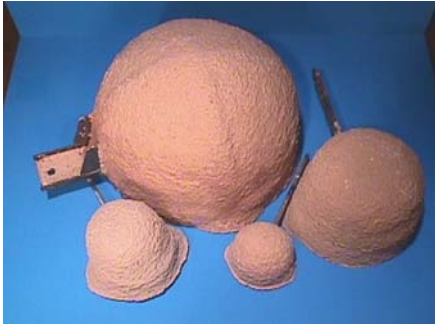


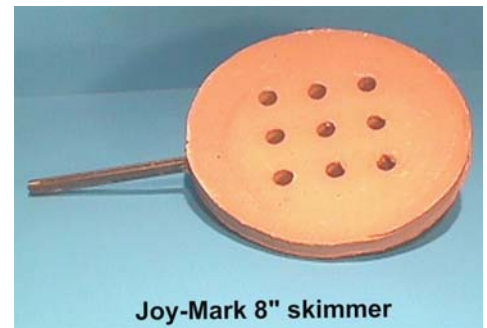
Dip Ladles and Skimmers



Joy-Mark produces a variety of ceramic fiber dip ladles and slag skimmers for use in all metal types. Our insulating CF300W rigidized composition is used for maximum service temperature and strength. These thermally efficient ladles and skimmers offer an economical and effective alternative to metal ladles and skimmers. Their durability enables the foundry to use them over and over again with little or no maintenance. Joy-Mark dip ladles and skimmers feature the following characteristics:

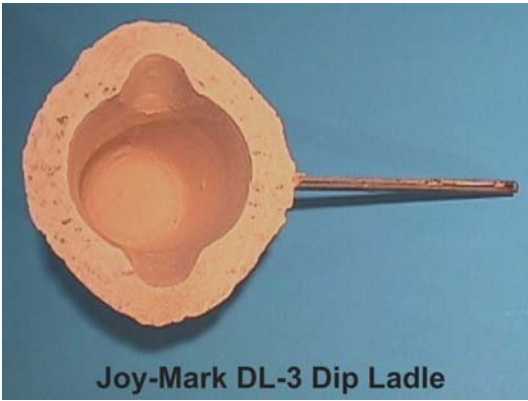
- Lightweight for maneuverability and ease of handling
- Low thermal mass to reduce heat loss from metal to ladle or skimmer
- Highly insulating to reduce heat loss to atmosphere
- Strong and durable to allow multiple reuses
- Non-wetting to molten metal
- No preheating necessary after first use
- No coating necessary
- Economical compared to metal and full ceramic ladle and skimmer alternatives

Joy-Mark Skimmers have nine 1/2" drain holes and are supplied in either a 6-1/2" or 8" diameter (shown at right). Each is 1" thick with a 1/2" wide metal reinforcement ring embedded inside. The attachment handle is 1/4" by 1/2" and protrudes 5-1/2" from the skimmer.



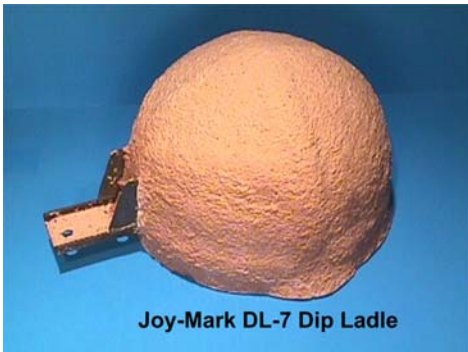
Joy-Mark 8" skimmer

Joy-Mark Dip Ladles are available in a wide range of sizes and capacities as shown in the table on the next page. They are convenient for the routine pouring of test bars, metallurgical samples, and even small size production castings. All of our dip ladles feature a double pouring lip design with a nominal 1" wall thickness.



The DL-2, 2.5, and 3 (shown at left) feature a 1/2" wide metal reinforcement ring embedded inside. The attachment handle is 1/4" by 1/2" and protrudes 5" from the ladle.

The DL-5 (shown at right) and DL-6 use a 1" wide perforated reinforcement ring. The attachment handle is 1" perforated metal with 3/8" holes, 1/4" thick, and extends 5-1/2" from the dip ladle. The DL-5 may also be used to remove slag from ductile iron holding furnaces where there is limited space to remove the slag. One or several 3/4" holes are drilled into the bottom. In this mode, the DL-5 has higher capacity to hold slag and a smaller footprint than a normal skimmer.



The DL-6.5 and DL-7 (shown at the left) have a large capacity and has a heavy duty "L-bracket" for secure attachment. The bracket is 2-1/4" wide, with two 7/16" mounting holes, and protrudes 4" from the ladle.

| Joy-Mark, Inc. Part Number | TID | BID | Ins. Ht | Frame | Features | Alum. | Iron | Steel | Copper | Brass |
|-------------------------------|-------|-------|------------|-----------------|-------------|--------|--------|--------|--------|--------|
| | (in.) | (in.) | (in.) | | | (lbs.) | (lbs.) | (lbs.) | (lbs.) | (lbs.) |
| DL-2 | 2.00 | 2.00 | 2.00 | 1/2" Metal Ring | 5" Handle | 0.5 | 1.6 | 1.5 | 1.3 | 1.5 |
| DL-2.5 | 1.75 | 1.00 | 3.50 | 1/2" Metal Ring | 5" Handle | 0.5 | 1.4 | 1.3 | 1.1 | 1.2 |
| DL-3 | 3.25 | 2.00 | 3.50 | 1/2" Metal Ring | 5" Handle | 1.5 | 4.5 | 4.4 | 3.9 | 4.0 |
| DL-5 | 5.12 | 4.00 | 5.00 | 1" Metal Ring | 5.5" Handle | 6.4 | 20.4 | 19.0 | 17.0 | 18.0 |
| DL-6 | 5.12 | 4.00 | 6.50 | 1" Metal Ring | 5.5" Handle | 8.3 | 26.6 | 25.0 | 23.0 | 23.4 |
| DL-6.5 | 9.50 | 3.50 | 6.00 | Metal Basket | L Bracket | 17.0 | 55.0 | 51.0 | 44.0 | 49.0 |
| DL-7 | 9.50 | 7.00 | 7.00 | Metal Basket | L Bracket | 29.0 | 93.1 | 87.0 | 78.0 | 84.0 |

****Metal weight at 80% full capacities.**

During their first use, Joy-Mark dip ladles and skimmers should be immersed in the metal bath and held there until off-gassing ceases. After this initial burn-out, it is not necessary to preheat these tools for subsequent use!