

**Basic information about used plastic material for candle cups
 and
 security advices for handling with EG-Plastic products**

The plastic materials are a blend made of Polyethylenterephtalat (PET) and Polycarbonat (PC) = PET+PC and pure PC which are used for candle cups. PET and PC are polyester whereby PC is more transparent than PET because of its higher amorphous structure. PET offers better mechanical properties and it is self-extinguishing. They complement one another in a positive way inside the blend PET+PC.

Advantages of PET+PC blends against products made from pure PC

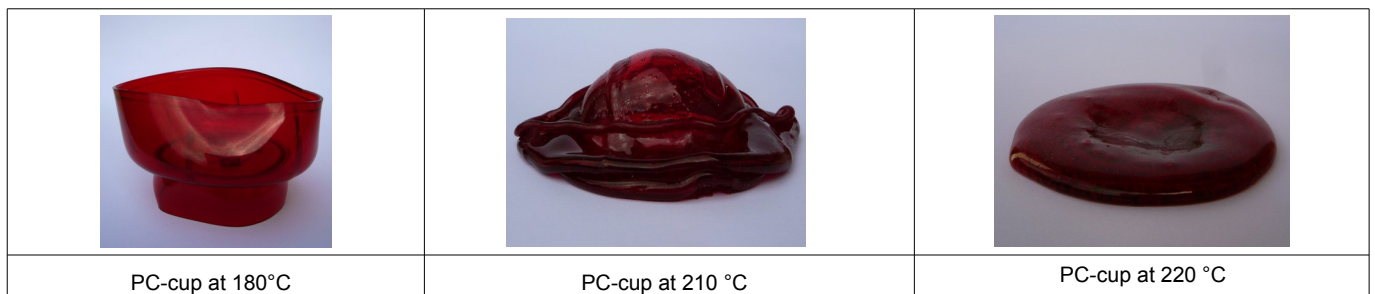
- No stress cracks when different paraffines, scented oils or colors are used.
- Higher heat resistance is possible to use for higher service temperatures.
- Higher ignition temperature against Polypropylen (PP) and Polyethylen (PE)
- PET+PC is self-extinguishing:
 Analysis of flammability after UL 94 V through SKZ Wuerzburg, Germany:
 The specimen are burning without any important smoke emission as long as they are flame treated.
 After flame treating the specimen go out single-self.

The usage of PET+PC blends for candle cups should always be choosed from the point of view of product saftey against pure PC.

General property description

PC is an amorphous (clear) plastic with a heat deflection temperature of ca. 160°C and a melt point of ca. 220°C. PET can have an amorphous (clear) as well as semi-crystalline (opacity) phase. When clear PET parts will be heated over 120°C PET crystallises and reinforces. This reinforcement exists until melt point of ca. 255°C. PC in the blend increases the strength of the melt at ca.100°C where pure PET will be soft.

You see pictures from cups made from pure PC heated up to 220°C and from PET+PC blend heated up to 250°C as general examples in an oven.





PET+PC-cup at 250 °C

You can see the opacity of the PET+PC cup clearly. It is a hint for the usage at high temperature. So you will be warned early enough to extinguish the flame. The crystallisation increases the heat resistance to keep molten wax longer safe inside the cup.

Security advices for handling with EG-Plastic products

Plastics are flammable in principle in spite of better material properties of PET+PC blends if you do not look after to safety standards strictly. You shall pay attention to the following security advices anyway:

- No open flame shall be put on plastics in principle.
- The wick has to be away from all cup sides equidistantly.
- Higher wick sustainers should be taken
- More plastic cups have to stand in sufficient distance from each other.
- Plastic cups shall stand on fire resistant and stable ground.
- Plastic cups have to stand sheltered.
- Look to the security advices of the respective candle producers.

Contact:

EG-Plastic GmbH
Dockweilerstr. 18
54552 Dreis-Brueck
Germany

fon: +49 (0)6595 929 90
fax: +49 (0)6595 92 99 18
email: info@eg-plastic.de
Internet: www.eg-plastic.de