Felxible Soft Stone Panel (MCM) Installation Operating Instructions

1. Construction Preparation

1.1 Materials

Specialized bonding mortar: good water retention and initial bond strength.

Sealing primer: specialized interface treatment agent (or wall primer).

Back adhesive: a latex adhesive applied to the Flexible Soft Stone Panel backing.

Flexible Soft Stone Panel (MCM) sheets: delivered to the site numbered according to the layout drawing.

Electric mixer, notched trowel (δ = 3 mm), beating pad (rubber mallet or dedicated vibrating pad), spirit level, tape measure, cutter (with fine grinding wheel), sponge brush, 2 m straightedge, and chalk line (ink line).

1.3 Substrate Requirements

Flatness: wall verticality and flatness deviation ≤ 4 mm / 2 m (checked with a straightedge).

Strength: the wall must be free of dusting, hollowing and cracking; thoroughly remove surface dust and oil stains.

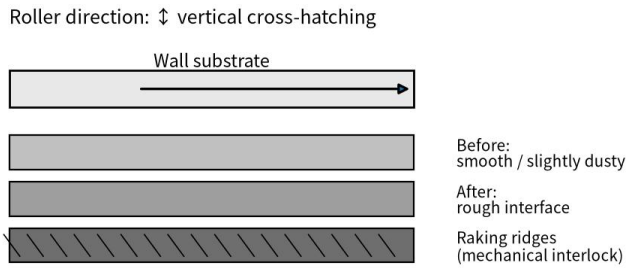
Dryness: substrate moisture content ≤ 8%, pH ≤ 10.

2. Flexible Soft Stone Panel Installation Process



3. Step-by-Step Operating Details (with Illustrations)

Step 1: Substrate Treatment — Apply Primer & Rake Texture



Roller application direction: ↕ vertical cross-hatching

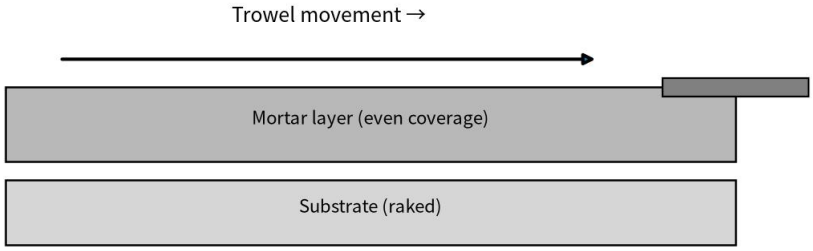
Key points:

· **Function:** seal the capillaries of the substrate, enhance interfacial bonding and prevent hollowing (debonding).

· **Method:** apply the primer (interface agent) evenly over the substrate with a roller; while still wet, use a texture (raking) roller to create rough horizontal ridges.

· **Acceptance:** the surface feels rough to the touch, with no missed areas, runs or heavy buildup.

Step 2: Apply Bonding Mortar



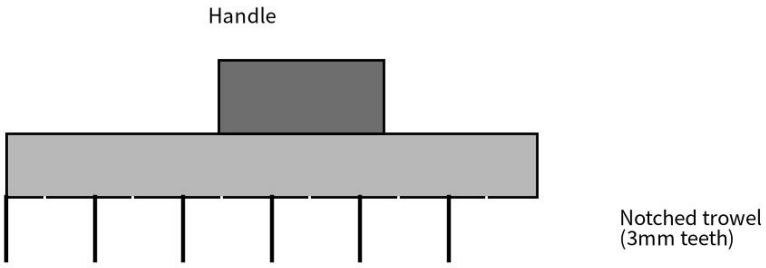
Key points:

· **Coverage:** approx. 2–3 kg/m² (specialized mortar).

· **Operation:** use a flat trowel to spread the mortar over the substrate, ensuring full coverage with no bare spots.

· **Area per pass:** ≤ 1 m² (to prevent surface drying that would weaken bonding).

Step 3: Level with Notched Trowel (Key Thickness Control)



Notched trowel — tooth depth 3mm

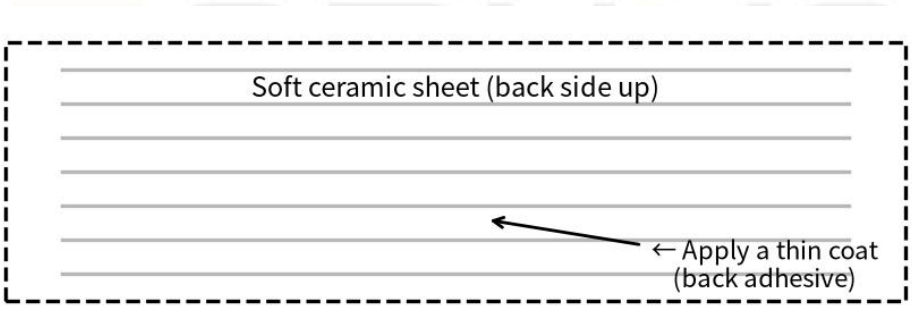
Key points:

· **Thickness:** after leveling, the mortar layer should be 2–3 mm thick (use a notched trowel with 3 mm teeth to create ridges).

· **Ridge function:** the notched ridges act as air-release channels so that air can escape during subsequent beating.

· **Direction:** comb straight ridges in one uniform direction; do not scrape randomly.

Step 4: Apply Adhesive to the Back of the Flexible Soft Stone Panel



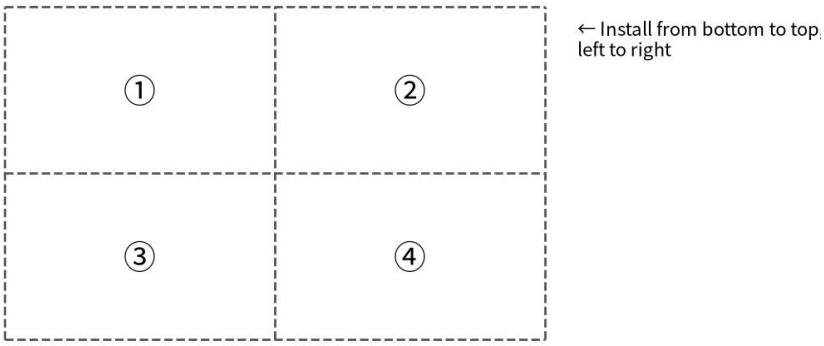
Brushing direction: ↔ uniform horizontal strokes

Key points:

· **Purpose:** the back of the Flexible Soft Stone Panel usually has release-agent residue or a dense layer; applying back adhesive acts as a bridge for “double-sided bonding”.

· **Method:** evenly brush a thin coat of the specialized back adhesive onto the back with a brush or short-nap roller; allow it to dry until it is no longer tacky to the touch (approx. 5–10 minutes) before installing.

Step 5: Install the Flexible Soft Stone Panel



Chalk-line grid on wall

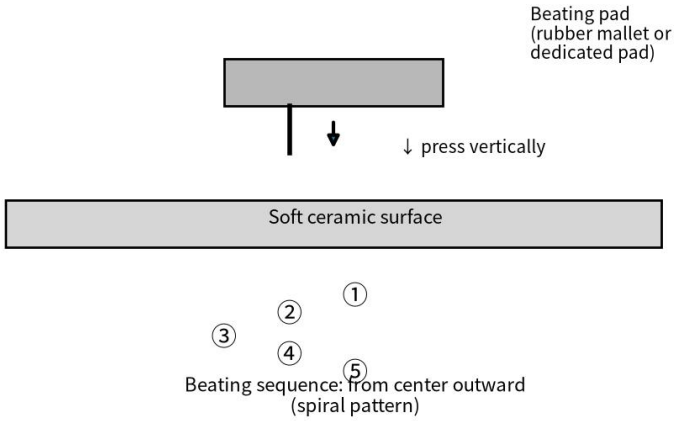
Key points:

· **Positioning:** align to the chalk-line grid and press gently so that the Flexible Soft Stone Panel makes initial contact with the mortar.

· **Adjustment time:** the position may be adjusted slightly within 5 minutes of installation; after that, do not force any correction (the mortar has begun to set).

· **Joint width:** maintain the joint width per the design (typically 3–5 mm) using cross spacers of the appropriate size.

Step 6: Beat to Expel Air (Key to Preventing Hollowing)



Key points:

· **Tools:** dedicated rubber beating pad or vibrating pad.

· **Force:** apply even pressure over the surface until mortar slightly squeezes out at the edges.

· **Sequence:** beat in a spiral pattern from the center outward, driving the air toward the edges to escape.

· **Acceptance:** after beating, check the flatness with a straightedge; deviation ≤ 2 mm / 2 m.

4. Common Problems and Solutions

Problem	Main Cause	Solution
Hollowing of Flexible Soft Stone Panel (hollow sound on tapping)	① No beating to expel air / ② Mortar applied too thick / ③ Substrate not raked	Rework immediately: remove and re-install, re-apply mortar and beat to expel air strictly per Step 6
Slipping / shifting after installation	Mortar too thin, or application area per pass too large	Mix strictly per the manufacturer's water-cement ratio; apply ≤ 1 m² per pass
Surface stains that cannot be wiped off	Residual mortar cleaned only after it has dried	Clean residual mortar promptly with a sponge brush within 15 minutes
Edges lifting up	Back adhesive not applied to the Flexible Soft Stone Panel back	Step 4 must not be skipped; allow the adhesive to dry until no longer tacky to the touch

5. Quality Control and Acceptance Standards

Inspection Item	Acceptance Standard	Test Tool
Verticality of elevation	≤ 3 mm	2 m vertical straightedge
Surface flatness	≤ 2 mm	2 m straightedge + feeler gauge
Joint straightness	≤ 2 mm	5 m string line + steel rule
Mortar thickness	2–3 mm	Notched trowel / steel rule
Hollow area of a single piece	≤ 5% (and no through-hollowing)	Tap with a small hammer and listen
Appearance	No obvious color difference, stains or damage	Visual inspection at 1.5 m

6. Construction Environment Requirements

Temperature: 5 °C – 35 °C (construction strictly prohibited outside this range).

Humidity: relative air humidity ≤ 80%.

Rain: outdoor installation is strictly prohibited in rain; if rain occurs within 12 hours after installation, the work must be covered and protected.

High temperature (> 30 °C): install in the early morning or evening to avoid direct sunlight causing rapid moisture loss from the mortar.