

DME GATE MATE (Bushing and Nozzle Assemblies) – FREQUENTLY ASKED QUESTIONS

Q: I notice some Polimax thermocouples (or heaters with integral 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 codes 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 a CIH heater that is “Slip on”, like an SCH heater. Is this available?

A: At this moment, CIH heaters are available only as “press-on”, which means the heaters need to be heated up prior to installing over the nozzle body. If attempting to remove a CIH heater from a nozzle body, the heater will need to be heated up with an external heat source. It is not recommended to use a torch as this method can apply too much localized heat to the nozzle body and reduce the product life. Instead, it is recommended to use an external band heater, clamped over the CIH heater that will be removed. The manufacture or type of band heater used is not critical, provided the band heater (or similar heater) can be easily installed over the CIH heater.

Q: I would like a CIH heater for the Jumbo or Medium Gate Mate/Gate Mate 4 series nozzles and bushings. Are these heaters available?

A: At this moment, CIH heaters are not available for Jumbo Gate Mate bushings, Medium Gate Mate bushings or Gate Mate 4 nozzles. CIH heaters are available for Mini Gate Mate nozzles and bushings only. For more details on what products are available, please refer to the DME Hot Runner catalog.

Q: I would like some information on servicing or installing my Gate Mate nozzle or 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](#). If you have a question that is not covered by the product packing slip/installation instruction, please contact your DME Customer Service Representative for assistance.

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: I would like to gate into a dimple. Can I modify a standard Gate Mate (Mini, Medium/Gate Mate 4, Jumbo) gate detail?

A: It may be possible depending on intended application. Please contact your DME Customer Service Representative for assistance.

Q: I have purchased a DME Gate Mate Nozzle or Bushing assembly and I would like to reduce the amount of heat drawn at nozzle body seal-off diameter. Where can I find instructions for this?

A: Do not relieve or modify the seal-off diameter on the Gate mate nozzle or bushing body.

Q: I am retrofitting a mold with a Gate Mate nozzle that requires a different body length than what is offered as standard. Can I have a special nozzle body length made by DME?

A: It is recommended against using nozzle lengths that differ from standard offering as the nozzle and/or bushing SCH and CIH 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 perform frequent color changes. What do I need with my bushing order?

A: Gate shell insulators are available for Jumbo Gate Mate Bushings, Medium Gate Mate Bushings, and Gate Mate 4 nozzles. Gate Shell insulators are not available for the Mini Gate Mate as the “gate well” (the space in the gate detail between the nozzle body and the cavity gate) is small. Gate Shell Insulators are not available at this time for Gate Mate Lite nozzle assemblies.

Q: I am interested in a Gate Mate nozzle assembly, but I want to process glass-filled thermoplastic. Can I do this?

A: It depends on the application, the bushing assembly, the tip or tip assembly used, and in some cases, on the heater assembly used.

Gate Mate Lite assemblies are not to be used for processing filled thermoplastics, and are not recommended to be used in thermoplastics that require greater than 480°F (249°C) melt processing temperature

For the Mini Gate Mate, Medium Gate Mate/Gate Mate 4, and Jumbo Gate Mate, it may be possible to process filled thermoplastic depending on the tip used as well as the application. In general, standard point tips, standard super-sharp tips (standard super-sharp tips are available for the Medium Gate Mate/Gate Mate 4 only), and standard through-hole tips (not available for the Mini Gate Mate), are not to be used to process filled thermoplastics and are not to be used for processing thermoplastics that require greater than 480°F (249°C) melt processing temperature.

Depending on the application, wear-resistant point tips, wear-resistant super sharp tips (only available for the Medium Gate Mate/Gate Mate 4), and wear-resistant through-hole tips (not available for the Mini Gate Mate), may be used with filled thermoplastics (not recommended for thermoplastics that have greater than 30% filler including glass, mineral, talc, other), and are not recommended to be used in applications requiring greater than 635°F (335°C) melt processing temperature.

Please note that even though wear-resistant tips may be used in select filled applications that do not exceed 635°F (335°C) melt processing temperature, only the Mini Gate Mate has a CIH heater option at this time. The Medium Gate Mate/Gate Mate 4 and Jumbo Gate Mate assemblies do not have a CIH heater option. In general it is not recommended to use the SCH coil heaters in applications that exceed 525°F (274°C) melt processing temperature. Some customers have had success using SCH heaters in applications that require greater melt processing temperatures that exceed 525°F (274°C), however this success largely depends on the molding application. If you are unfamiliar with using Gate Mate bushing assemblies for applications that require greater than 525°F (274°C) melt processing temperature, it is recommended that you consider using a Polimax Hot Sprue Bushing assembly with heated head. Similarly if you are building a multi-nozzle, thermally gated manifold system yourself and you expect to exceed 525°F (274°C) melt processing temperature, it is recommended that you consider using Stellar or Hot One nozzle assemblies depending on the part weight. If you have questions, please call your DME Customer Service Representative who will put you in contact with a DME Technical Service Representative to review your application.

In general, Gate Mate nozzles and bushings should be used to process commodity grade resins only. Only the Mini Gate Mate with CIH heater can be used to process engineered grade resins.

For additional information regarding DME Gate Mate products, please refer to the DME Hot Runner Catalog. For other concerns regarding DME Gate Mate products, 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).