

LEAD INDUSTRIES ASSOCIATION

60 EAST 42ND STREET

NEW YORK 17, N. Y.

January 23, 1959

SUBJECT: LEAD GUTTERS RUN
WATER OFF DUKE'S
BACK

To Members of the Lead Industries Association:

Please find attached a reprint of an article entitled "Lead Gutters Run Water Off Duke's Back," which appeared in and was featured on the cover of the October, 1948, issue of "American Artisan." Information for the story, including photographs, was supplied the magazine by L.I.A.

The reprint is being used as a flyer for mailing to our architects' list of 12,500 names. To simplify filing in the architect's office, we have had imprinted on the cover the American Institute of Architects' file number 12-H, the designation assigned by them for "Flashings, Metal."

Extra copies, up to 25, are available to members free of charge, and above this quantity at our cost of \$3. per hundred.

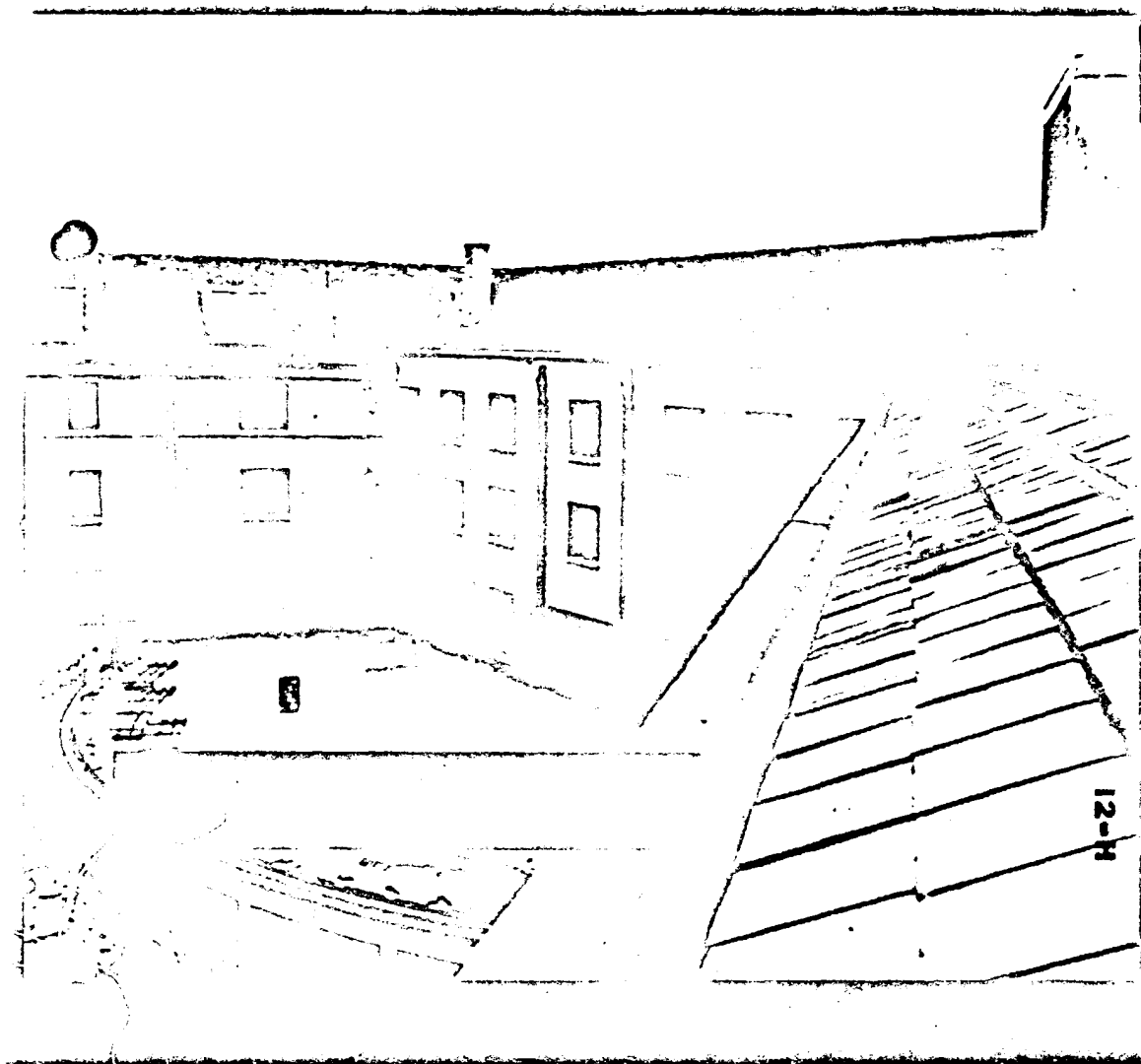
Sincerely yours,

[Handwritten signature]
Secretary.



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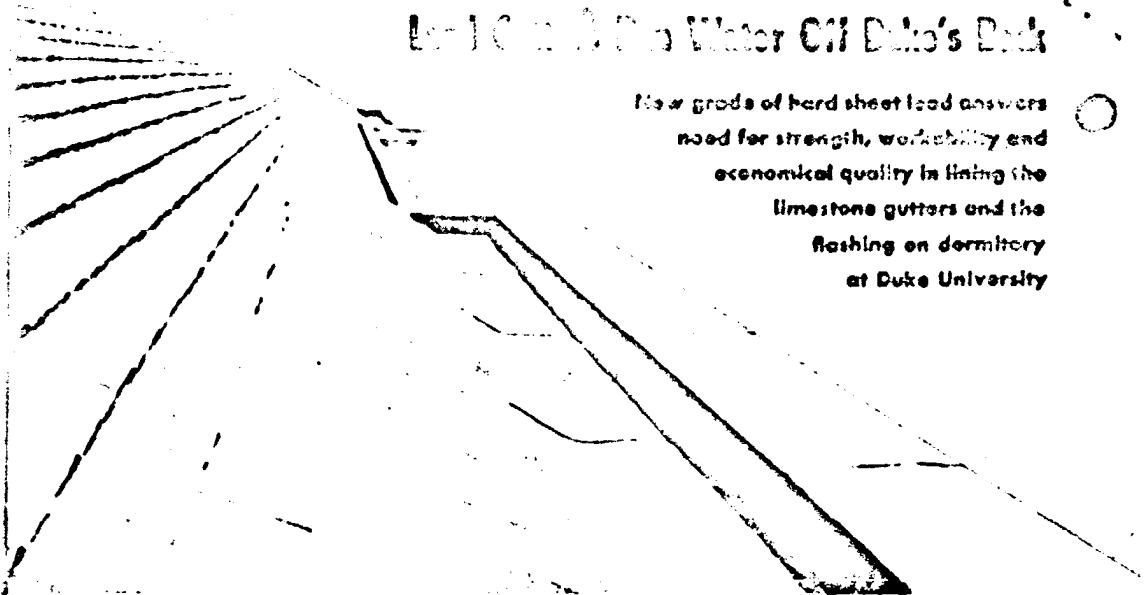


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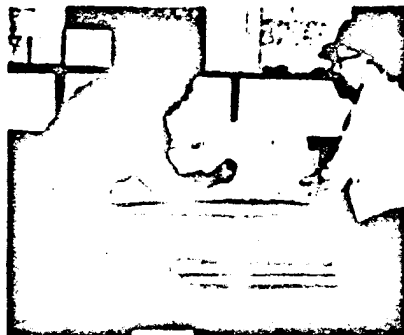
Lead Co. A.C. in Water Off Duke's Deck

New grade of hard sheet lead answers need for strength, workability and economical quality in lining the limestone gutters and the flashing on dormitory at Duke University



GUTTER SECTION JOINTS ARE SPACED at maximum of 8 ft between frame and on the side toward the eaves, but pipe openings

"Hard sheet lead is a development of modern metallurgy made from an alloy with 6 to 7.5 percent antimony. Because it is stronger than soft lead, lighter gage sheets can be used. Its corrosive resistance is equal to that of soft sheet lead."



ERECTION WORK is scheduled by James E. Pickard (left) and Joseph T. Pickard

HARD SHEET LEAD has been used for lining more than 600 ft of limestone gutters on a new dormitory at Duke University at Durham, N. C. A new grade of hard lead sheet was used for the gutters and at other points on the roof where flashing was required. The sheet weighs 3 lb per sq ft.

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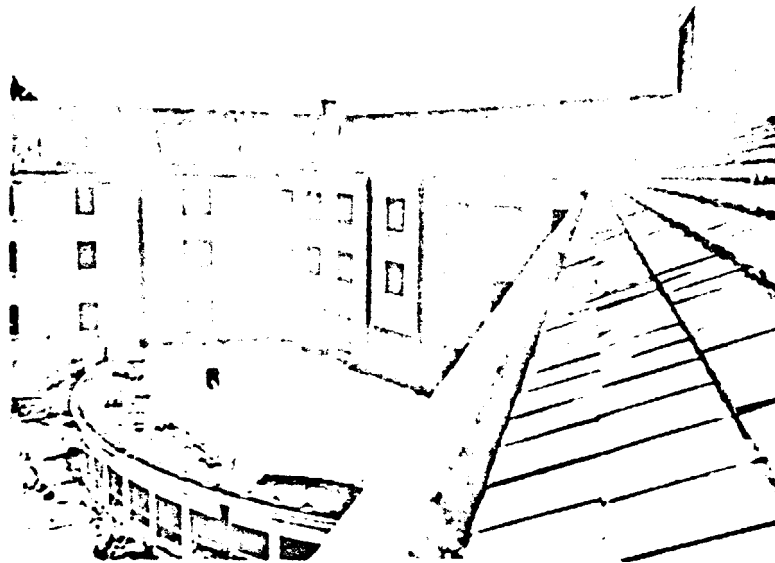
Cost Is Competitive

The gutters and flashing were installed by Pickard Roofing Co. Inc., Durham. James Pickard, president of the company, estimates that 2816 sq ft (8448 lb) of the 3 lb hard lead was required for the gutter lining alone and that the total cost proved competitive with other high quality materials.

Formed Sheets Hoisted to Roof

Gutter linings installed in this job vary in width from 3 to 7 ft. The lead sheets were formed on the ground and hoisted into position on the roof. Fig. 1 is a detailed drawing which shows the shape of the gutter and illustrates how it was secured to the masonry.

The outer edge of the gutter was fastened to the lime-



SHEET LEAD WAS USED for gutters at roof ledge and for circular edge of sun deck as well as for sheathing ventilation dormers in attic.

stone fascia with a nailed copper cleat. A hard lead strip imbedded in the brick mortar of the vertical section of the gutter provided a locking strip for the inner edge.

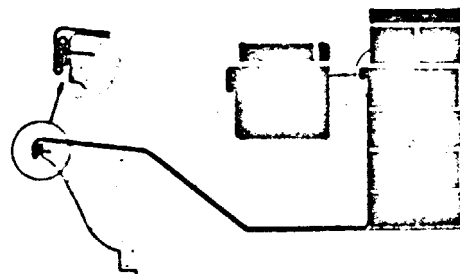
Three-Layer Caulking Keeps Moisture Out

Loose-locked cross seams, made in the direction of water flow, were filled with a non-hardening compound to provide a watertight joint. The joints were caulked between the bottom side of the seam and the bent-in edge of the top sheet, between the two bent-in edges, and between the top side of the seam and the edge of the bottom sheet. This three layer caulking was accomplished by filling each seam with compound before the insertion was made and the seam was bent into its permanent position. Each seam was finished by malleting and grooving with a hand groover. Solder was used only where conductor pipes and scuppers were connected.

Soft Base Reduces Chaffing

To absorb stress pressures, seams were located at 8 ft or shorter intervals. A 1 1/4 in. flat lock was used at the cross seam. A layer of felt and pitch was provided as a base for the gutters to minimize underside chaffing due to expansion and contraction. All locks were made by hand with the aid of roofers' long.

Flashing at dormers, chimneys and other openings in



1 SECURE LOCK of sheet lead is very important at outer edge of stone parapet and at masonry wall

the roof were set 8 in. under the tile and held in place by standard copper cleats.

Dormers Serve Two Purposes

Dormers were designed to serve two purposes. Some provide gravity ventilation for the attic space; others serve as fresh air intakes for the forced air ventilating systems. Each dormer was sheathed with lead coated copper to harmonize with the hard lead employed in the gutters and flashing.

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60 EAST 42ND STREET • NEW YORK 17, N. Y.

The Lead Industries Association is prepared to assist with
technical information and specifications applicable to
your specific problems. Write to the above address.