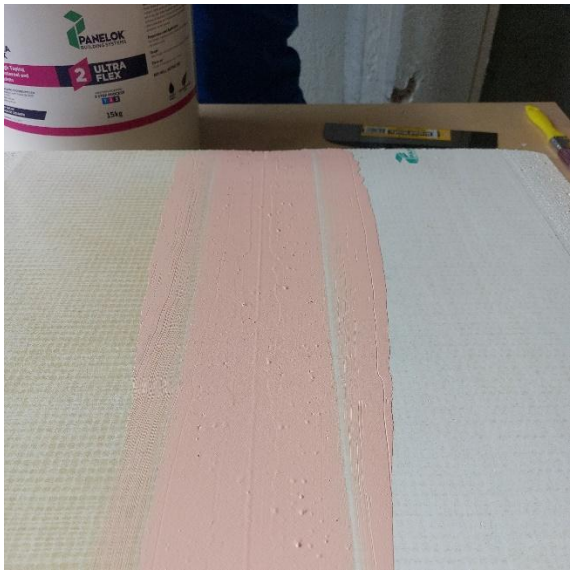

Step 3 — Ultra Flex (Rebate Fill)

- Ensure the **previous coat is completely dry and clean**.

- Using a **200 mm plasterers' tape-setting box** on the **tightest setting**, with **spacers set at 120 mm**, or a **trowel**, **fill the rebate completely** with Ultra Flex.
- **Clean excess immediately:** Any product that extends onto the board face **either side of the rebate** must be removed **at once**. This product **cannot be sanded** off the board face.
    - **While wet:** Remove with a **scraper** and **wet rag**.
    - **If dry:** Use a **sharp paint scraper or glass scraper** to ensure the board face **outside the joint** is completely clean.
- **Drying:** Allow to dry for **4 days** (longer in high humidity as noted in *Environmental & Drying Conditions*). During drying, Ultra Flex will **shrink back**; the **central joint line will remain visible** but will be **much shallower**.
- **Tool prep & cleaning: Spray tools and the setting box with silicone spray before use** to make cleaning easier, and **keep tools/box clean at all times using water**.

Important note: Keeping the joint and adjacent board face **clean** in Step 3 ensures the **next product** (Topping Compound) adheres properly to the **base coat (Ultra Flex)**. Allow Ultra Flex to **dry completely** so it has **shrunk back totally** before placing the first **topcoat**.

Important technique: A plaster **setting box** is used for ease of application and to **keep the board surface clean** on either side of the rebate. The box has **spacers to adjust the amount/width** of product expressed; for this system, **set spacers at 120 mm** and run the box on its **tightest setting** so it **cleans each side of the rebate** while **filling the rebate completely**. Any excess left on the board face is **very hard to sand** due to the product's **high polymer content** — hence the need to **clean immediately**.



Step 4 — Topping Compound (First Coat)

- Confirm the **Ultra Flex joint is clean and dry**.
- Using a **setting box or trowel**, apply the **first coat** following the **same controlled application approach** as in Step 3 to keep the board face clean on either side of the rebate.
- **Drying:** Allow **at least 24 hours** at 10–35°C and ≤60% RH (or **48 hours** in extreme conditions) before the next coat.
- *Colour guidance:* **Internal Topping Compound is white**. **External Topping Compound** matches the **external Shellcoat render colour**.
- If any Topping Compound dries on the board face, **scrape clean** to leave the surface **flush and tidy**.

Step 5 — Topping Compound (Second Coat)

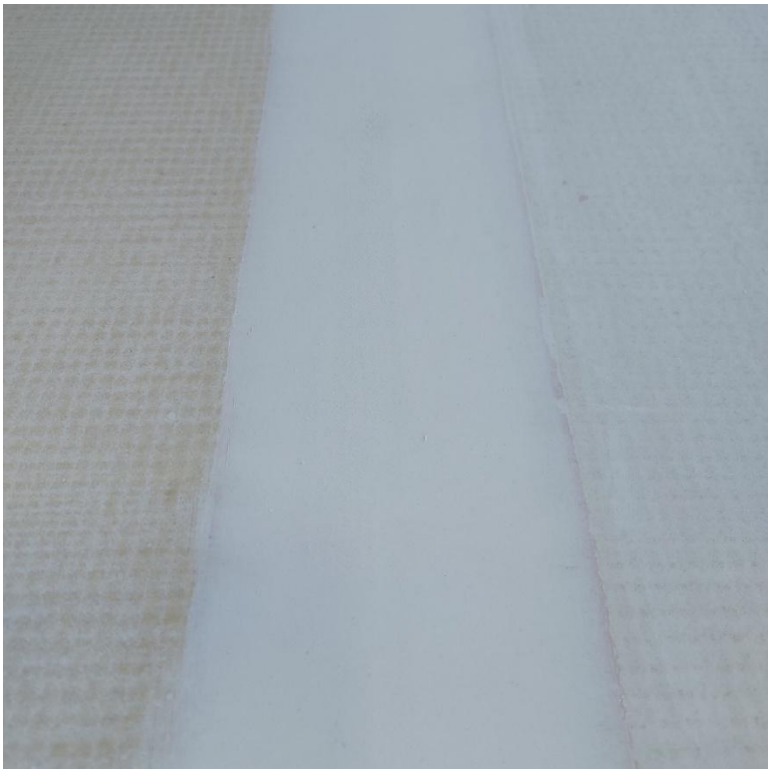
- Ensure the **first topping coat is fully dry and clean** (minimum **24 hours**).
- Apply the **second coat** using a **tape-setting box or trowel** set to the **second-tightest setting** to lay a **thin, even layer** across the full **200 mm** width.
- **Important:** Using the second-tightest setting **minimises product** left on the board face either side of the rebate, making **sanding easier**. These polymer-based products are **harder to sand** than plaster, so the final topping coat should be **just a fine film**.

Step 6 — Sanding & Feathering

- After at least **24 hours** drying, **sand** using an **orbital sander** with **220-grit** paper to achieve a smooth finish for **painting or render**.
- **Tip:** Lightly **wet the joint** during sanding to make sanding easier.
- If needed, you may use **standard topping compound** on **either side of the joint** ***(not over the joint)*** to **feather the edges**.
- **Important:** Use **220-grit** because polymer sands more easily with **finer grit**. Ensure the joint is **fully filled before sanding** for a superior finish. If low spots remain, apply an **additional light coat** and re-sand after drying.

Step 7 — Final Sealer (Whole Board)

- After completing **Steps 1–6**, **spray the entire board surface, including the joint, with two coats** of **Penetrating Sealer / Primer** at **180 g/m^2**.
- **Paint or render within a maximum of 3 days** after sealing.
- **Important:** This whole-surface sealing step **promotes adhesion** of the next product (**paint or render**) and **limits moisture uptake** by the board.



Finished joint prior to painting

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- **Paint or render within a maximum of 3 days** after sealing.
- **Important:** This whole-surface sealing step **promotes adhesion** of the next product (**paint or render**) and **limits moisture uptake** by the board.

Image placeholder: *Insert image of completed joint prior to paint/render, showing even finish and clean board face.*

Notes & Reminders

- **Cleanliness is critical:** Keep joint areas and board faces clean so each subsequent coat can **adhere properly** to the **base coat (Ultra Flex)** and to the board.
- **Dry means dry:** Do not proceed until each layer is **fully dry** and has **shrunk back** as specified.
- **Gaps:** Maintain **2–5 mm** joint gaps (2 mm minimum, 5 mm maximum).
- **Fixings:** Respect **edge distances** and **600 mm** maximum centres. Use the **left-to-right** sequence to maintain face flushness.
- **Humidity management:** In high humidity (> 60% RH), expect **significantly extended dry times**, especially for **Ultra Flex**.