

# TECHNICAL DATA SHEET



## periamyl<sup>®</sup> IMG105TSC

### Description

periamyl<sup>®</sup> is a thermoplastic natural material based on starch. It is biodegradable, home compostable, free of mineral oils and mineral oil-based additives, and water-soluble. In addition, it has been optimized for processing on unmodified injection molding machines. Its properties make it particularly suitable for packaging and other injection-molded articles where value is placed on CO<sub>2</sub> neutrality, absence of microplastics and biodegradability.

### Technical data

Mechanical Properties	Typical value	Test method
Tensile modulus (1 mm/min)	6100 MPa	ISO 527-1/2
Stress at break (10 mm/min)	45 MPa	ISO 527-1/2
Elongation at break (10 mm/min)	1.0%	ISO 527-1/2
Flexural modulus (2 mm/min)	5600 MPa	ISO 178
Charpy notched impact strength	1.0 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy impact strength	4.9 kJ/m <sup>2</sup>	ISO 179/1eU
Shore D hardness	80	ISO 868

  

Physical Properties	Typical value	Test method
Density	1,4 g/cm <sup>3</sup>	

  

Other Properties		Testmethode
Biogenic carbon	99 %	ASTM D 6866

### Operation instructions

Before processing, the granulate should be dried for approx. 2-4 h at 80 °C. For optimal processing, the residual moisture is less than 1%. If the material has more than 1% residual moisture, it may clump together in the machine intake. The processing temperature is between 190°C and 210°C (for very short periods up to 250 °C). The material should only be heated above 200°C for a short time.

A typical temperature profile on conventional injection molding machines:

Intake	Zone 1	Zone 2	Zone 3	Zone 4	Machine nozzle
45 °C	190 °C	195 °C	200 °C	200 °C	205 °C

periamyl<sup>®</sup> has a low shrinkage (usually less than 0.5 %), keep the holding pressure as low as possible. High injection pressure and the injection speed are often advantageous.

In hot channel systems temperatures of 220 °C are usually no problem.

The injection mold can be tempered with cold water or warm water up to 80 °C. Often 50 °C works best.

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The material is more sticky than standard plastics, especially on rough surfaces. For the first shots we would recommend using a release agent. It is important, that the release agent does not contain water because with water the material gets stickier.

### **Storage**

periamyl<sup>®</sup> should be stored dry, at temperatures below 50 °C and protected from strong UV light. Incorrect storage may have negative effects on mechanical and other properties of the product.