

Imperial Heat Pipe Sizes

GENERAL

The Heat Pipe is the ideal way to cool cores. It ensures optimum molded component quality. It also maximizes productivity by minimizing both cycle times and tool down time resulting from blocked waterways. It simplifies tool design and construction thereby reducing costs. It is available in a wide range of standard sizes - see table 1. Non-standard sizes can also be readily supplied.

APPLICATION

Figure 1 shows a typical installation.

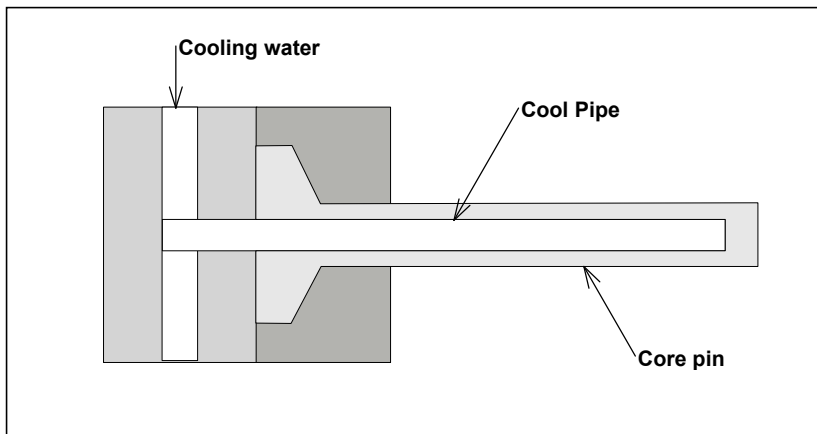
In general, the largest possible diameter Cool Pipe should be chosen that can be accommodated without unduly weakening the core. For best results, the core pins should be drilled oversized $+0.005''$ / $+0.010''$. Our Heat Transfer Compound should then be used during installation of the Cool Pipe to fill the radial gap and improve heat transfer.

We recommend that a minimum of 20% of the heated length should be in contact with the cooling water. Please note, however, that many applications using less than this recommended minimum have been successful.

Table 1.

Dia. ins.	Length, inches.																
	2	2-1/2	3	3-1/2	4	4-1/2	5	5-1/2	6	6-1/2	7	7-1/2	8	8-1/2	9	9-1/2	
3/32																	
1/8																	
3/16																	
7/32																	
1/4																	
5/16																	
3/8																	
7/16																	
1/2																	

Figure 1



TEMPERATURE RANGES

The standard range (STD) operates from $+40^{\circ}\text{F}$ to $+480^{\circ}\text{F}$ (Cool Pipe temperature) and is suitable for use with nearly all plastics.

The low temperature range (LT) operates between -40°F and $+260^{\circ}\text{F}$ (Cool Pipe temperature) and should only be used when cooling with chilled water below $+40^{\circ}\text{F}$.

MATERIALS

Both ranges are made from electroless nickel plated high conductivity copper to BS2871 C106 (ISO-CU-DHP). The standard range uses P1000 as its working fluid while the low temperature range uses P500L.

TOLERANCES

Diameter: $+0.000''/-0.005''$.
Length: $+0.00/-0.020''$

- 1) **CORE PREPARATION**
For best results, the core pin should be drilled oversize $+0.005''/+0.010''$. Thoroughly clean the I.D. of the core with a solvent to remove dirt and oils.
- 2) **COOL PIPE PREPARATION**
Carefully wipe with a clean, dry cloth.
- 3) **Thermal grease**
We recommend the use of thermal grease on the heat pipe before insertion.
- 4) **COOL PIPE INSERTION**
WARNING: The heat pipe is labelled at one end. This end contains the safety valve and **MUST** protrude from the core. Push the **NON** Labelled end of the Heat Pipe to the bottom of the hole and apply light pressure to force the paste up along the sides of the Heat Pipe. Do **NOT** try to remove the Heat Pipe from the core after insertion, as air pockets will form. If removal is necessary, re-install from scratch.

5) We recommend that a minimum of 20% of the heated length should be in contact with