



No 1 Morlais Buildings

Pontmorlais

Merthyr Tydfil

Repair of Lead Work Methodology

Date 18/12/2024

Planning Ref – P/19/0314

Condition 3 in line with policies BW6 & BW7

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Issued by Atrium Planning Consultants

This document is to read in line with:

Existing Elevations & Plan – PL002

Proposed Elevations & Plans - PL003

Proposed Shopfront Elevation – PL004

Planning Application – P/19/0314

Design and Access Statement – October 2019 – Ferguson Mann Architects

Description

No1 Morlais Building lies within the Pontmorlais area at the northern end of the Merthyr Tydfil Town Centre Conservation Area. The character area of Pontmorlais described in the Merthyr Tydfil Town Centre Conservation Appraisal (June 2009) is concentrated around the Pontmorlais High Street which is a continuation of what is now the more commercial end of the High Street to the south.

The building is 3 storey with a very distinctive frontage, baroque style gable forming a very strong presence at this end of the High Street. Historic photographs and surviving physical features evidence the fact that buildings 1 to 6 were built as a terrace with identical architectural features including:

- Distinctive brick 'dutch' style brick gables with limestone dressings
- Pedimented double sash decorative window with limestone dressings at second floor
- Full height arched headed tripartite timber window/ glazed screen at first floor with fixed central light and opening casements each side with egg & dart moulded stone cornice above.
- Decorative horizontal stone banding at each storey with full height stone pilasters with carved head detail with carved stone ball finial and capping
- Stone surround to shopfront with fluted pilasters and very ornate carved pro

Proposed Work

- Repairs to roofing including leadwork to rear of gable to front elevation.
- Reinstate 2 no. chimney stacks and pots. New lead flashings for stacks.

Method and quality statement

- Leadwork

Leadwork (new work)

General information

- All Leadwork is to be undertaken only by a Contractor who is a member of the Lead Contractors' Association.
- All lead is to be Rolled Lead, in accordance with LSA guidelines, details on drawings and architects' specification.
- - All lead details are to be formed in accordance with the LSA Manual. Falls in new roof coverings will be 3 degrees and gutters are to have aluminium fall of 1 in 60 (1 in 80 minimum).
- Lead sheet is to conform to the general quality laid down in BS1178.
- Thicknesses are to be generally as follows: Ridge and Hip Flashings - Code 7, Pitched Valley Gutters - Code 7, Soakers to mitred hips and abutments and general flashings - Code 6

Types of lead(work)

Apron Flashings at Abutments

- Lead: As clause 110, - Thickness: Code 6 Rolled Lead. - Dimensions: Lengths: Not more than 1500mm. End to end joints: Laps to be min.100mm. Upstand: Not less than 75 mm. Cover to abutment: Not less than 150 mm. Fixing: Lead wedges as clause 770 or nailed at

max 300mm centres using 10mm flat head ring shank copper nails, positioned 25mm down from top edge of lead, and secured at bottom edge with clips at joints and at 500mm centres which are to consist of 45mm wide strip of code 6 lead.

Cover Flashings

- Lead: As clause 110, - Thickness: Code 6 Rolled Lead. Dimensions: Lengths: Not more than 1500mm.

Soakers & Step Flashings to Mitred Hips & Abutments

- Lead: As clause 110, - Soakers: Thickness: Code 6 Rolled Lead, - Dimensions: Length: Slate/ tile gauge + lap+ 25 mm, Upstand: Not less than 75 mm, Underlap: Not less than 100 mm, Fixing: By roofer.

Step flashings

- Lead: As clause 110, - Thickness: Code 6 Rolled Lead, - Dimensions: Lengths: Not more than 1500mm, End to end joints: Laps of not less than 100 mm, Cover: Overlap to soaker upstands of not less than 65 mm, - Fixing: Lead wedges at every course

Workmanship

- Cut, joint and dress lead neatly and accurately, to provide fully waterproof coverings/flashings, free from ripples, kinks, buckling and cracks. Comply with BS 6915 and current good practice as described in the latest editions of BS 6915 and 'The Lead Sheet Manual' published by the Lead Sheet Association, unless specified or agreed otherwise.
- Do not use scribes or other sharp instruments to mark out lead. Use solder only where specified. Ensure that finished leadwork is fully supported, adequately fixed to resist wind uplift but also able to accommodate thermal movement without distortion or stress.

Layout

- Agree setting out of joints, drips, and laps with the CA before beginning work.

Lead Sheet

- Colour marked for thickness and weight and of the type and code specified: Milled, to BS 1178, or Machine cast, to BS 1178 in respect of general quality, chemical composition and tolerance on thickness, or from lead complying with BS 1178 and free from bitumen, solder, other impurities, inclusions, laminations, cracks, air, pinholes and blowholes. Thickness(es) as BS 1178 but with a tolerance of +/-10%.

Fixing & Jointing Lead

- Where not specified otherwise, fix lead sheet to timber substrates with: Copper clout nails to BS 1202: Part 2, table 2, with annular ring, helical ring or serrated shank, length not less than 20 mm, shank diameter not less than 3.35 mm and head diameter not less than 8 mm, or Stainless steel (austenitic) clout nails with annular ring, helical ring or serrated shank, length not less than 19 mm, shank diameter not less than 2.65 mm and head diameter not less than 8 mm. Where not specified otherwise, fix lead sheet to concrete or masonry substrates with: Brass or stainless-steel screws to BS 1210, table 3, length not less than 19 mm and diameter not less than 3.35 mm; with washers of the same material and plastics plugs of length and diameter to suit screws.

Head Fixing Lead Sheet

- New sheets are to be fixed at the head with two staggered rows of copper nails with 10mm flat heads at 75mm centres and 75mm apart, evenly spaced and staggered. Drips at the joint between the top of each sheet and the next are to be provided, each of 60mm depth or 75mm splayed, as directed by the Architect. Minimum 6mm of movement space to be offered by clips and fixings to account for the expansion and contraction of the lead covering. Sheets less than 500mm deep: May be secured with one row of fixings, 25mm from the top edge of the sheet and evenly spaced at 50mm centres. The sides of all sheets are to be fixed with 0.7mm thick copper tingles at least 50mm wide by 150mm long, and/or 0.46mm stainless steel, securely fixed using 2no. brass or stainless-steel screws and turned into hollow rolls. Alternatively, where directed, joints can be formed by dressing around wooden rolls with bossed ends. Continuous clip fixings to cornice weatherings and cappings to be 0.46mm thick, 50mm wide stainless-steel. All fixings and clip spacings to account for the Severe Exposure rating of the site and the configuration of the buildings within the site.

Clips

- Generally, 50 mm wide where not specified to be continuous, length to suit detail. Lead clips to be cut from sheets of same code as sheet being secured. Copper clips to be cut from 0.7 mm thick sheet to BS 2870, temper grade 1/4H, dipped in solder if exposed to view. Stainless steel clips to be cut from 0.38 mm sheet to BS 1449: Part 2, grade 304, Terne coated if exposed to view. Unless specified otherwise fix each clip with two fastenings not more than 50 mm from edge of lead sheet. Clips welted around edges of sheets to be turned over 25 mm.

Forming of Details

- Method: may be by bossing or lead welding except where bossing is specifically required. Lead welded seams must be neatly and consistently formed. Do not undercut or otherwise reduce the thickness of the sheets at seams. Filler strips are to be of the same composition as the sheets being joined. Butt joints are to be formed to a thickness one third more than the sheets being joined. Lap joints are to be formed with 25 mm laps and two loadings to the edge of the overlap. Bossing must be carried out without thinning, cutting or otherwise splitting the lead sheet. Unless agreed otherwise, use bossing for external corners at upstands

Wedge Fixing into Joints & Chases

- Carefully rake out joint/chase to a depth of not less than 25 mm. Dress lead into joint/chase and fix with lead wedges at not more than 450 mm centres, at every change of direction and with at least two for each piece of lead. Prepare joint/chase and apply sealant as section Z22. Sealant: To CA approval

Vertical Abutments

- Against all vertical abutments, form 100mm min. upstands and protect with cover flashing inserted 25mm into walling, new grooves being cut for the purpose where necessary. Cover flashings are to be secured with lead wedges at 450mm centres and dressed down at least 75mm over upstands. Sheets are not to exceed 1.5m length, to be lapped at least 100mm, and supported at intervals of not more than 750mm by means of lead or copper clips securely fixed to walling behind flashings, and dressed up 25mm over outer face.

Leadwork (Old)

Repair

- Identify the Damage: Look for signs of cracks, splits, or corrosion in the lead. Small cracks can often be repaired, but severe damage may necessitate replacing the entire piece.
- Clean the Area: As with lead flashing, clean the area around the damage thoroughly to ensure a solid repair.
- Use Lead Solder: For small cracks, use lead solder to fill and repair the damaged area. Heat the solder until it's liquid, then apply it to the crack, smoothing it out with a soldering iron.
- Patch Larger Holes: If the damage is more extensive, you may need to use a lead patch. Cut a piece of lead to fit over the damaged area, then solder it in place, ensuring a secure and watertight seal.
- Finish and Protect: Once the repair is complete, finish by cleaning and buffing the area. Apply a protective coating to help prevent future damage.
- Precautions should be taken against the risk of fire when making repairs whilst using a blow-torch. Where a hot working ban is enforced, repairs can only be made by either taking the defective panels out and welding patches off site.

Re-Laying Leadwork

- Except when otherwise agreed by the Architect, the work is to be carried out by registered plumbers and Members of the Lead Contractors Association. All new lead is to be neatly dressed, without injury, securely fixed with copper nails, joints where necessary being welted or 'burned' and not soldered, and provision made for expansion and contraction.

New and Repaired Leadwork

- Apply patination Oil to all leadwork - Shake the container vigorously for about 2 minutes before use and apply one coat only to the lead surface with a soft, clean cloth. Work across the lead surface, applying the Patination Oil from top to bottom of the installation, in straight, vertical lines. Don't apply in a circular motion as this will leave an uneven appearance. Remember to apply oil to the underside of the leading edges of leadwork and to cover lead clips and fixings. Leave for at least one hour to dry.