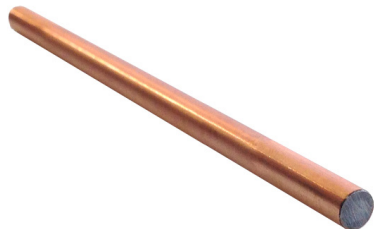


Cooling Pins - Standard

- High speed heat transfer device
- Uniform Cooling Improves Part Quality
- Maximizes heat transfer efficiency
- Designed to be installed with PCS' Heat Transfer Compound (Paste).
- Mating hole in core should be drilled .003" - .004" larger than actual O.D. of pin.



Cooling Pins are high speed heat transfer devices capable of conducting heat energy over 10,000 times faster than copper, thus cooling molds faster and reducing cycle time. Cooling Pins are used to heat or cool cores, slides and inserts in thermoset and thermoplastic molds. This isothermic device allows for optimal heat transfer rates within cores and slides.

SPECIFICATIONS

Material Type	Heat Pipe
Unit of Measure	Inch

CATALOG NO.	DIA.		OVERALL LENGTH													
	INCH	DEC.	1-1/2	2	2-1/2	3	3-1/2	4	4-1/2	5	5-1/2	6	6-1/2	7	10	12
AT7-	3/32	.094		•	•	•	•	•	•	•	•	•	•			
AT9-	1/8	.125	•	•	•	•	•	•	•	•	•	•				
AT11-	5/32	.156		•	•	•	•	•	•	•	•	•	•			
AT13-	3/16	.187		•	•	•	•	•	•	•	•	•	•			
AT15-	7/32	.219				•	•									
AT17-	1/4	.250		•	•	•	•	•	•	•	•	•			•	
AT21-	5/16	.312		•	•	•	•	•	•	•	•	•			•	
AT25-	3/8	.375		•	•	•	•	•	•	•	•	•			•	
AT33-	1/2	.500				•	•	•	•	•	•	•	•	•	•	
AT37-	5/8	.625				•	•	•	•	•	•	•	•		•	•

Add length to end of catalog number (i.e. AT7-2)

Cooling Pins - Heat Transfer Compound



- Used exclusively with Cooling Pins
- Maximizes heat transfer efficiency

Heat Transfer Compound must be used with both inch and metric cooling pins. The compound increases thermal conductivity by filling in the air gaps present between the cooling pin and any components.

SPECIFICATIONS

Material Type	Thermal Paste
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CATALOG NO.	VOLUME
ATP-1	5 GR.
ATP-4	4 OZ.
ATP-8	8 OZ.
ATP-16	16 OZ.

What is a Cooling Pin?

A cooling pin is a high speed heat transfer device capable of conducting heat energy over 10,000 times faster than copper. It is made of a copper tube or chamber whose inner surface is lined with a copper wick structure (see below). The copper tube is sealed and the air is evacuated, creating a vacuum. When heat is applied to one end of the cooling pin by an external source, the internal working fluid dissipates as vapor. The resulting difference in pressure drives the vapor from the heated end to colder areas where it condenses and releases all the heat energy with a high degree of thermal uniformity.

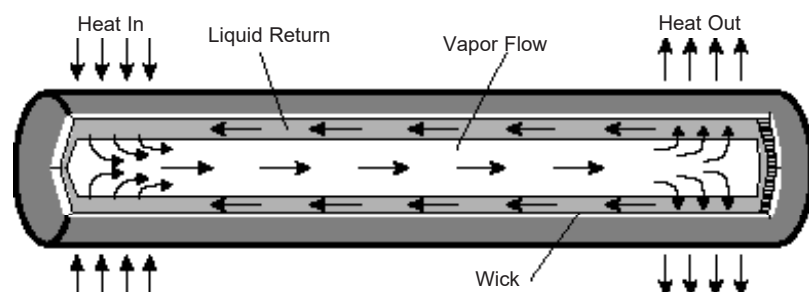
Applications

Cooling pins are used to heat or cool cores, slides, thin webs, and inserts in thermoset and thermoplastic molds. Because the cooling pin is an isothermal device, cores and slides in which they are incorporated are cooled more evenly than by cascades or baffles.

Installation

Cooling pins are designed to operate over the entire range of mold operating temperatures (33° F - 500° F). Use the information contained in the following chart for relevant hole dimensions.

Cooling pins are ideally applied when 50% of the overall length is cooled using a water manifold having a turbulent water flow. It is recognized that in many instances this condenser length is not appropriate but optimal results will occur as the 50% relationship is approached.



Conventional core cooling using a brass baffle.

NOMINAL O.D.	ACTUAL O.D.	PASTE SPEC HOLE DIA.
3/32	.093	.096
1/8	.124	.127
5/32	.154	.157
3/16	.186	.189
7/32	.216	.219
1/4	.249	.252
5/16	.311	.314
3/8	.374	.377
1/2	.499	.502
5/8	.624	.627
3/4	.748	.752

NOMINAL O.D.	ACTUAL O.D.	PASTE SPEC HOLE DIA.
3 mm	0.118	0.121
4 mm	0.156	0.159
5 mm	0.197	0.200
6 mm	0.235	0.238
8 mm	0.314	0.317
10 mm	0.390	0.394
12 mm	0.467	0.471
15 mm	0.585	0.589
16 mm	0.629	0.633
18 mm	0.704	0.708
20 mm	0.781	0.785
25 mm	0.978	0.982
30 mm	1.175	1.179