

Product Information

VESTOSINT® *Protect* 2159

Powder for coating systems, composites, electrostatic coatings

VESTOSINT *Protect* 2159 is a thermoplastic polyamide (PA) 12 fine powder. The use of this powder in coating systems allows for creating antimicrobial coating surfaces.

These coatings act against a variety of microorganisms (e.g., bacteria and fungi).

VESTOSINT *Protect* 2159 inhibits or checks the growth of these microorganisms and kills germs.

For more information we recommend our brochure VESTOSINT *Protect*.

For further information, please contact our experts in the department Market Development of the High Performance Polymers Business Line.

Powder Information

Property	Test method		Unit	VESTOSINT Protect 2159
	international	national		
App. bulk density	ISO 60	DIN EN ISO 60	g/dm ³	≥ 180
Average particle size	d50	Laser diffraction analysis (Sympatec Helos)	µm	approx. 10

Density, water absorption, thermal, mechanical and electrical properties

Property	Test method		Unit	VESTOSINT Protect 2159
	international	national		
Melting point	ISO 3146	DIN EN ISO 3146	°C	184
Density	23 °C ISO 1183	DIN EN ISO 1183	g/cm ³	1.016
Shore hardness D	ISO 868	DIN EN ISO 868		75
Ball indentation hardness	H30 ISO 2039-1	DIN EN ISO 2039-1	N/mm ²	90
Tensile test	ISO 527-1	DIN EN ISO 527-1		
Stress at yield	ISO 527-2	DIN EN ISO 527-2	MPa	43
Strain at yield			%	6
Strain at break			%	> 100
Volume resistivity	IEC 60093	DIN IEC 60093	Ω · m	10 ¹²
Dielectric breakdown voltag	IEC 60243-1	DIN EN 60243-1		
	K20/P50		kV/mm	90
Water absorption	ISO 62	DIN EN ISO 62		
	100 °C, immersion		%	1.9
Moisture absorption	ISO 62	DIN EN ISO 62		
	23 °C, 96 % r. h.		%	1.3
	23 °C, 50 % r. h.		%	0.5
Coef. of linear expansion	ISO 11359	DIN 53752		
	23 - 55 °C		10 ⁻⁴ · K ⁻¹	1.09
Thermal conductivity		Referring to DIN 52612	W/m · K	0.23 - 0.29
Specific heat		DIN 53765	J/g · K	2.35
Taber abraser	CS17, 500g ASTM D 1242	DIN 53754	mg/100 turns	< 1

Pigmentation may affect values.

® = registered trademark

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