

## Design principles for roofline closure systems

These principles are a support tool for the roofline closure details documented in the External wall insulation specification for weathering and thermal bridge control guide 2022. It is recognised that the documented details are not exhaustive and therefore these principles are designed to be used to develop new Roofline closure solutions that comply with the PAS 2030 2019.

### 1. Redundancy of seals

At least two lines of weathering protection are required. Sealants shall not be employed to provide the primary barrier to water penetration. Additional redundancy can be achieved with an additional trim or suitable membrane. All joints must have a double seal to comply with the PAS requirements.

At eaves with insufficient roof overhang: Protection afforded to the top of the EWI system must include a secondary waterproof membrane and/or flashing that tucks under the existing sarking felt. Overhang must be appropriate for exposure zone, (40 mm moderate or sheltered exposure – 50 mm severe or very severe exposure) based on the BRE wind driven rain map in BR262 Thermal insulation: avoiding risks – [Appendix A: WP2 / \(publishing.service.gov.uk\)](#)

### 2. Gable-to-eaves junctions

Must be achieved with overlapping, prefabricated units/connectors: Site fabrication is not permissible though minor site trimming is permissible. Any joints between the primary and secondary seal must be staggered by 100 mm. Insulation to be maintained in corner of gable wall up to level of loft insulation as per Retrofit Designer requirements.

### 3. Gable apices

Must be formed using prefabricated elements: Site bent flashing can be utilised however secondary lead/lead replacement flashing required over the apex. Site-formed mitre joints using two separate profiles are not permissible.

### 4. Connections between adjacent sections of roofline closure systems

Must incorporate an under- or over connector that extends min. 40 mm on each side of the joint. Connectors must be sealed to both sections of the metal profile (roofline closure, etc) using proprietary sealing tapes or proprietary sealants that must extend for the full width of the trim. Any joints between the primary and secondary seal must be staggered by 100 mm.

### 5. Use of Lead for flashing

If using lead as a solution the maximum length in a single piece should be 1200 mm and overlaps should follow best practice. Ensure health and safety requirements are complied with [Control of lead at work \(Third edition\) - Control of Lead at Work Regulations 2002 Approved Code of Practice and guidance \(hse.gov.uk\)](#) If Lead replacement flashings are used, these should be securely fixed in accordance with the manufacturer's recommendations.

### 6. Soffit/roof overhangs

A minimum 40 mm (50 mm for high exposure) is required, if less then trims/flashings should be embedded into the masonry, or below the cement pointing at verges and sealed. Any joints between a primary and secondary layer of redundancy must be overlapped by a minimum 100 mm. The sand and cement fillet should be replaced with a suitable flexible mortar.

### 7. weathering protection details

The installation of the weathering protection details must be separately included within the EWI system holder training that is provided to registered EWI installation contractors.

### 8. In all cases there should be continuity of the roof insulation and the insulated roofline closure solution to provide a minimum "thermal resistance of $0.6\text{m}^2\text{K/W}$ (and ensure no thermal bridging).

### 9. Roofline closure details that do not meet the requirements above are not acceptable for use with any funded or private schemes.