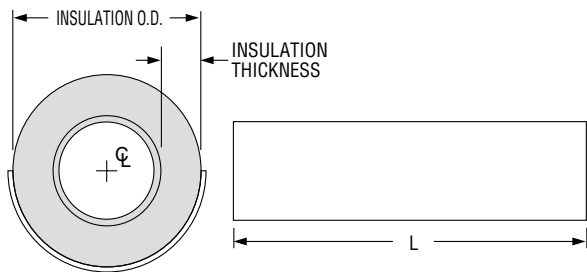


Fig. 167

Insulation Protection Shield

**Size Range:** 1/2" through 24" pipe with up to 2" thick insulation  
**Material:** Carbon steel  
**Finish:** Galvanized  
**Service:** Recommended for outside of foam or fiber glass insulation for distribution of loads to preclude crushing of insulation without breaking the vapor barrier.  
**Approvals:** Complies with Federal Specification A-A-1192A (Type 40), WW-H-171-E (Type 41), ANSI/MSS SP-69 and MSS SP-58 (Type 40).  
**How to size:** Refer to "shield size selection table" below.  
**Ordering:** Specify size, figure number and name. Data applicable to shields for thicker insulation or larger pipe sizes is available upon request.



Note: As actual foam or fiber glass insulation thicknesses vary, verify that the radius of the selected shield is suitable for the required application. Shields are designed for a maximum span of ten feet on 15 P.S.I. compressive strength insulation. For compressive strengths greater than 15 P.S.I., spans may be increased proportionately up to maximum allowable for steel pipe. Refer to MSS-SP-69 for specific guidelines on compressive strength and maximum span.

| FIG. 167: WEIGHT (LBS) • DIMENSIONS (IN) |        |            |    |               |          |
|------------------------------------------|--------|------------|----|---------------|----------|
| Shield Size                              | Weight | Stock Size | L  | Insulation OD | Fig. 260 |
| X1A                                      | 0.5    | 18 Ga.     | 12 | 1.90          | 1½       |
| 1A                                       | 0.7    |            |    | 2.38          | 2        |
| 2A                                       | 0.8    |            |    | 2.88          | 2½       |
| 3A                                       | 1.0    |            |    | 3.50          | 3        |
| 4A                                       | 1.1    |            |    | 4.00          | 3½       |
| 5A                                       | 1.3    |            |    | 4.50          | 4        |
| 6A                                       | 1.4    |            |    | 5.00          | 5        |
| 7A                                       | 1.6    |            |    | 5.56          | 5        |
| 8A                                       | 1.9    | 16 Ga.     |    | 6.64          | 6        |
| 9A                                       | 2.7    |            |    | 7.64          | 8        |
| 10A                                      | 3.1    |            |    | 8.64          | 8        |
| 9B                                       | 4.0    | 16 Ga.     | 18 | 7.64          | 8        |
| 10B                                      | 4.6    |            |    | 8.64          | 8        |
| 11B                                      | 5.1    |            |    | 9.64          | 10       |
| 12B                                      | 5.6    |            |    | 10.76         | 10       |
| 13C                                      | 10.2   | 14 Ga.     |    | 11.76         | 12       |
| 14C                                      | 11.1   |            |    | 12.76         | 12       |
| 15C                                      | 12.3   |            |    | 14.00         | 14       |
| 16C                                      | 12.7   |            |    | 15.00         | 16       |
| 17C                                      | 13.6   |            |    | 16.00         | 16       |
| 18C                                      | 14.5   |            |    | 17.00         | 18       |
| 19C                                      | 21.2   | 12 Ga.     | 24 | 18.00         | 18       |
| 20C                                      | 22.4   |            |    | 19.00         | 20       |
| 21C                                      | 23.6   |            |    | 20.00         | 20       |
| 22C                                      | 24.8   |            |    | 21.00         | 24       |
| 23C                                      | 25.9   |            |    | 22.00         | 24       |
| 24C                                      | 27.1   |            |    | 23.00         | 24       |
| 25C                                      | 28.3   |            |    | 24.00         | 24       |
| 26C                                      | 31.0   |            |    | 26.00         | 30       |
| 27C                                      | 31.8   |            |    | 27.00         | 30       |
| 28C                                      | 33.0   |            |    | 28.00         | 30       |

Shading in gray indicates this shield fits loosely inside the Fig. 260. To be used properly, the Fig. 260 requires a spacer.

Continued on Following Page.

| PROJECT INFORMATION |  | APPROVAL STAMP                             |  |
|---------------------|--|--------------------------------------------|--|
| Project:            |  | <input type="checkbox"/> Approved          |  |
| Address:            |  | <input type="checkbox"/> Approved as noted |  |
| Contractor:         |  | <input type="checkbox"/> Not approved      |  |
| Engineer:           |  | Remarks:                                   |  |
| Submittal Date:     |  |                                            |  |
| Notes 1:            |  |                                            |  |
| Notes 2:            |  |                                            |  |

## Fig. 167

### Insulation Protection Shield (cont.)

| SHIELD SIZE SELECTION FOR NOMINAL PIPE SIZE |                           |     |     |       |     |
|---------------------------------------------|---------------------------|-----|-----|-------|-----|
| Pipe Size                                   | Insulation Thickness (in) |     |     |       |     |
|                                             | 1/2                       | 3/4 | 1   | 1 1/2 | 2   |
| 1/2                                         | 1A                        | 1A  | —   | —     | —   |
| 3/4                                         |                           | 2A  | 3A  | 4A    | 6A  |
| 1                                           |                           |     |     | 5A    | 7A  |
| 1 1/4                                       | 2A                        | 3A  | 4A  | 6A    | 7A  |
| 1 1/2                                       |                           |     |     |       | 8A  |
| 2                                           | 3A                        | 4A  | 5A  | 7A    | 8A  |
| 2 1/2                                       | 4A                        | 5A  | 6A  | 8A    | 9A  |
| 3                                           | 5A                        | 6A  | 7A  |       |     |
| 3 1/2                                       | —                         | —   | 8A  | 9A    | 10A |
| 4                                           | —                         | —   |     |       |     |
| 5                                           | —                         | —   | 9B  | 10B   | 11B |
| 6                                           | —                         | —   | 10B | 11B   | 12B |
| 8                                           | —                         | —   | 12B | 13C   | 14C |
| 10                                          | —                         | —   | 14C | 15C   | 16C |
| 12                                          | —                         | —   | 16C | 17C   | 18C |
| 14                                          | —                         | —   | 17C | 18C   | 19C |
| 16                                          | —                         | —   | 19C | 20C   | 21C |
| 18                                          | —                         | —   | 21C | 22C   | 23C |
| 20                                          | —                         | —   | 23C | 24C   | 25C |
| 24                                          | —                         | —   | 26C | 27C   | 28C |

| SHIELD SIZE SELECTION FOR COPPER TUBING |                           |     |     |     |     |
|-----------------------------------------|---------------------------|-----|-----|-----|-----|
| Tube Size                               | Insulation Thickness (in) |     |     |     |     |
|                                         | 1½                        | ¾   | 1   | 1½  | 2   |
| ⅜                                       | X1A                       | 1A  | 2A  | 3A  | 5A  |
| ½, ⅝, ¾                                 |                           |     |     | 4A  | 6A  |
| 1, 1¼                                   | 1A                        | 2A  | 3A  | 5A  | 7A  |
| 1½                                      | 2A                        | 3A  | 4A  | 6A  | 8A  |
| 2                                       | 3A                        | 4A  | 5A  | 7A  |     |
| 2½                                      | 4A                        | 5A  | 6A  | 8A  |     |
| 3                                       | 5A                        | 6A  | 7A  |     |     |
| 3½                                      | 6A                        | 7A  | 8A  | 9A  | 10A |
| 4                                       | 7A                        | 8A  |     |     |     |
| 5                                       | 8A                        |     | 9A  | 10A | 11B |
| 6                                       | 9A                        |     | 9A  | 10A | 11B |
| 8                                       | 11B                       | 11B | 12B | 13C | 14C |