

DME Straight Shot - FREQUENTLY ASKED QUESTIONS

NOTICE: If you have questions that are not answered by the following, please contact your DME Customer Service Representative for assistance, who will help answer your questions or put you in contact with an appropriate person who can answer your questions.

Q: I notice that some Straight Shot thermocouples have different color codes for the thermocouple lead wire insulation. What do the different color code sets mean?

A: Note: The following applies to thermocouples (or heaters with integral thermocouples) sold out of the DME USA Hot Runner Catalog. It does not apply to heaters or thermocouples sold out of the DME Molding Supply Catalog.

DME has taken steps to meet the growing needs of our customers around the world. One of these steps has been to progress to an "International" thermocouple color code per IEC 584-3 (Black = positive, White = Negative):








Up to the recent past, most DME thermocouples (or heaters that have integral thermocouples) have had a color code based on the ASTM E230 standard, in which the positive thermocouple wire lead (magnetic) has a white color insulation, and the negative thermocouple lead has a red color insulation. This is traditionally common in North America:



Please note that some products will continue to have the ASTM E230 standard color code (White=positive, Red = negative).

Both color code sets shown above are correct. It will be important to ensure proper wire up of the thermocouple. If the thermocouple is wired up backwards (polarity of the thermocouple is reversed), the thermocouple will fail to give the temperature controller a correctly interpretable signal. For clarity, the following color code chart may be used:

J TYPE THERMOCOUPLE STANDARDS			
	STANDARD	+ LEAD (MAGNETIC)	- LEAD
INTERNATIONAL	IEC 584-3	Black	White
	ASTM E230	White	Red
	BS 1843	Yellow	Blue
	DIN 43710	Red	Blue
	JIS C 1610-1981	Red	White
	NFC 42-324	Yellow	Black

Q: If there are different thermocouple color code sets (example: IEC 584-3 or ASTM E230) that might be delivered on a replacement heater, how do I distinguish the thermocouple leads from the power leads?

A: The power leads will be a different color from the two thermocouple leads, or, will have an identifying mark, strip or heat shrink. Please note that if the power leads were identified by an identifying mark, strip

or heat shrink and the leads are cut, the identifying strip, mark or heat shrink will be removed. In such cases it is recommended to add marker tape to each power lead for ease of future maintenance.

Q: I would like some information on servicing or installing my Straight Shot or High Performance Straight Shot Hot Sprue Bushing Assembly. Where can I find that information?

A: The necessary information is located in the “Resources” section of the DME Website, under “Packing Slips”, and can be found [here](#).

Q: Older SCH heaters were easier to put on. What has changed and why?

A: New SCH heaters have a slightly tighter fit and are designed to maximize system performance over the life of the tool. DME is constantly improving product to meet or exceed customer needs.

Q: What kind of Straight Shot Hot Sprue Bushing is recommended for processing engineered grade materials?

A: Standard Straight Shots are to be used for commodity resin applications only. Only the High Performance Straight Shot Hot Sprue Bushing may be used with select engineered resin applications. If you are uncertain, please call us and ask to speak to a DME Hot Runner Technical Service Representative for recommendations as to what DME Hot Runner product is most appropriate for your intended molding application.

Q: I would like to gate into a dimple. Can this be done?

A: It may be possible depending on intended application. Please contact your DME Customer Service Representative for assistance. Examples of permissible modifications are given in the DME Catalog.

Q: I am retrofitting a mold with a Straight Shot bushing assembly, and I need a different body length than what is offered as standard. Can I have a special bushing length made by DME?

A: It is recommended against using bushing lengths that differ from standard offering as the nozzle and/or bushing heaters have been developed over many years, and special orders could increase both product price and delivery time required. It is recommended to use the next longer length (if available) and use a spacer plate behind the A-plate to make up the required difference. Please note that if a special nozzle length is required, it may not be possible to order a special nozzle length depending on the requirement. In such cases, please contact your DME Customer Service Representative for assistance.

Q: I would like to mold parts out of glass-filled PBT using a High Performance Straight Shot. Is this ok?

A: Some customers have had success processing both filled and/or engineered grade thermoplastics using the High Performance Straight Shot Hot Sprue Bushings. The success is largely based on the application. When intending to process engineered or filled thermoplastics through a DME single-drop bushing, it is recommended to use a heated-head Polimax Hot Sprue Bushing. Please contact your DME Customer Service Representative, and you will be put in touch with a Technical Service Representative who can help you select an appropriate product for your application.

Q: Does DME sell band heaters for the DME Straight Shot or High Performance Straight Shot?

A: DME does not sell any band heaters for the Straight Shot or High Performance Straight Shot.

Q: In the DME Hot Runner Catalog, I see a “typical application” drawing of a T-Series Straight Shot bushing, and there appears to be a key that holds the bushing in place. Is this key required, and where can I find details on it?

A: We do recommend that you “key” the bushing in place, however the size and shape of the key depends on your preferred mold design. The key slot would be added to the body core in the same manner as shown in the DME Catalog, and this key slot cannot be more than ¼ inches (6.35 mm) into the bushing body. It is recommended that the key be at least 1/8 of an inch thick, and be made from hardened tool steel.

Q: I plan to use a T-Series Straight Shot Hot Sprue bushing. Is it possible to have the bushing flush with the back of the mold such that it does not stick out of the back of the mold?

A: Yes, it is possible, but you will need to modify the bushing. You would modify the parting-line side face of the larger outer diameter of the bushing, and machine back to ensure the back of the bushing body does not protrude past the locating ring. Please note that you cannot machine the front tip-end face of the bushing back, meaning that you will have a thicker stripper plate. Optionally you can use an ER-Series (Short Style) Straight Shot Bushing, machine back the parting line face of the larger outer diameter of the bushing as described above, and you will need to add the taper to the front of the bushing body to match with the internal taper of the replacement stripper bushing.

Please note:

1. Customers are required to machine the taper onto a T-series or TR-Series Straight Shot Hot Sprue Bushing body, in order to match with the internal taper of the replacement stripper bushing. The taper at the tip end of the T-Series Straight Shot Hot Sprue bushing is not delivered in a pre-machined format.
2. The S-Series, E-Series (long style), ER-Series (long style), T-Series and TR-Series Straight Shot Hot Sprue Bushings have a 0.31 inch diameter flow channel. The E-Series (short style) and the ER-Series (short style) Straight Shot Hot Sprue Bushings have a 0.25 inch diameter flow channel. Care must be taken when using a short-style E or ER-Series Straight Shot Hot Sprue bushing to replace a T or TR-Series Straight Shot Hot Sprue bushing, as the flow channel sizes are different.

Q: What angle does the heater rigid cable exit the back of the High Performance Straight Shot Hot Sprue Bushing assemblies?

A: The High Performance Straight Shot Hot Sprue Bushing assembly heater has a rigid cable exit that is oriented 5 degrees off the centerline or center axis of the bushing assembly. The other Straight Shot Hot Sprue Bushing assemblies have an option of either 5 degrees as described, or, 90 degrees off of the center axis. An example is shown in the DME Hot Runner Catalog for the regular Straight Shot Hot Sprue Bushing assemblies..

Please note: do not attempt to bend the rigid cable exit on either the Straight Shot or High Performance Straight Shot heaters.

Q: What material type is used for the High Performance Straight Shot Hot Sprue Bushing tips?

A: A wear-resistant material is used because of the higher processing temperatures and filled materials that may be used with the High Performance Straight Shot Hot Sprue Bushing.

For additional information regarding DME Straight Shot Hot Sprue Bushings, please refer to the DME Hot Runner Catalog. For other concerns regarding DME Straight Shot Hot Sprue Bushings, please contact us by visiting our website at <http://www.dme.net>, or contact your regional DME sales representative. In the USA or Canada only, please contact DME Customer Service by visiting our website at <http://www.dme.net>, or call 800-626-6653 (U.S.) or 800-387-6000 (Canada).