

Sales and Ordering Information

U.S.A.

TERMS AND CONDITIONS OF SALE: See previous page.

PHONE ORDERS – TOLL FREE: 800-626-6653. D-M-E's Customer Service Dept. operates Monday through Friday from 8 a.m. to 8 p.m. E.S.T. Calls can be made from anywhere in the continental U.S. and Puerto Rico (Puerto Rico: use "137" prefix instead of "1"). Our Customer Service Representatives will be happy to answer your questions on D-M-E products or services, provide on-the-spot feedback on product availability and shipping details, or take any messages you wish relayed to your local D-M-E sales, manufacturing or technical service representatives.

MAIL ORDERS: If you prefer to order by mail, please address your order to:

- D-M-E Company, 29111 Stephenson Highway, Madison Heights, Michigan 48071-2330
ATTN: Customer Service Dept.

FAX: You may fax your order to:

- D-M-E Customer Service
248-398-6174 • 888-808-4363

CHECKS OR MONEY ORDERS: When paying invoices by check or money order, please make payable to *D-M-E Company*. Include remittance copy of invoice and mail to:

- D-M-E Company, Department Lock Box 78242, P.O. Box 78000, Detroit, Michigan 48278-0242

WALK-IN ORDERS, PICK-UPS AND RETURNS: If desired, ordered products in stock at your nearest D-M-E Service Center can be picked up rather than shipped. Walk-in orders at Service Center locations can also be processed while you wait. Products being returned for repair or exchange should be processed through Customer Service prior to being returned.

SPECIAL MACHINING SERVICES: Prints for quotation on special machining work can be sent by EDI to dme_cad@dme.net or mailed to the Estimating Department of the D-M-E manufacturing location nearest you. Call our toll-free number if desired to clarify location which serves your area.

Estimating locations are:

- 70 East Hillis Street, Youngwood, Pa 15697, FAX: 724-925-2424
- 1117 Fairplains Street, Greenville, MI 48338, Tel. 616-754-4601, FAX: 616-225-3924
- 3275 Deziel Drive, Windsor, Ont N8W 5A5, Tel. 519-948-5001, FAX: 519-948-4652
- 464-466 Windy Point Drive, Glendale Heights, IL 60139, Tel. 630-469-4280, FAX: 630-469-4740 (estimating only)

Please add "D-M-E Company" and "Attn: Estimating Dept." to above addresses when mailing prints. To obtain prices and delivery on special mold base orders or to check status of special work in progress please contact Customer Service.

CANADA

TERMS AND CONDITIONS OF SALE: See previous page.

PHONE ORDERS: Contact our Mississauga, Ontario office at 800-387-6600, FAX: 800-461-9965.

MAIL ORDERS: Send to: D-M-E of Canada, Ltd., 6210 Northwest Drive, Mississauga, Ontario L4V 1J6.

CHECK OR MONEY ORDERS: Make payable to *D-M-E of Canada, Ltd.* Include remittance copy of invoice and mail to Mississauga address above.

WALK-IN ORDERS, PICK-UPS, RETURNS, AND SPECIAL MACHINING: Contact our Mississauga office.

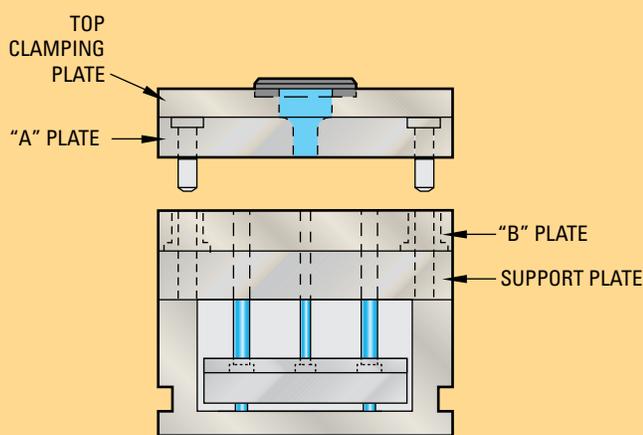
Mold Bases: What Every Molder Should Know

Today's mold-building process is a complex one for the molder, who must grapple with a long list of design details before placing a tooling order. It's understandable that much of the buyer's attention goes to the "heart" of the injection mold, the core and cavity inserts, since they have the most visible influence on the molded part. Yet all sorts of ancillary tooling components, to which the molder might not be inclined to give much thought, can also make or break a mold.

One item that sometimes gets lost in the shuffle is the mold base, even though the wrong one can severely limit a mold's productivity. Rather than an afterthought, mold base selection should be considered critical to the profitability of the entire molding project.

When selecting a mold base for a particular job, first ask a few key questions about the part's design and processing demands: What kind of ejection does it need? Does it have a cam action or some other mold-action device? What are the volume requirements? What type of machine will it run on?

Answer these design and processing questions, and you'll be well on your way to picking the standardized or special-purpose mold base best suited to your application.



A-Series Mold Base Assembly

The most frequently used standard assembly, the "A" Series Mold Base, is available in 43 sizes from 7.875 x 7.875 to 23.75 x 35.5.

Standard Mold Base Styles

For most applications, a standard mold base will fit the bill. The most common of these is the "A-style," which has the flexibility to fit into the widest variety of molding applications.

A-style models have a four-plate design: (from top to bottom) top clamp plate, A-plate, B-plate, support plate, ejector retainer, ejector bar, and ejector housing. Mold makers using an A-style mold base typically machine through pockets in the "A" and "B" plates to accept just about any kind of core and cavity insert.

The B-style mold base represents an economy version of the A-style. The B-style's two-plate design combines the top clamp plate and the "A" plate into one component called the "A-Clamping Plate" or ACP. Likewise, a beefed-up "B" plate eliminates the need for a support plate on the core side of the mold.

Molders can use the less-costly "B" Series when the part design allows the cavity and core to be machined directly into the cavity plates. If the mold will be used with cavity inserts, they must be machined into blind pockets. The compactness of the "B" series mold base also makes it applicable whenever overall mold height must be limited in order to fit the tool in a given molding machine.

"Core and cavity inserts ... have the most visible influence on the molded part yet ... mold base selection should be considered critical to the profitability of the entire molding project."

Special-Purpose Machines

Mold action and ejection requirements will often dictate the use one of three special-purpose mold bases instead of the simpler A- and B-styles.

One of these is the X-style, or stripper-plate, mold base. Sandwiched between the “A” and “B” plates, its stripper (“X”) plate engages the edge of a part and pushes it off the core. Typically, the X-style sees use with round parts like cups, caps, and containers. This style of mold base comes in both five- and six-plate styles- -with the six-plate version including a support plate.

The AX-style mold base is used for parts requiring core detail in the cavity side of the mold. When the mold opens, that core detail is pulled so that the part remains on the ejector side of the mold. The AX-style is essentially an A-style mold base with an “X-1” plate, located between the “A” and “B” plates but attached to the top half of the mold so that it can pull the part off the core detail.

The “T” style, or three-plate, mold base is used when the molder would like to separate the part from the runner in the tool. “T” series mold bases consist of an “A” clamping plate, “X-1” plate, “X-2” plate, “B” plate, and the ejector assembly and housing. Unlike the other mold bases, the “T” series operates with two parting lines. The first parting line, which occurs between the X-1 and X-2 plates, separates the part from the gate prior to opening the main parting line. The main parting line then opens and the X-1 plate is actuated to pull the runner from the sprue-puller pin, thereby freeing the runner and allowing it to be ejected separately from the part being produced.

See page 11 for illustrations of standard mold base types.

Choosing A Steel

Steel selection is an important aspect of specifying the right mold base. Generally there are four standard grades of steel available. See page 8 for mold and die steel descriptions.

Molding Machine Considerations

After you’ve picked the right style and steel for your mold base, it’s time to consider variables related to the molding machine: the locating-ring style, sprue bushing, and clamp slots.

The mold maker must select the type of locating ring that will match the platens of the machine in which the mold will

be running. Locating rings are available in a wide variety of configurations to fit most injection machines, but the most common locating ring has a 3.990 in. outside diameter.

Sprue bushings must also match the machine, so be sure to determine the proper orifice and radius of the sprue bushing so it will match the machine nozzle. The most common type of sprue bushing is made from 6145 steel that has been hardened, ground, and polished for sprue release. In some applications it is desirable to use a high-conductivity copper-alloy sprue bushing.



“High-performance sprue bushings cool the sprue quickly when either the sprue weight is greater than the part weight, or a rigid target is needed for a robotic sprue picker ...”

These “high-performance” sprue bushings can cool the sprue quickly when either the sprue weight is greater than the part weight, or a rigid target is needed for a robotic sprue picker, or when scrap would result from a hot sprue coming in contact with a finished part. High-performance sprue bushings are fully interchangeable with the standard bushings.

A number of different clamp-slot styles are available. Whatever the style, make sure it’s compatible with the thickness of the top clamping plate on your mold base (ACP, “A” plate, or AX plate).

Finally, the molder needs to determine the correct mold base height in relation to the maximum space available in the press. A mold base that won’t run in the appropriate size of press can turn potential profit into loss. In addition, be aware of the maximum stroke required to eject the part for the mold.