

TECACOMP PE ID black 1054878 - Compounds

Chemical Designation

PE (Polyethylene)

Colour

black

Density

2.38 g/cm³

Fillers

detectable filler

Main features

- detectable via metal detector
- x-ray detectable
- Explanation of food contact according to FDA and EU 10/2011 on request
- low water absorption
- good chemical resistance

Target Industries

- food technology

| Mechanical properties | | <i>parameter</i> | <i>value</i> | <i>unit</i> | <i>norm</i> | <i>comment</i> |
|--------------------------------------|--|------------------|--------------|-------------------|--------------------|--|
| Tensile strength | | | 14 | MPa | DIN EN ISO 527-1 | |
| Modulus of elasticity (tensile test) | | | 900 | MPa | DIN EN ISO 527-1 | |
| Elongation at break (tensile test) | | | 12 | % | DIN EN ISO 527-1 | |
| Impact strength (Charpy) | | | 61 | kJ/m ² | DIN EN ISO 179-1eU | |
| Thermal properties | | <i>parameter</i> | <i>value</i> | <i>unit</i> | <i>norm</i> | <i>comment</i> |
| Glass transition temperature | | | -100 | °C | - | 1) (1) literature value |
| Melting temperature | | | 108 | °C | - | 2) (2) literature value |
| Service temperature | short term | | 90 | °C | - | 3) (3) literature value |
| Service temperature | long term | | 70 | °C | - | 4) (4) literature value |
| Other properties | | <i>parameter</i> | <i>value</i> | <i>unit</i> | <i>norm</i> | <i>comment</i> |
| Water absorption | 23 °C / 50 % relative humidity to saturation | | < 0,1 | % | DIN EN ISO 62 | (1) metal detectable (2) x-ray detectable |
| Molding shrinkage | in-plane | | 1,7 | % | DIN EN ISO 294-4 | |
| Molding shrinkage | through-plane | | 1,6 | % | DIN EN ISO 294-4 | |
| Detectability | 4 x 4 x 4 mm | | 4,5 | mm Al | - | 1) |
| Detectability | 4 x 4 x 4 mm | | > 8,0 | mm Al | - | 2) |
| Processing parameter | | <i>parameter</i> | <i>value</i> | <i>unit</i> | <i>norm</i> | <i>comment</i> |
| processing temperatures | | | 180 - 240 | °C | - | |
| Mould temperature | | | 20 - 60 | °C | - | |

→ This material can be processed as a thermoplastic taking the normal technical provisions into account. The above mentioned information refers exclusively to the injection moulding process.

→ Back pressure and injection rate should be adjusted to the component geometry accordingly. The optimum processing temperature depends upon the respective geometry of the moulded part and can be different from machine to machine.

| Predrying | <i>parameter</i> | <i>value</i> | <i>unit</i> | <i>norm</i> | <i>comment</i> |
|---------------------------------------|------------------|--------------|-------------|-------------|----------------|
| Permissible residual moisture content | | < 0,1 | % | - | |
| Drying temperature | | 80 | °C | - | |
| Drying time | | 2 - 3 | h | - | |

→ To achieve optimum mechanical properties, it is recommended to pre-dry the material with the above mentioned parameters.

→ Information on storage and shelf life: The granules must be stored in dry, normally tempered rooms and in closed containers. For moisture-sensitive materials, the granules must be sealed airtight. Protection against direct sunlight must be guaranteed. The granules are usually subject to the requirements of no shelf life limitation. Shelf Life may be limited by some additives.

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