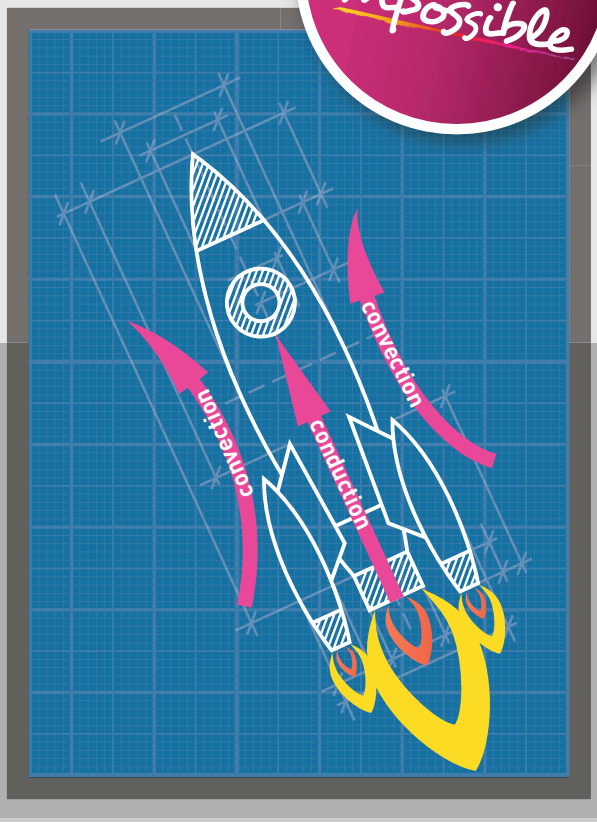
Intelligent Solutions for
Thermally Conductive Thermoplastics

Demand the Impossible

Why Thermally Conductive Thermoplastics?

- Electrically insulative or conductive options
- Special colors
- Design freedom
- Lightweight
- Cost advantage

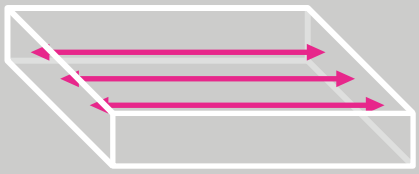


How to Replace Metal with Thermally Conductive Thermoplastics?

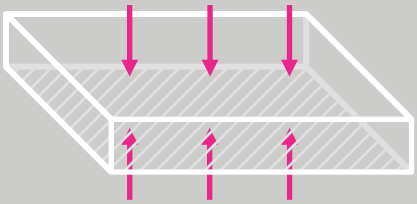
Although it is not the case in many applications, heat transfer speed is considered to be based solely on the thermal conductivity coefficient of the material. Heat transfer occurs in three different mechanisms as conduction, convection and radiation. In a heat sink application, conduction is the fastest, convection is the second and radiation is the slowest mechanism. Because radiation is the slowest, it is usually ignored. Furthermore as the conduction mechanism has the highest speed, convection creates a bottle neck for total heat transfer. Therefore to increase convection speed, part geometry plays a crucial role.

Thermal Conductivity Coefficients in Thermoplastics

In Plane Thermal Conductivity



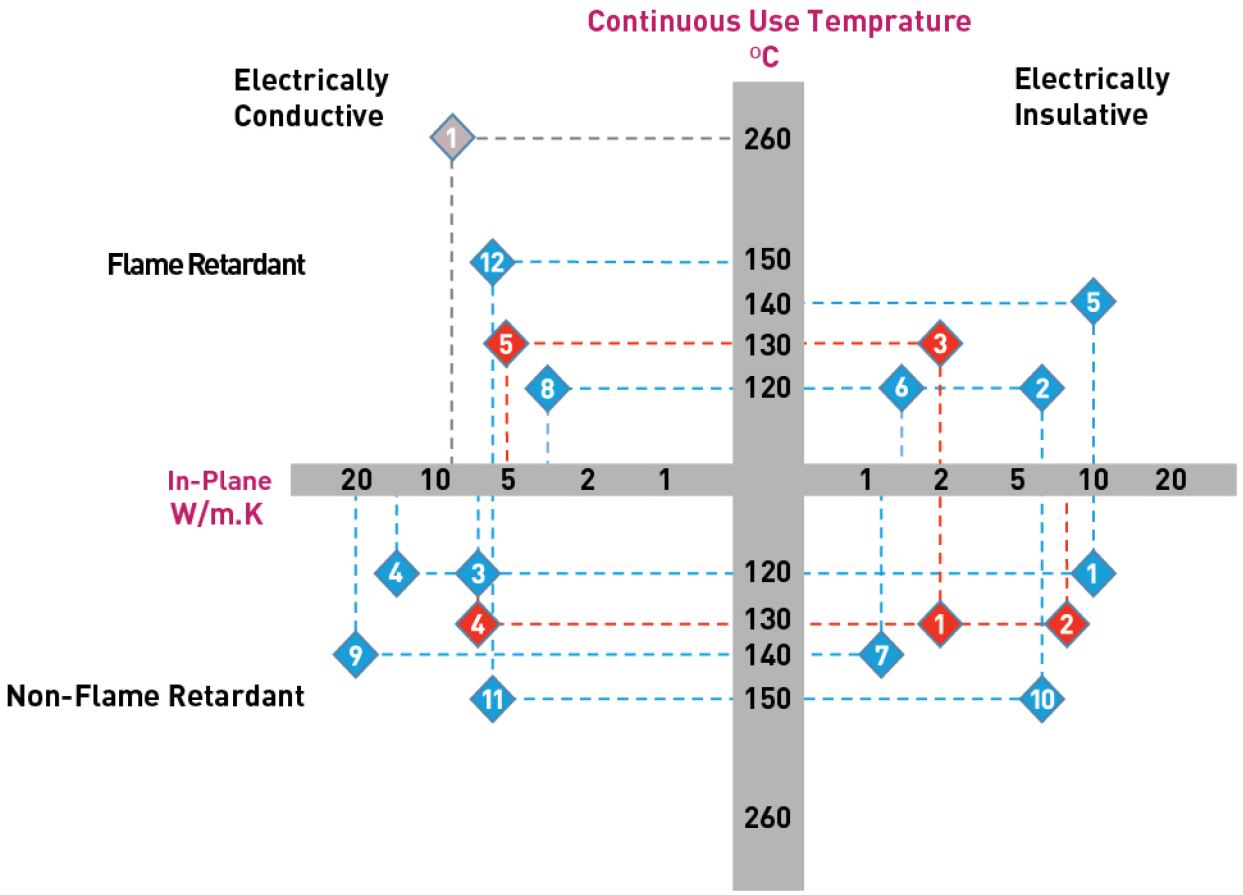
Through Plane Thermal Conductivity



Usually length to width ratio of heat sink fin is very high and heat transfer through the length of heat sink fin is primarily depends on the in plane thermal conductivity of the material. Therefore overall heat transfer mechanism along the fin mostly depends on the in plane thermal conductivity of the material.

Types of Thermally Conductive Thermoplastics

- **Electrically & Thermally Conductive**
  Static charge dissipation
- **Electrically Insulative & Thermally Conductive**
  Custom color options



Tecomid® PA / Tecomid® HT PPA

1- NB30 NL TC 2G
2- NB30 NL CZ70 2F
3- NB30 NL CZ70 2B
4- NA30 NL TC 2B
5- NA30 NL CZ70 2G
6- NB30 BK111 TC 1F
7- NB30 BK111 TC 1H
8- NB30 BK111 CZ70 1D
9- NA30 BK111 TC 1I
10- NT40 NL TC 2F
11- NT40 BK111 TC 1E
12- NT40 BK111 CZ60 1E

Tecotek® PC

1- PC60 NL TC 2C
2- PC60 NL TC 2F
3- PC60 NL CZ70 2C
4- PC60 BK111 TC 1F
5- PC60 BK111 CZ70 1D

Tecopeek® PEEK

1- PK40 BK111 TC 1F

How to Choose?

- Does application require electrical insulation?
- Is there any specific color requirement?
- What is the continuous working temperature?
- Does application require self-extinguishing properties?
- What is the working chemical, physical and environmental conditions?
- What are the mechanical properties needed from the material?

Daily Life | Extrusion | Conductive | Flame Retardant | Metal Replacement | Automotive | Thermal Conductive

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