Maximum Temperatures for Metcal SmartHeat® Soldering, Rework and Desoldering Tips & Cartridges

SmartHeat® Technology is unique in that it senses the specific thermal demand directly at the solder pad and delivers the precise quantity and flow of thermal energy during both flux activation and intermetallic bonding phases without any adjustment and calibration. SmartHeat® is radically different and provides users the only fully safe and thermally effective soldering lead free solution.

Conventional technology senses and responds to the tip temperature and not the thermal energy demand of the solder joint and users are required to calibrate their systems regularly. In today's lead-free environment, the conventional technology is thermally inefficient to produce good quality solder joints consistently and leaves process control in the hands of the individual operators.

Good quality joints are a result of precise quantity and flow of thermal energy and not tip temperature. Fixed temperature cartridges and tips offer users a fully safe and thermally effective solution to their lead-free soldering needs as well as complete process control. Furthermore, fixed temperature cartridges and tips can offer better tip life because they can operate at a lower temperature than conventional technology. Please speak to our representatives on proper tip selection for your soldering applications.

Based on historical practices, we acknowledged that some of our customers have specific maximum temperature criteria to meet when choosing a tip/cartridge for an application. The table below provides the max tip temperature for our soldering cartridges/tips:

Heater Series	Tip/Cartridge Series	Max. Tip Temperature[1]
CV Power Supplies[2]		
500	CVC-5xxxxxx, SMC-5xxxxxx	575°F/302°C
600	CVC-6xxxxxx, SMC-6xxxxxx, PTC-6xxxxxx, DSC-6xxxxx, UFC-6xxxxxx, UTC-6xxxxxx	675°F/357°C
700	CVC-7xxxxxx, SMC-7xxxxxx, HCV-7xxxxxx, HTC-7xxxxxx, PTC-7xxxxxx, DSC-7xxxxx, UFC-7xxxxxx, UTC-7xxxxxx	775°F/413°C
800	CVC-8xxxxxx, SMC-8xxxxxx, HCV-8xxxxxx, HTC-8xxxxxx, PTC-8xxxxxx, DSC-8xxxxx	875°F/468°C
900	CVC-9xxxxxx, SMC-9xxxxxx, HCV-9xxxxxx, HTC-9xxxxxx, DSC-9xxxxx	925°F/496°C
MX Power Supplies		
500	STTC-5xxx, SMTC-5xxx	575°F/302°C
600	STTC-0xxx, SMTC-0xxx, UFTC-6xxxx, TATC-6xx, PTTC-6xx, SSC-6xx	675°F/357°C
700	STTC-1xxx, SMTC-1xxx, UFTC-7xxxx, TATC-7xx, PTTC-7xx, SSC-6xx	775°F/413°C
800	STTC-8xxx, SMTC-8xxx, PTTC-8xx	925°F/496°C
MFR and PS Power Supplies		
T	STP-xxxx, RTP-xxxx, TTP-xxxx, STV-xxxx, CTV-xxxx	690°F/366°C
F	SFP-xxxx, RFP-xxxx, TFP-xxxx, STV-xxxx, CTV-xxxx	790°F/421°C
C	SCP-xxxx, RCP-xxxx, TCP-xxxx, SCV-xxxx, CCV-xxxx	880°F/471°C
PS Power Supplies[3]		
650	PHT-65xxxx	690°F/366°C
750	PHT-75xxxx	790°F/421°C

1. Max. Tip Temperature is the maximum achievable temperature of the heater alloy. The measurable tip temperature of the tip will vary based on tip geometry and mass of the tip and will be lower than the max tip temperature.
2. Cartridges compatible with CV power supplies are backwards compatible with MX series of power supplies.
3. Compatible with; PS-800, PS-800E, and PS-900 Systems using the PS-CA1 Coil Assembly.

Visit us at www.metcal.com for more information.