

Manufactured Roof Expansion-Joint Bellows Installation JHA

Worked instructional example

Work and worksite

A roofing crew will install specified JM Expand-O-Flash Style CF curb-to-curb bellows across an accepted structural movement joint. Released wood curbs and roofing receive factory transitions, straight sections and compatible splices while independent opening protection remains effective. This fictional example contains planned controls, without inspection findings or authorization.

- The designer accepts the actual movement range, bellows size, support/curb geometry, roofing interfaces and component/attachment schedule. Manufacturer CF instructions Rev 4, 09/09/2020, support the identified route and required size-dependent addendum; their conceptual drawings are not structural design acceptance.
- Smooth clean prepared curbs, protected work positions and permitted material loads are released before handling. Opening protection remains independent throughout installation and handover. Bellows, backing foam and metal flanges are neither a walking surface nor a load-rated opening cover.
- Roof flashing 238160-21 and low-slope roofing 238160-28 are partial connections: manufactured curb-to-curb movement-joint weathering only. New openings/curbs, roof-to-wall details, structural repair, ordinary sealant joints, field-made bellows, cover removal and movement-range changes are excluded.

Questions before work

- Who accepts the actual structural movement and selects the bellows, curb/attachment detail and required size-dependent support?
- How will independent opening protection remain effective while the crew works on both flanges and every transition?
- Which current compatible mastic, primer, splice tab and caulk instructions/SDS govern chemical handling and splice acceptance?

Task Hazard Control

1 Accept the movement-joint detail and prepared supports

Hazard: An unsuitable bellows size, unaccepted curbs or a detail that blocks structural movement can fail and leave the roof opening or weather barrier compromised.

Control: Lead matches the issued movement design, actual joint/curb geometry and accepted roofing interfaces to the identified Style CF assembly. Verify required factory transitions, section/splice parts, attachment and any size-dependent backing/support addendum. Resolve field differences with the designer and manufacturer before handling; do not adopt conceptual guide dimensions as an independent structural design.

Verification: Technical lead records movement, supports and component acceptance.

Reasoning: The weathering detail must accommodate structural movement.

2 Preserve independent opening protection and chemical controls

Hazard: A worker can fall into the joint or inhale primer/caulk vapor when installation changes a protected work position or exposes a low area.

Control: Release safe access and independent opening/fall protection for both sides and transitions. Keep protection effective without stepping on bellows or backing foam. Verify current SDS for all selected mastic, primer and caulk; assess ventilation, ignition, skin/eye and respiratory controls, washing and waste before opening chemicals. Maintain protected storage and actual roof-load limits.

Verification: Lead checks opening protection and chemical-control readiness.

Reasoning: Weathering materials cannot replace fall or exposure controls.

3 Place factory intersections and transitions first

Hazard: Sharp flanges, awkward pieces or an incorrect starting transition can cut hands and force later sections into an unaccepted movement geometry.

Control: Inspect the identified factory pieces and arrange controlled handling from protected positions. Install required factory intersections/transitions first under the applicable CF sequence and detail. Keep foam backing facing inward and protected from weather. Preserve specified movement/splice interfaces; do not field-fold a substitute transition or remove opening protection to obtain a convenient fit.

Verification: Lead checks factory pieces, orientation and starting interfaces.

Reasoning: Factory pieces establish geometry for straight sections.

Complete the work and hand over

4 Attach straight sections one flange at a time

Hazard: Uncontrolled long sections, unsuitable mastic or extra fasteners can expose hands and restrict movement or create an inadequate curb attachment.

Control: Retain each section during planned positioning and use the specified membrane-compatible mastic on the prepared receiving surfaces. Install one flange at a time with the actual accepted fastener arrangement, then continue the remaining sections while preserving prescribed end gaps. Keep independent protection intact. Stop for unaccepted substrate, strained fit or a proposed attachment change rather than forcing the bellows.

Verification: Lead verifies flange attachment, gaps and unstrained geometry.

Reasoning: Secure attachment must preserve intended movement.

5 Prime and complete the prescribed splice tabs

Hazard: Unready primer, trapped corner gaps or incompatible caulk can leave a finished-looking discontinuity and expose workers to chemical contact.

Control: Prepare and prime the specified flange/bellows splice area with compatible materials under actual instructions and SDS controls. Verify required primer readiness before placing the identified peel-and-stick tab. Work it into the prescribed corners and complete the actual tab-caulk treatment without stretching away movement or changing the gap. Check each splice while safe access and chemical separation remain effective.

Verification: Installer records primer readiness, fit and splice findings.

Reasoning: A splice needs accepted preparation and corner fit.

6 Inspect weathering and transfer independent protection

Hazard: Hidden splice defects, weather-exposed foam or an incorrect cover assumption can harm following roof users and conceal unresolved movement or opening hazards.

Control: Inspect the complete run, transitions, flange connections, splices and foam orientation against the accepted detail and actual instructions. Record defects and technical dispositions before weathering acceptance. Remove sharp scraps and collect chemical waste under the supplied SDS. Transfer continuing joint/access restrictions and independently maintained opening protection; completion gives no load-bearing, walkway or opening-cover credit.

Verification: Receiving lead accepts weathering findings and continuing restrictions.

Reasoning: Weathering completion does not remove the opening hazard.

Pause and reassess

- Actual movement range, bellows size, curb geometry, support/addendum or roofing interface differs from the accepted detail.
- Independent opening protection, safe access, controlled handling or actual chemical/ignition/exposure arrangements cannot be maintained.
- Strained fit, unaccepted gaps, splice discontinuity, incompatible materials or weather-exposed foam requires a protected hold and technical resolution.

Improve the controls

Needs improvement: The new bellows covers the opening, so workers can cross it.

More useful: Separate accepted opening protection stays effective; bellows, backing foam and flanges receive no walking-surface or load-rated-cover credit.

Needs improvement: Add fasteners or fill the gap until the joint looks sealed.

More useful: Follow accepted attachment, movement and splice geometry; any mismatch goes to the designer/manufacturer before the assembly is changed.

Decisions that change the analysis

What if the bellows cannot fit without restraining the joint?

Hold the affected installation and keep independent opening protection in place. Have the designer and manufacturer resolve actual movement, size, curb alignment and support. Do not stretch a section, add cross-joint fasteners, fill the structural gap or field-make a transition to hide the conflict. The correct weathering detail must accommodate the accepted movement before it is released.

What must the crew record for actual use?

Record joint/design and movement basis, curb/roofing interfaces, bellows/factory components, size addendum, attachment/splice instructions and actual chemical SDS/controls. Add opening protection, flange/gap/foam and splice findings, defects and technical disposition. Identify checkers and weathering/access handover; this example supplies no inspection or protection-removal release.

Training needs

- Selected Style CF installation instruction for factory transitions, flange sequence, inward protected foam orientation, actual gaps/splice preparation and required support addendum, without field redesign.
- Crew instruction in independent opening/fall protection, sharp-flange and pinch control, actual chemical SDS/exposure arrangements, protected material handling and recording movement or substrate conflicts.

Confirm applicable qualifications and actual training evidence for the people assigned. Related toolbox talks support discussion; they do not establish competence.

References and adaptation

JM Expand-O-Flash Style CF curb-to-curb instructions, Rev 4, 09/09/2020; actual size/addendum required
https://www.jm.com/content/dam/jm/global/en/commercial-roofing/Installation-Application_Guides/EOF%20CF%20Installation%20Instructions.pdf

JM current Style CF product page and compatible component documents
<https://www.jm.com/en/commercial-roofing/specialty-roofing-products/expansion-joint-cover-style-cf-curb-to-curb/>

JM low-VOC membrane primer SDS, 07/26/2019, current linked research document; match actual supply
https://www.jm.com/content/dam/jm/global/en/MSDS/200000000617_US_EN.pdf

Expand-O-Flash tab caulking SDS, 05/12/2020, current linked research document; match actual supply
https://www.jm.com/content/dam/jm/global/en/MSDS/200000000578_US_EN.pdf

OSHA 1926.501, opening/fall-protection and working-surface duties
<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.501>

References reviewed October 13, 2026. Use actual equipment and product instructions, project design and site requirements. This original draft supplies no fabricated inspection, signature or approval.