SenTherm
304-02 1

Polypthalamide

Product description

Unreinforced, Toughened, PPA, High Performance Polyamide
SenTherm 304-02 1 is a high-performance thermally conductive resin for injection moulding

Product applications

SenTherm 304-02 1 rival's metals in heat transfer, offering flexibility in complex parts with multiple features. The material can be utilised in automotive applications and high temperature applications up to 150°C. Furthermore, for highly conductive sheeting the material can be compression moulded for cooling sheets for heat exchangers and sinks

Product Information

Resin Identification	PA6T	ISO 1043

Rheological properties [1)]

Properties	Method	Unit	Typical Value
Mould shrinkage, Parallel [2)]	*ISO 294-4, 2577*	*%*	*0.4*
Mould shrinkage, Transversal [2)]	*ISO 294-4, 2577*	*%*	*0.5*

Characteristics [1)]

Properties	Method	Unit	Typical Value
Density	ISO 1183	Kg/m^3	*1400*
Melt Flow Rate	*ISO1133/T*	*g/10 min*	*2.5*
Thermal conductivity (Injection moulded)	ASTM D7984	W/mK	4.2
Thermal conductivity (Compression Moulded)	ASTM D7984	W/mK	7.5
Tensile Modulus	ISO 527	MPa	4200
Tensile Strength	ISO 527	MPa	57
Strain at Break	ISO 527	%	3.5

Italics are estimated

Date: 30/01/2025

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SENERGY

Characteristics [1)]

Properties	Method	Unit	Typical Value
Flexural Modulus	ISO 178	MPa	8.26
Charpy Impact (23°C)	*ISO 180/1A*	*Kj/m²*	*8*

Injection [1)]

Properties	Unit	Typical Value
Drying recommended		Yes
Drying temperature	°C	100-120
Drying time, Dehumidified oven	Hours	6-8
Process moisture content	%	0.1
Melt temperature	°C	330
Min melt temperature	°C	325
Max melt temperature	°C	340
Min mould temperature	°C	100
Max mould temperature	°C	130
Ejection temperature	°C	220

1) The information stated on technical data sheets should be used as indicative only for material selection and not utilised for specifications or part and tool design.

2) Measurements have been estimated from moulded laboratory parts, actual shrinkage may be outside these parameters. This is dependant on mould conditions and parameters. Our recommendation is using legacy tooling before cutting on a new moulding tool.

Disclaimer

Julia to take a look.

Notes for Senergy

- This is Zytel base resin
- Mould shrinkage is an estimate but probably quite close
- Density is a guess –
- MFR – made up.
- Conductivity measured at 2.5 W/mK
- Compression moulding conductivity avg is 4.2W/mk
- Tensile and flex properties measured by sandeep but an estimate
- Charpy impact, pure guess
- Injection properties – amassed from experience and from TUS on last set of test Q4 2024

Italics are estimated

Date: 30/01/2025