

APPENDIX A UTILITY ACCESS ADJUSTMENT RING BY MARCO

The MARCO universal utility access ring riser is a system of interlocking cast-iron sections that bolt together to form an adjustable-size ring. The ring fits into the original casting to raise the cover to the proper height after AC resurfacing. Ring risers are fully assembled.

MARCO (Manhole Adjustable Ring Company) formally known as UMAR, is an Oskaloosa, Iowa-based company that manufactures a segmented, insert-type ring that effectively raises the height of the utility access frame to accommodate for the asphalt overlay thickness.

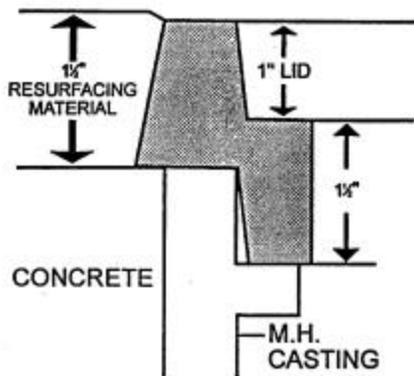
LIMITATIONS OF USE

- Ring Weight: 18-36 kg (40-80 lbs.) depending on specifications.
- Ring Material: Cast-iron/Grade 30
- The cover must weigh at least 63.5 kg (140 lbs.). 41-45 kg (90-100 lbs.) covers are not acceptable.
- The bearing surface on the frame, which supports the cover, must be free of excessive wear. Wear exceeding 3 mm (1/8 in.) is considered excessive.
- All segments of the MARCO ring must be present.
- When the MARCO ring is specified and/or requested to be used to adjust a utility access fixture that belongs to an agency other than the Iowa Department of Transportation, the request for use must include documented approval by the utility owner.

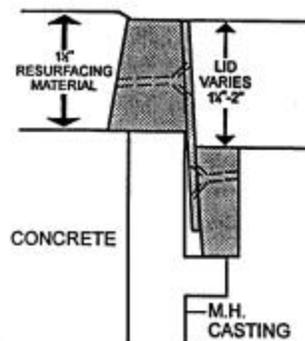
Marco, Inc.
P.O. Box 448
Oskaloosa, Iowa 52577
800-785-2526
641-672-2356

TWO BASIC DESIGNS

1. The riser used when overlaying thickness exceeds the lid thickness by $\frac{1}{2}$ " or more.



2. **Vertically Adjustable.** The riser used when lid thickness equals or exceeds the overlay thickness.



Available in sizes from 19" to 26" in diameter.

MARCO ADJUSTABLE RING



Figure 2 (see figure 3 for section detail)

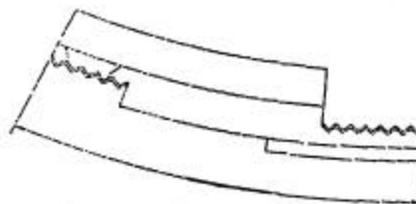


Figure 3 - Top View of Typical Riser Section

U.S. Patent Number 4,582,450 and Patents Pending apply to the Universal Manhole Adjusting Ring (UMAR) System.

INSPECTION AND ACCEPTANCE

The MARCO adjustment ring may be accepted upon receipt of a manufacturer invoice or shipping statement with the project number, county, and number of rings listed.

Acceptance is contingent upon inspection and compliance of all items in Limits of Use.