

## Product Texts

Zytel® PC310 NC010 is a lubricated polyamide 66 resin for injection molding. It has been developed for consideration into applications such as parts for the healthcare industry.

## PREMIUM CONTROL for HEALTHCARE APPLICATIONS

This product is manufactured according to Good Manufacturing Practice (GMP) principles and generally accepted in food contact applications in Europe and the USA when meeting applicable use conditions. This product is also tested against selected ISO 10993 parts including 10993-5 and -11 as well as USP class VI and US FDA drug and device master files (DMF and MAF) have been established. For details, individual compliance statements are available from our representative.

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Molding shrinkage, parallel	1.4 / *	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	1.4 / *	%	ISO 294-4, 2577
<sup>[C]</sup> Density of melt	970	kg/m <sup>3</sup>	-
<sup>[C]</sup> Thermal conductivity of melt	0.16	W/(m K)	-
<sup>[C]</sup> Spec. heat capacity of melt	2790	J/(kg K)	-
<sup>[C]</sup> Eff. thermal diffusivity	5E-8	m <sup>2</sup> /s	-
<sup>[C]</sup> Ejection temperature	190	°C	-

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	3100 / 1400	MPa	ISO 527
<sup>[C]</sup> Yield stress	82 / 55	MPa	ISO 527
<sup>[C]</sup> Yield strain	4.5 / 25	%	ISO 527
<sup>[C]</sup> Nominal strain at break	25 / >50	%	ISO 527
<sup>[C]</sup> Tensile creep modulus, 1h	* / 1400	MPa	ISO 899-1
<sup>[C]</sup> Tensile creep modulus, 1000h	* / 820	MPa	ISO 899-1
<sup>[C]</sup> Charpy impact strength, +23°C	N / N	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	400 / N	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	5.5 / 15	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	4.5 / 3	kJ/m <sup>2</sup>	ISO 179/1eA

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melting temperature, 10°C/min	262 / *	°C	ISO 11357-1/-3
<sup>[C]</sup> Glass transition temperature, 10°C/min	60 / *	°C	ISO 11357-1/-2
<sup>[C]</sup> Temp. of deflection under load, 1.80 MPa	70 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	200 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Vicat softening temperature, B	240 / *	°C	ISO 306
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	100 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, normal	110 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning Behav. at 1.5 mm nom. thickn.	V-2 / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	-
Yellow Card available	yes / *	-	-
<sup>[C]</sup> Burning Behav. at thickness h	V-2 / *	class	IEC 60695-11-10
Thickness tested	0.7 / *	mm	-
<sup>[C]</sup> Oxygen index	28 / *	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Relative permittivity, 100Hz	3.8 / 6	-	IEC 62631-2-1
<sup>[C]</sup> Relative permittivity, 1MHz	3.5 / 4	-	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 100Hz	80 / 2100	E-4	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 1MHz	180 / 750	E-4	IEC 62631-2-1
<sup>[C]</sup> Volume resistivity	1E12 / 1E10	Ohm*m	IEC 62631-3-1

[C] Surface resistivity	* / 1E12	Ohm	IEC 62631-3-2
[C] Electric strength	32 / 28	kV/mm	IEC 60243-1
[C] Comparative tracking index	600 / -	-	IEC 60112

[C]: CAMPUS

Other properties	dry / cond	Unit	Test Standard
[C] Water absorption	8.5 / *	%	Sim. to ISO 62
[C] Humidity absorption	2.6 / *	%	Sim. to ISO 62
[C] Density	1140 / -	kg/m <sup>3</sup>	ISO 1183

[C]: CAMPUS

Film Properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
[C] Strain at yield, parallel	4.5 / *	%	ISO 527-3

[C]: CAMPUS

Material specific properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
[C] Viscosity number	150 / *	cm <sup>3</sup> /g	ISO 307, 1157, 1628

[C]: CAMPUS

## Characteristics

### Processing

Injection Molding

### Delivery form

Pellets

### Additives

Lubricants, Release agent

### Certifications

Food contact, Food approval FDA 21 CFR, Medical Grade, Biocompatibility ISO 10993, US Pharmacopeia Class VI Approved, Drug Master File, Device Master File

### Applications

Medical

### Regional Availability

North America, Europe, Asia Pacific, South and Central America

## Other text information

### Injection molding

#### POSTPROCESSING

Annealing: 30min at 200°C