



Alcom® TC Thermally Conductive Cool plastics

Alcom® Thermally Conductive combines high thermal conductivity with the lightness and design freedom of plastics. Especially in complex component assemblies, Alcom® TC opens new possibilities for optimal heat management.

One of the main reasons for the failure of electronic components is high temperature load. In order to prevent hot spots and failure, thermally conductive materials are necessary.

When compared to standard plastics, Alcom® TC offers a significantly improved thermal conductivity which consequently results in a longer service life and improved performance of components in the E&E or automotive industry.

Alcom® TC also offers design freedom for injection molding, enabling complex molded parts and versatile tooling possibilities. Furthermore, when comparing to conventional materials like metal, Alcom® TC offers a weight reduction and is not prone to corrosion. Another advantage is the enormous GWP saving potential due to the low energy consumption during production. To minimize wear on tools and machinery Alcom® TC only uses fillers that possess low abrasion characteristics.

The Alcom® TC product range includes interesting products for the electrical & electronics, automotive, and mechanical engineering sectors.

The Alcom® TC portfolio is divided into:

- Alcom® TCE: thermally and electrically conductive
- Alcom® TCD: thermally conductive and electrically insulating

Besides the electrical conductivity both grades mainly differ in their thermal conductivity: Alcom® TCE products reaches higher thermal conductivities compared to Alcom® TCD.

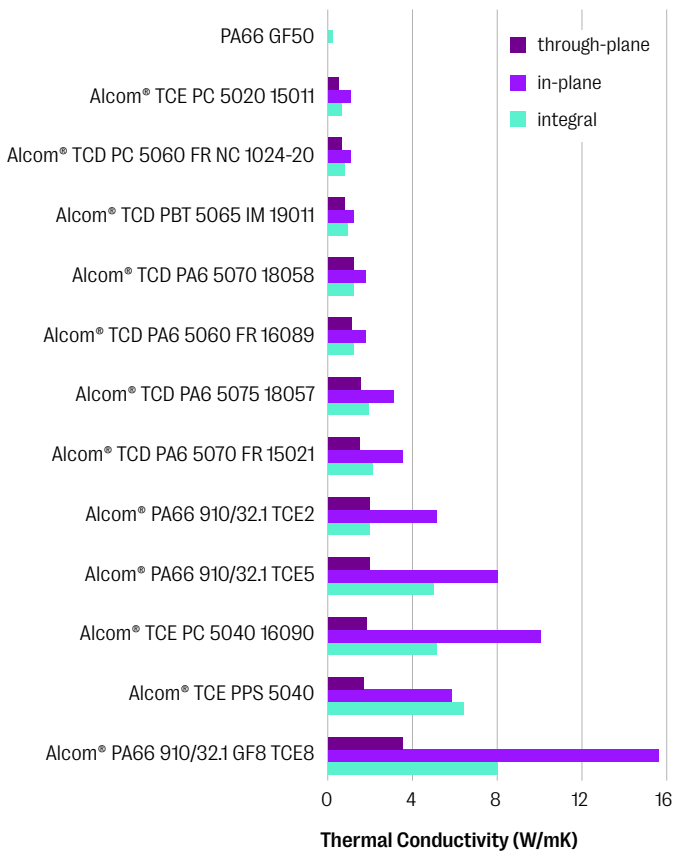
We would be pleased in helping you to find a solution to meet your specific needs and develop customer specific products that will reach your requirements.

Alcom® Thermally Conductive: the advantages at a glance

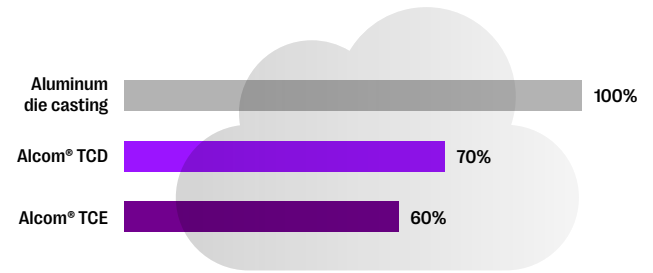
- Efficient heat dissipation
- Prevention of thermal hot spots
- Design freedom
- Protection of sensitive components
- Light weight
- No corrosion
- Low wear during processing
- Low GWP compared to metals

Function	Polymer	Material Name	Benefit	Thermal Conductivity		Flammability	Glow Wire
				Integral ISO 22007-2 (W/mK)	In-/through-plane ASTM E 1461 (W/mK)	0.75 / 1.5 / 3 mm	(°C)
TCE	PA66	Alcom® PA66 910/32.1 TCE2 BK1282-10	Low surface resistance allows for electrical discharge and conductivity	2.0	5.1 / 2.0	- / - / HB	850 (2 mm)
		Alcom® PA66 910/32.1 TCE5 BK1152-08		5.0	8.0 / 2.0	- / - / V-0	960 (1 mm)
		Alcom® PA66 910/32.1 GF8 TCE8 BK0002-00		8.0	15.5 / 3.5	- / - / V-0	960 (1 mm)
	PC	Alcom® TCE PC 5020 15011 BK0002-00	For profile extrusion	0.7	1.1 / 0.5	-	-
		Alcom® TCE PC 5040 16090 BK0002-00	Very low shrinkage	5.0	10.0 / 1.8	- / - / V-0	650 (2 mm)
PPS	Alcom® TCE PPS 5040 BK0002-00	For high thermal loads	5.0	5.9 / 1.75	- / V-0 / V-0	960 (2 mm)	
TCD FR	PA6	Alcom® TCD PA6 5060 FR 16089 WT1106-16	UL listed (Yellow Card)	1.2	1.8 / 1.1	V-2 / V-0 / V-0	960 (1 mm)
		Alcom® TCD PA6 5070 FR 15021 WT1036-15		2.1	3.6 / 1.5	V-0 / V-0 / V-0	960 (1 mm)
	PC	Alcom® TCD PC 5060 FR NC1024-20	Not UL listed	0.9	1.2 / 0.7	- / V-2 / -	960 (1 mm)
TCD	PA6	Alcom® TCD PA6 5070 18058 BK0003-00	Improved toughness and elongation at break	1.2	1.8 / 1.2	-	-
		Alcom® TCD PA6 5075 18057 BK0003-00		2.0	3.2 / 1.5	-	-
	PBT	Alcom® TCD PBT 5065 IM 19011 NC0001-00	High Impact Strength	1.0	- / -	-	-
TCD CFX	PA6	Alcom® TCD PA6 5060 17179 SV1185-17MC	Metallic effect "Cool Touch"	1.0	1.3 / 1.0	- / V-2 / -	960 (1 mm)

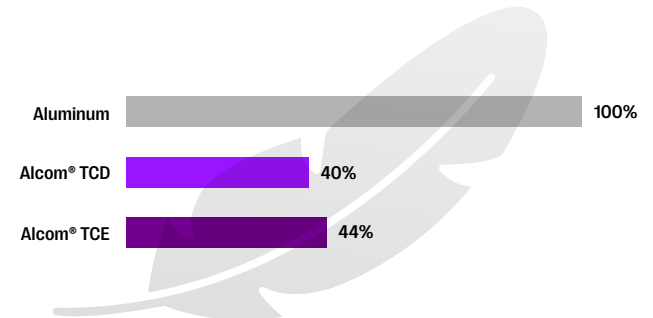
Thermal Conductivity of Alcom® TC



CO₂ reduction of Alcom® TC vs. aluminum die casting



Weight reduction of Alcom® TC vs. aluminum



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