

D-M-E Standard PCL Performance Core Pins® HIGH-CONDUCTIVITY PINS



D-M-E's Performance Core Pins® are precision made using a high-strength, beryllium-free copper alloy, rather than traditional steels used in core pins. This alloy provides several advantages, including better conductivity, increased strength, reduced wear and resistance to rusting. Performance Core Pins are ideal for use in high-volume applications where part quality, fit and finish are critical.

Reduced cycle time

It is often difficult or expensive to adequately cool the area surrounding the core pin in a mold, especially when molding thick-walled parts. Depending on the design of the mold, it may even be impossible to run water lines near the pin, thus greatly increasing cycle times.

The copper-based alloy used in Performance Core Pins can significantly reduce mold cycle times by increasing the rate of heat transfer. The Performance Core Pin, when used in place of traditional C- or CX-type pins, will provide up to 10 times the rate of heat transfer. Heat is transferred at twice the rate of pins made of a beryllium-copper alloy.

In addition, the low-adhesion characteristics of the pins make part ejection faster and easier. All of these advantages combine to reduce the overall cycle time and increase productivity.

Improved part quality

The excellent thermal diffusivity of the pins provide a homogenous temperature profile throughout the core surface. Uniform temperatures result in reduced post-mold shrinkage and warpage, improving the quality of the part. Also, because of the low-adhesion characteristics of the pin, parts are not damaged by adhesion to the pin during part ejection.

- Reduces cycle times
- Ten times better conductivity than steel
- Moldstar 150® (C18000) beryllium-free copper-based alloy
- Hardness of 95-98 Rockwell B (20-25 HRc)
- Available in 21 diameters and four lengths

Lower machining costs

The high thermal conductivity of Performance Core Pins reduces the need for complex cooling designs that can require hours of additional machining. Plus, the pins require no additional heat treatment and can be machined using conventional methods or EDM.

Longer service life

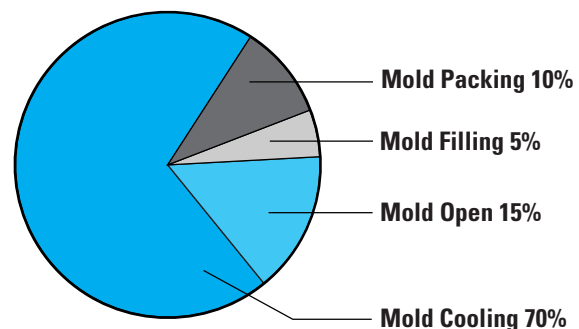
Performance Core Pins have a high resistance to thermal stress, wear and abrasion. This assures long life under virtually any molding conditions. With appropriate alteration to pin diameter, they can be used in conjunction with standard ejector sleeves. The dissimilar metals and compatible coefficient of friction will reduce metal-to-metal pick up and wear.

Wide range of sizes

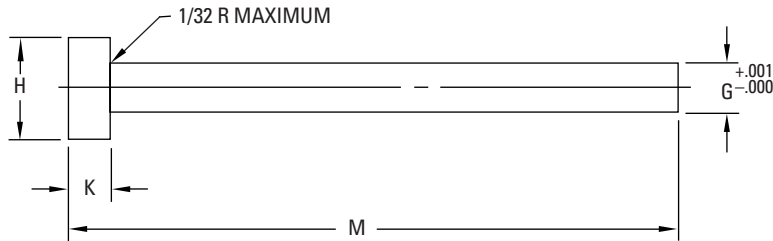
Performance Core Pins are available in 21 pin diameters from 3/32- to 3/4- and 3-, 6-, 14- or 20-inch lengths.

Typical Mold

As shown in the pie chart, mold cooling comprises the largest part of the mold cycle. Performance Core Pins can significantly reduce this mold cooling portion to reduce overall cycle time!



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ITEM PREFIX*	G PIN DIA	H HEAD DIA	K HEAD THICK	M-3	M-6	M-14	M-20
PCL07	3/32 (.093)	1/4	1/8				
PCL08	7/64 (.109)	1/4	1/8				
PCL09	1/8 (.125)	1/4	1/8				
PCL10	9/64 (.140)	1/4	1/8				
PCL11	5/32 (.156)	9/32	5/32				
PCL12	11/64 (.171)	11/32	3/16				
PCL13	3/16 (.187)	3/8	3/16				
PCL14	13/64 (.203)	3/8	3/16				
PCL15	7/32 (.218)	13/32	3/16				
PCL17	1/4 (.250)	7/16	3/16				
PCL19	9/32 (.281)	7/16	1/4				
PCL21	5/16 (.312)	1/2	1/4				
PCL23	11/32 (.343)	9/16	1/4				
PCL25	3/8 (.375)	5/8	1/4				
PCL27	13/32 (.406)	11/16	1/4				
PCL29	7/16 (.437)	11/16	1/4				
PCL31	15/32 (.468)	3/4	1/4				
PCL33	1/2 (.500)	3/4	1/4				
PCL35	9/16 (.652)	13/16	1/4				
PCL37	5/8 (.625)	7/8	1/4				
PCL41	3/4 (.750)	1	1/4				

Performance Core Pins® are produced by Performance Alloys & Services, Inc.
under U.S. Patent Number 5,020,770.

Issue date June 4, 1991.
Foreign patents pending.

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- Specials are also available upon request

* To create Item Numbers for PCL Performance Core Pins:

- Combine Item Prefix with the length (M dimension) desired. (e.g. PCL2515, PCL0703)

When ordering please specify:

- Item Number and Quantity
- Method of Shipment

Quantity Discounts

300 to 599 Less 5%

600 or more Less 10%

Discounts apply to Ejector Pins, Core Pins, Return Pins and Sprue Puller Pins. Standard sizes may be combined on one order for quantity discounts.

Specials Available.
See "D-M-E Special Pins & Sleeves"