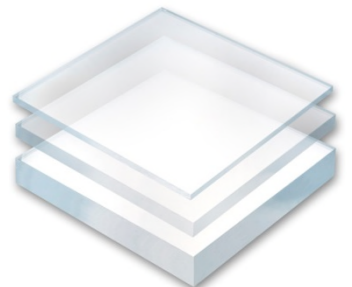
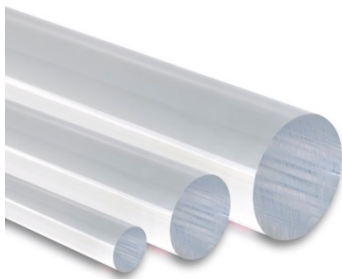
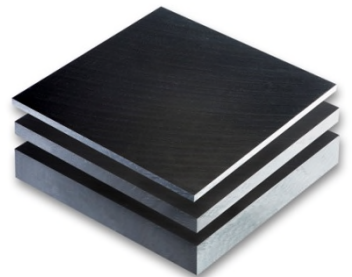
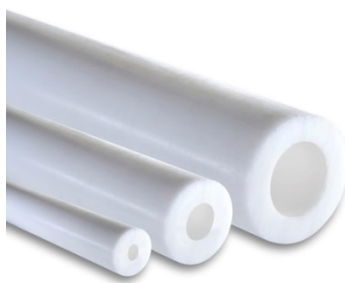
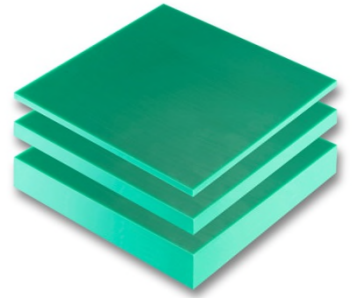




Semi-finished plastic products





Contents

Material data sheets for semi-finished plastic products

Polyamide

PA 6 ivory	Page 1 - 2
PA 6 black	Page 3 - 4
PA 6 C ivory	Page 5 - 6
PA 6 C black	Page 7 - 8
PA 6 GF30 black	Page 9 - 10
PA 66 ivory	Page 11 - 12
PA 66 black	Page 13 - 14
PA 66 GF30 black	Page 15 - 16

Polycarbonate

PC transparent	Page 17 - 18
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Polyetheretherketone

PEEK natural	Page 19 - 20
PEEK GF30 natural	Page 21 - 22
PEEK PVX black	Page 23 - 24
PEEK CF30 black	Page 25 - 26

Polyethylene terephthalate

PET white	Page 27 - 28
PET black	Page 29 - 30

Polyacetal (Copolymer)

POM-C natural	Page 31 - 32
POM-C GF25 natural	Page 33 - 34
POM-C black	Page 35 - 36
POM-C black ELS	Page 37 - 38

Polypropylene

PP natural	Page 39 - 40
------------	--------------

Polytetrafluorethylene

PTFE natural	Page 41 - 42
--------------	--------------

Polyvinylidene fluoride

PVDF natural	Page 43 - 44
--------------	--------------

Polyethylene

PE 500 green	Page 45 - 46
PE 500 natural	Page 47 - 48
PE 500 black	Page 49 - 50
PE 1000 green	Page 51 - 52
PE 1000 natural	Page 53 - 54
PE 1000 black	Page 55 - 56





Material data sheet PA 6 ivory

Chemical Designation: Polyamide 6
 DIN-abbreviation: PA 6
 Colour / Fillers: ivory opaque
 Density: 1,14 g/cm³

Data generated directly after machining
 (standard climate Germany).

Main features

- high toughness
- electrically insulating
- high strength
- good machinability
- resistant to many oils, greases and fuels
- good wear properties
- good weldable and bondable
- good slide and wear properties

Target Industries

- mechanical engineering
- aircraft and aerospace technology
- electronics
- food technology
- automotive industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	3300	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen. n. b. = not broken
Tensile strength	50 mm / min	79	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	78	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	4	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	130	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	100	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	2900	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	24/41/86	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	2700	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	n. b.	kJ/m ²	DIN EN ISO 179-1eU 5)	
Notched impact strength (Charpy)	max. 7,5 J	7	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	79		DIN EN ISO 868	





Material data sheet PA 6 ivory

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		45	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		221	°C	DIN EN ISO 11357	
Service temperature	short term	160	°C	2)	
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60 °C, long	12	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	13	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.6	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.37	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω	DIN IEC 60093 1)	1) Specimen in 20 mm thickness 2) Specimen in 1 mm thickness
volume resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω*cm	DIN IEC 60093	
Dielectric strength	23 °C, 50% r.h.	31	kV/mm	ISO 60243-1 2)	
Resistance to tracking (CTI)	Platin electrode, 23 °C, 50% r.h., solvent A	600	V	DIN EN 60112	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.3 / 0.6	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) – poor resistance 4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		-		- 3)	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 4)	

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Date: 2023/07/19





Material data sheet PA 6 black

Chemical Designation: Polyamide 6
 DIN-abbreviation: PA 6
 Colour / Fillers: black opaque / molybdenum disulfide
 Density: 1,14 g/cm³

Data generated directly after machining
(standard climate Germany).

Main features

- high toughness
- good wear properties
- high strength
- improved surface hardness
- resistant to many oils, greases and fuels
- good slide and wear properties

Target Industries

- mechanical engineering
- automotive industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	3300	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen. n. b. = not broken
Tensile strength	50 mm / min	84	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	82	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	5	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	37	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	110	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	3100	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	17/32/79	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	2900	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	n. b.	kJ/m ²	DIN EN ISO 179-1eU 5)	
Notched impact strength (Charpy)	max. 7,5 J	5	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	79		DIN EN ISO 868	





Material data sheet PA 6 black

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		51	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		220	°C	DIN EN ISO 11357	
Service temperature	short term	160	°C	2)	
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60 °C, long	8	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	8	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.6	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.37	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω	DIN IEC 60093 1)	1) Specimen in 20 mm thickness 2) Due to the black colourant and moisture uptake of the material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise 3) Specimen in 1 mm thickness
volume resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω*cm	DIN IEC 60093 2)	
Dielectric strength	23 °C, 50% r.h.	30	kV/mm	ISO 60243-1 3)	
Resistance to tracking (CTI)	Platin electrode, 23 °C, 50% r.h., solvent A	600	V	DIN EN 60112	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.3 / 0.6	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		(+)			
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 3)	

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Date: 2023/07/19





Material data sheet PA 6 C ivory

Chemical Designation: Cast polyamide 6
 DIN-abbreviation: PA 6 C
 Colour / Fillers: ivory opaque
 Density: 1,15 g/cm³

Data generated directly after machining
 (standard climate Germany).

Main features

- high toughness
- electrically insulating
- high strength
- good dumping
- resistant to many oils, greases and fuels
- good wear properties
- good slide and wear properties

Target Industries

- mechanical engineering
- heavy duty industry
- oil and gas industry
- food technology
- automotive industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	3500	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen. n. b. = not broken
Tensile strength	50 mm / min	83	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	80	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	4	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	40	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	109	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	3200	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	19/36/83	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	2900	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	n. b.	kJ/m ²	DIN EN ISO 179-1eU 5)	
Notched impact strength (Charpy)	max. 7,5 J	4	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	83		DIN EN ISO 868	





Material data sheet PA 6 C ivory

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		40	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		215	°C	DIN EN ISO 11357	
Service temperature	short term	170	°C	2)	
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60 °C, long	12	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	12	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.7	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.38	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁴	Ω	DIN IEC 60093	
volume resistivity		10 ¹⁴	Ω*cm	DIN IEC 60093	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.2 / 0.4	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) – poor resistance 4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		-		- 3)	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 4)	

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Date: 2023/07/19





Material data sheet PA 6 C black

Chemical Designation: Cast polyamide 6
 DIN-abbreviation: PA 6 C
 Colour / Fillers: black opaque / molybdenum disulfide
 Density: 1,15 g/cm³

Data generated directly after machining
(standard climate Germany).

Main features

- high toughness
- good wear properties
- high strength
- good damping
- resistant to many oils, greases and fuels
- good slide and wear properties

Target Industries

- mechanical engineering
- automotive industry
- heavy duty industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	3200	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen. n. b. = not broken
Tensile strength	50 mm / min	82	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	80	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	4	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	55	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	102	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	3000	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	22/38/85	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	2800	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	n. b.	kJ/m ²	DIN EN ISO 179-1eU 5)	
Notched impact strength (Charpy)	max. 7,5 J	4	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	83		DIN EN ISO 868	





Material data sheet PA 6 C black

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		43	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		217	°C	DIN EN ISO 11357	
Service temperature	short term	170	°C	2)	
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60 °C, long	11	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	11	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.6	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.33	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω	DIN IEC 60093	1) Due to the black colourant and moisture uptake of the material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise.
volume resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω*cm	DIN IEC 60093 1)	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.2 / 0.5	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		(+)			
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 3)	

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Date: 2023/07/19





Material data sheet PA 6 GF30 black

Chemical Designation: Polyamide 6
 DIN-abbreviation: PA 6
 Colour / Fillers: black opaque / glass fibres
 Density: 1,36 g/cm³

Data generated directly after machining
 (standard climate Germany).

Main features

- very high strength
- good wear properties
- high dimensional stability
- good machinability
- resistant to many oils, greases and fuels
- good weldable and bondable
- good heat deflection temperature

Target Industries

- mechanical engineering
- automotive industry
- electronics

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	5700	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen.
Tensile strength	50 mm / min	98	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	98	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	4	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	5	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	140	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	5200	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	21/42/107	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	4200	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	60	kJ/m ²	DIN EN ISO 179-1eU 5)	
Shore hardness	D	84		DIN EN ISO 868	





Material data sheet

PA 6 GF30 black

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		49	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		218	°C	DIN EN ISO 11357	
Service temperature	short term	180	°C	2)	
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60 °C, long	6	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	6	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.3	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.41	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω	DIN IEC 60093 1)	1) Specimen in 20 mm thickness 2) Due to the black colourant and moisture uptake of the material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise 3) Specimen in 1 mm thickness
volume resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω*cm	DIN IEC 60093 2)	
Dielectric strength	23 °C, 50% r.h.	32	kV/mm	ISO 60243-1 3)	
Resistance to tracking (CTI)	Platin electrode, 23 °C, 50% r.h., solvent A	550/475	V	DIN EN 60112	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.2 / 0.3	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		(+)			
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 3)	

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Date: 2023/07/19





Material data sheet PA 66 ivory

Chemical Designation: Polyamide 66
 DIN-abbreviation: PA 66
 Colour / Fillers: ivory opaque
 Density: 1,15 g/cm³

Data generated directly after machining
 (standard climate Germany).

Main features

- high toughness
- electrically insulating
- high strength
- good weldable and bondable
- resistant to many oils, greases and fuels
- good wear properties
- good slide and wear properties

Target Industries

- mechanical engineering
- aircraft and aerospace technology
- electronics
- food technology
- automotive industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	3500	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen. n. b. = not broken
Tensile strength	50 mm / min	85	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	84	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	7	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	70	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	110	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	3100	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	20/35/81	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	2700	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	n. b.	kJ/m ²	DIN EN ISO 179-1eU 5)	
Notched impact strength (Charpy)	max. 7,5 J	5	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	82		DIN EN ISO 868	





Material data sheet PA 66 ivory

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		47	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		258	°C	DIN EN ISO 11357	
Service temperature	short term	170	°C	2)	
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60 °C, long	11	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	12	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.5	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.36	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁴	Ω	DIN IEC 60093	
volume resistivity		10 ¹⁴	Ω*cm	DIN IEC 60093	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.2 / 0.4	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) – poor resistance 4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		-		- 3)	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 4)	

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Date: 2023/07/19





Material data sheet PA 66 black

Chemical Designation: Polyamide 66
 DIN-abbreviation: PA 66
 Colour / Fillers: black opaque / molybdenum disulfide
 Density: 1,15 g/cm³

Data generated directly after machining
 (standard climate Germany).

Main features

- high toughness
- good wear properties
- high strength
- high stiffness
- resistant to many oils, greases and fuels
- good slide and wear properties
- good weldable and bondable

Target Industries

- mechanical engineering
- automotive industry
- aircraft an aerospace technology
- electronics

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	3200	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen. n. b. = not broken
Tensile strength	50 mm / min	84	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	83	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	10	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	40	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	114	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	3100	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	20/38/86	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	2700	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	n. b.	kJ/m ²	DIN EN ISO 179-1eU 5)	
Notched impact strength (Charpy)	max. 7,5 J	5	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	81		DIN EN ISO 868	





Material data sheet PA 66 black

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		52	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		253	°C	DIN EN ISO 11357	
Service temperature	short term	170	°C		
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60 °C, long	10	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	10	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.5	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.36	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω	DIN IEC 60093 1)	1) Specimen in 20 mm thickness 2) Due to the black colourant and moisture uptake of the material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise 3) Specimen in 1 mm thickness
volume resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω*cm	DIN IEC 60093 2)	
Dielectric strength	23 °C, 50% r.h.	35	kV/mm	ISO 60243-1 3)	
Resistance to tracking (CTI)	Platin electrode, 23 °C, 50% r.h., solvent A	600	V	DIN EN 60112	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.2 / 0.4	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		(+)			
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 3)	

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Date: 2023/07/19





Material data sheet PA 66 GF30 black

Chemical Designation: Polyamide 66
 DIN-abbreviation: PA 66
 Colour / Fillers: black opaque / glass fibres
 Density: 1,34 g/cm³

Data generated directly after machining
(standard climate Germany).

Main features

- very high strength
- good wear properties
- high dimensional stability
- very high stiffness
- resistant to many oils, greases and fuels
- good weldable and bondable
- good heat deflection temperature

Target Industries

- mechanical engineering
- automotive industry
- aircraft and aerospace technology

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	5500	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen.
Tensile strength	50 mm / min	91	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	91	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	8	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	14	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	135	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	4700	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	25/46/104	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	4100	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	97	kJ/m ²	DIN EN ISO 179-1eU 5)	
Shore hardness	D	86		DIN EN ISO 868	





Material data sheet

PA 66 GF30 black

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		48	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		254	°C	DIN EN ISO 11357	
Service temperature	short term	180	°C	2)	
Service temperature	long term	110	°C		
Thermal expansion (CLTE)	23-60 °C, long	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.2	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.39	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω	DIN IEC 60093 1)	1) Specimen in 20 mm thickness 2) Due to the black colourant and moisture uptake of the material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise 3) Specimen in 1 mm thickness
volume resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω*cm	DIN IEC 60093 2)	
Dielectric strength	23 °C, 50% r.h.	35	kV/mm	ISO 60243-1 3)	
Resistance to tracking (CTI)	Platin electrode, 23 °C, 50% r.h., solvent A	550/475	V	DIN EN 60112	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.1 / 02	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		(+)			
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 3)	

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Date: 2023/07/19





Material data sheet PC transparent

Chemical Designation: Polycarbonate
 DIN-abbreviation: PC
 Colour / Fillers: white transparent
 Density: 1,19 g/cm³

Main features

- high toughness
- electrically insulating
- good machinability
- easy to polish
- good heat deflection temperature
- sensitive to stress cracking
- good weldable and bondable

Target Industries

- mechanical engineering
- electronics
- food technology
- automotive industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	2200	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen. n. b. = not broken 6) Specimen in 4 mm thickness
Tensile strength	50 mm / min	69	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	69	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	6	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	90	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	97	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	2300	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	16/29/64	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	2000	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	n. b.	kJ/m ²	DIN EN ISO 179-1eU 5)	
Notched impact strength (Charpy)	max. 7,5 J	14	kJ/m ²	DIN EN ISO 179-1eA	
Ball indentation hardness		128	MPa	ISO 2039-1 6)	





Material data sheet PC transparent

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		149	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) n.a. = not applicable 3) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		n.a.	°C	DIN EN ISO 11357 2)	
Service temperature	short term	140	°C	3)	
Service temperature	long term	120	°C		
Thermal expansion (CLTE)	23-60 °C, long	8	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	8	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.3	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.25	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁴	Ω	DIN IEC 60093	
volume resistivity		10 ¹⁴	Ω*cm	DIN IEC 60093	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.3 / 0.6	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) – poor resistance 3) (+) limited resistance
Resistance to hot water/bases		-		- 2)	
Resistance to weathering		(+)		- 3)	
Flammability (UL94)	Listed (value at 0,4 and 1,5 mm)	HB		DIN IEC 60695-11-10	

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Date: 2020/05/13





Material data sheet PEEK natural

Chemical Designation: Polyetheretherketone
 DIN-abbreviation: PEEK
 Colour / Fillers: beige opaque
 Density: 1,31 g/cm³

Main features

- high creep resistance
- inherent flame retardant
- very good chemical resistance
- good machinability
- good heat deflection temperature
- resistance against high energy radiation
- hydrolysis and superheated steam resistant
- good slide and wear properties

Target Industries

- chemical technology
- mechanical engineering
- aircraft and aerospace technology
- electronics
- food technology
- automotive industry
- vacuum technology
- semiconductor technology
- oil and gas industry
- energy industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	4200	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen. n. b. = not broken
Tensile strength	50 mm / min	116	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	116	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	5	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	15	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	175	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	4200	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	23/43/102	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	3400	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	n. b.	kJ/m ²	DIN EN ISO 179-1eU 5)	
Notched impact strength (Charpy)	max. 7,5 J	4	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	89		DIN EN ISO 868	





Material data sheet PEEK natural

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		150	°C	DIN 53765	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		341	°C	DIN 53765	
Heat distortion temperature	HDT, Method A	162	°C	ISO-R 75 Method A	
Service temperature	short term	300	°C		
Service temperature	long term	260	°C		
Thermal expansion (CLTE)	23-60 °C, long	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150 °C, long	7	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.1	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.27	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁵	Ω	DIN IEC 60093	1) Specimen in 20 mm thickness 2) Specimen in 1 mm thickness
volume resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁵	Ω*cm	DIN IEC 60093	
Dielectric strength	23 °C, 50% r.h.	73	kV/mm	ISO 60243-1	
Resistance to tracking (CTI)	Platin electrode, 23 °C, 50% r.h., solvent A	125	V	DIN EN 60112	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.2 / 0.3	%	DIN EN ISO 62	1) Ø ca. 50 mm, h = 13 mm 2) (+) good resistance 3) – poor resistance
Resistance to hot water/bases		(+)		-	
Resistance to weathering		-		-	
Flammability (UL94)	Listed (value at 1,5 mm)	VO		DIN IEC 60695-11-10	

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Date: 2023/07/19





Material data sheet PEEK GF30 natural

Chemical Designation: Polyetheretherketone
 DIN-abbreviation: PEEK
 Colour / Fillers: beige opaque / glass fibres
 Density: 1,53 g/cm³

Main features

- very high creep resistance
- inherent flame retardant
- good chemical resistance
- improved toughness
- very high stiffness
- resistance against high energy radiation
- hydrolysis and superheated steam resistant
- high dimensional stability

Target Industries

- chemical technology
- mechanical engineering
- aircraft and aerospace technology
- electronics
- automotive industry
- vacuum technology
- oil and gas industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	6300	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) Specimen 10 x 10 x 10 mm 3) For Charpy test: support span 64 mm, norm specimen.
Tensile strength	5 mm / min	113	MPa	DIN EN ISO 527-2	
Elongation at break	5 mm / min	5	%	DIN EN ISO 527-2	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	29/52/120	MPa	EN ISO 604 2)	
Impact strength (Charpy)	max. 7,5 J	52	kJ/m ²	DIN EN ISO 179-1eU 3)	
Shore hardness	D	90		DIN EN ISO 868	





Material data sheet PEEK GF30 natural

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		147	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		341	°C	DIN EN ISO 11357	
Service temperature	short term	300	°C	2)	
Service temperature	long term	260	°C		
Thermal expansion (CLTE)	23-60 °C, long	4	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	4	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150 °C, long	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.0	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.35	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁴	Ω	DIN IEC 60093	1) Specimen in 1 mm thickness
volume resistivity		10 ¹⁴	Ω*cm	DIN IEC 60093	
Dielectric strength	23 °C, 50% r.h.	36	kV/mm	ISO 60243-1 1)	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.2 / 0.3	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) good resistance 3) – poor resistance 4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		-		- 3)	
Flammability (UL94)	corresponding to	VO		DIN IEC 60695-11-10 4)	

→ PEEK products may be based on Victrex® PEEK or Solvay KetaSpire® polymer

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Date: 2023/07/19





Material data sheet PEEK PVX black

Chemical Designation: Polyetheretherketone
 DIN-abbreviation: PEEK
 Colour / Fillers: black opaque / carbon fibres, PTFE, graphite
 Density: 1,44 g/cm³

Main features

- high creep resistance
- inherent flame retardant
- very good chemical resistance
- good wear properties
- good heat deflection temperature
- good slide and wear properties
- hydrolysis and superheated steam resistant

Target Industries

- chemical technology
- mechanical engineering
- aircraft and aerospace technology
- automotive industry
- energy industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	5500	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen.
Tensile strength	50 mm / min	84	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	84	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	3	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	3	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	142	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	6000	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	22/43/102	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	4000	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	28	kJ/m ²	DIN EN ISO 179-1eU 5)	
Shore hardness	D	87		DIN EN ISO 868	





Material data sheet PEEK PVX black

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		146	°C	DIN EN ISO 11357	1)
Melting temperature		341	°C	DIN 53765	
Service temperature	short term	300	°C		2)
Service temperature	long term	260	°C		
Thermal expansion (CLTE)	23-60 °C, long	3	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	3	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150 °C, long	4	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.1	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.82	W/(K*m)	ISO 22007-4:2008	

1) Found in public sources.
2) Found in public sources. Individual testing regarding application conditions is mandatory.

electrical properties	parameter	value	unit	norm	comment
surface resistivity	Conductive rubber 23 °C, 12% r.h.	10 ⁴ -10 ¹¹	Ω	DIN EN 61340-2-3	1)
volume resistivity	Conductive rubber 23 °C, 12% r.h.	10 ⁷ -10 ¹²	Ω*cm	DIN EN 61340-2-3	

1) Specimen in 20 mm thickness

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.2 / 0.3	%	DIN EN ISO 62	1)
Resistance to hot water/bases		(+)		-	2)
Resistance to weathering		-		-	3)
Flammability (UL94)	corresponding to	VO		DIN IEC 60695-11-10	4)

1) Ø ca. 50 mm, h = 13 mm
2) (+) good resistance
3) – poor resistance
4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.

→ PEEK products may be based on Victrex® PEEK or Solvay KetaSpire® polymer

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Date: 2023/07/19





Material data sheet PEEK CF30 black

Chemical Designation: Polyetheretherketone
 DIN-abbreviation: PEEK
 Colour / Fillers: black opaque / carbon fibres
 Density: 1,38 g/cm³

Main features

- very high creep resistance
- inherent flame retardant
- good chemical resistance
- improved toughness
- very high stiffness
- resistance against high energy radiation
- hydrolysis and superheated steam resistant
- high dimensional stability

Target Industries

- chemical technology
- mechanical engineering
- aircraft and aerospace technology
- automotive industry
- vacuum technology
- oil and gas industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	6000	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm norm specimen. 3) For Charpy test: support span 64 mm, norm specimen.
Tensile strength	50 mm / min	112	MPa	DIN EN ISO 527-2	
Elongation at break	50 mm / min	10	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min 10N	184	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min 10N	6100	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	25/47/111	MPa	EN ISO 604 3)	
Impact strength (Charpy)	max. 7,5 J	92	kJ/m ²	DIN EN ISO 179-1eU 4)	
Shore hardness	D	87		DIN EN ISO 868	





Material data sheet PEEK CF30 black

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		147	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		341	°C	DIN EN ISO 11357	
Service temperature	short term	300	°C		
Service temperature	long term	260	°C		
Thermal expansion (CLTE)	23-60 °C, long	4	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	4	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150 °C, long	6	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.2	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.66	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ³ -10 ¹²	Ω	DIN EN 61340-2-3	
volume resistivity		10 ³ -10 ¹²	Ω*cm	DIN EN 61340-2-3	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.2 / 0.3	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) good resistance 3) – poor resistance 4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		-		- 3)	
Flammability (UL94)	corresponding to	VO		DIN IEC 60695-11-10 4)	

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Date: 2023/07/19





Material data sheet PET white

Chemical Designation: Polyethylene terephthalate
 DIN-abbreviation: PET
 Colour / Fillers: white opaque
 Density: 1,36 g/cm³

Data generated directly after machining
 (standard climate Germany).

Main features

- high toughness
- electrically insulating
- very high strength
- good weldable and bondable
- good chemical resistance
- easy to polish
- good slide and wear properties
- good machinability

Target Industries

- mechanical engineering
- energy industry
- electronics
- food technology
- automotive industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	3100	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen.
Tensile strength	50 mm / min	79	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	79	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	5	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	10	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	121	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	3200	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	19/35/83	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	2700	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	81	kJ/m ²	DIN EN ISO 179-1eU 5)	
Notched impact strength (Charpy)	max. 7,5 J	4	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	84		DIN EN ISO 868	





Material data sheet PET white

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		81	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		244	°C	DIN EN ISO 11357	
Service temperature	short term	170	°C	2)	
Service temperature	long term	110	°C		
Thermal expansion (CLTE)	23-60 °C, long	8	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	10	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.2	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.31	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁴	Ω	DIN IEC 60093	
volume resistivity		10 ¹⁴	Ω*cm	DIN IEC 60093	
Resistance to tracking (CTI)		600	V	DIN EN 60112	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.2 / 0.3	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) - poor resistance 3) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/bases		-		- 2)	
Resistance to weathering		-		-	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 3)	

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Date: 2023/07/19





Material data sheet PET black

Chemical Designation: Polyethylene terephthalate
 DIN-abbreviation: PET
 Colour / Fillers: black opaque
 Density: 1,39 g/cm³

Main features

- high toughness
- good chemical resistance
- very high strength
- easy to polish
- good weldable and bondable
- good slide and wear properties
- good machinability

Target Industries

- mechanical engineering
- automotive industry
- electronics
- food technology

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	3400	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen.
Tensile strength	50 mm / min	91	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	91	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	4	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	15	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	134	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	3400	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	19/36/86	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	2800	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	27	kJ/m ²	DIN EN ISO 179-1eU 5)	
Shore hardness	D	85		DIN EN ISO 868	





Material data sheet PET black

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		81	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		244	°C	DIN EN ISO 11357	
Service temperature	short term	170	°C		
Service temperature	long term	110	°C		
Thermal expansion (CLTE)	23-60 °C, long	8	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	10	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	

electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁴	Ω	DIN IEC 60093	1) Due to the black colourant and moisture uptake off he material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise.
volume resistivity		10 ¹⁴	Ω*cm	DIN IEC 60093 1)	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.2 / 0.3	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) - poor resistance 3) (+) limited resistance 4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/bases		-		- 2)	
Resistance to weathering		(+)			
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 4)	

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Date: 2023/07/19





Material data sheet POM-C natural

Chemical Designation:	Polyacetal (Copolymer)
DIN-abbreviation:	POM-C
Colour / Fillers:	white opaque
Density:	1,41 g/cm ³

Data generated directly after machining
(standard climate Germany).

Main features

- high toughness
- stiff
- high strength
- good machinability
- resistant to cleaning agents
- difficult to bond
- very good electrical insulation
- good slide and wear properties

Target Industries

- mechanical engineering
- aircraft and aerospace technology
- electronics
- food technology
- automotive industry
- oil and gas industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	2800	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen. n. b. = not broken
Tensile strength	50 mm / min	67	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	67	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	9	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	32	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	91	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	2600	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	20/35/68	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	2300	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	n. b.	kJ/m ²	DIN EN ISO 179-1eU 5)	
Notched impact strength (Charpy)	max. 7,5 J	8	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	82		DIN EN ISO 868	





Material data sheet POM-C natural

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		-60	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		166	°C	DIN EN ISO 11357	
Service temperature	short term	140	°C		
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60 °C, long	13	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	14	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.4	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.39	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω	DIN IEC 60093 1)	1) Specimen in 20 mm thickness 2) Specimen in 1 mm thickness
volume resistivity	Silver electrode, 23 °C, 12% r.h.	10 ¹⁴	Ω*cm	DIN IEC 60093	
Dielectric strength	23 °C, 50% r.h.	49	kV/mm	ISO 60243-1 2)	
Resistance to tracking (CTI)	Platin electrode, 23 °C, 50% r.h., solvent A	600	V	DIN EN 60112	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.05 / 0.1	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) – poor resistance 4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		-		- 3)	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 4)	

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Date: 2023/07/19





Material data sheet POM-C GF25 natural

Chemical Designation: Polyacetal (Copolymer)
 DIN-abbreviation: POM-C
 Colour / Fillers: white opaque / glass fibres
 Density: 1,53 g/cm³

Main features

- very high stiffness
- difficult to bond
- good chemical resistance
- good wear properties
- electrically insulating
- high strength

Target Industries

- mechanical engineering
- electronics
- automotive industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	4200	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm Modulus range between 0,5 and 1 % compression. 5) For Charpy test: support span 64 mm, norm specimen. 6) Specimen in 4 mm thickness
Tensile strength	50 mm / min	51	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	51	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	9	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	12	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	88	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	4100	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	23/39/74	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	3600	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	36	kJ/m ²	DIN EN ISO 179-1eU 5)	
Ball indentation hardness		180	MPa	ISO 2039-1 6)	





Material data sheet POM-C GF25 natural

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		-60	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		170	°C	DIN EN ISO 11357	
Service temperature	short term	140	°C	2)	
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60 °C, long	8	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	8	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.2	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.47	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁴	Ω	DIN IEC 60093	
volume resistivity		10 ¹⁴	Ω*cm	DIN IEC 60093	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.7 / 0.2	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) – poor resistance 4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		-		- 3)	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 4)	

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Date: 2018/02/20





Material data sheet POM-C black

Chemical Designation: Polyacetal (Copolymer)
 DIN-abbreviation: POM-C
 Colour / Fillers: black opaque
 Density: 1,41 g/cm³

Main features

- high stiffness
- difficult to bond
- good chemical resistance
- good slide and wear properties
- high toughness
- high strength
- good machinability

Target Industries

- mechanical engineering
- aircraft and aerospace technology
- automotive industry
- food technology
- oil and gas industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	2800	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm modulus range between 0,5 and 1 % compression. 5) For Charpy test: support span 64 mm, norm specimen.
Tensile strength	50 mm / min	67	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	67	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	9	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	32	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	91	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	2600	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	20/35/68	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	2300	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	150	kJ/m ²	DIN EN ISO 179-1eU 5)	
Notched impact strength (Charpy)	max. 7,5 J	6	kJ/m ²	DIN EN ISO 179-1eA	
Shore hardness	D	82		DIN EN ISO 868	





Material data sheet POM-C black

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		-60	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		166	°C	DIN EN ISO 11357	
Service temperature	short term	140	°C	2)	
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60 °C, long	13	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	14	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.4	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.39	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity	Silver electrode, 23 °C, 12 % r.h.	10 ¹⁴	Ω	DIN IEC 60093 1)	1) Specimen in 20 mm thickness 2) Due to the black colourant and moisture uptake of the material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise 3) Specimen in 1 mm thickness
volume resistivity	Silver electrode, 23 °C, 12 % r.h.	10 ¹⁴	Ω*cm	DIN IEC 60093 2)	
Dielectric strength	23 °C, 50 % r.h.	38	kV/mm	ISO 60243-1 3)	
Resistance to tracking (CTI)	Platin electrode, 23 °C, 50 % r.h., solvent A	600	V	DIN EN 60112	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.05 / 0.1	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		(+)		-	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 3)	

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Date: 2023/07/19





Material data sheet POM-C black ELS

Chemical Designation: Polyacetal (Copolymer)
 DIN-abbreviation: POM-C
 Colour / Fillers: black opaque / conductive carbon black
 Density: 1,41 g/cm³

Main features

- electrically conductive
- difficult to bond
- good chemical resistance
- good wear properties
- high toughness
- high strength
- good machinability
- good UV and weather resistance

Target Industries

- mechanical engineering
- electronics
- automotive industry
- chemical technology

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	1800	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm modulus range between 0,5 and 1 % compression. 5) For Charpy test: support span 64 mm, norm specimen.
Tensile strength	50 mm / min	42	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	42	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	11	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	11	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	56	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	1500	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	16/25/45	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	1500	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	74	kJ/m ²	DIN EN ISO 179-1eU 5)	
Shore hardness	D	79		DIN EN ISO 868	





Material data sheet POM-C black ELS

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		-60	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		169	°C	DIN EN ISO 11357	
Service temperature	short term	140	°C	2)	
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60 °C, long	13	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	14	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.3	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.46	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity	Silver electrode, 23 °C, 12 % r.h.	10 ¹⁴	Ω	DIN IEC 60093 1)	1) Specimen in 20 mm thickness
volume resistivity	Silver electrode, 23 °C, 12 % r.h.	10 ¹⁴	Ω*cm	DIN IEC 60093 2)	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	0.05 / 0.2	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory
Resistance to hot water/bases		(+)		- 2)	
Resistance to weathering		(+)		-	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 3)	

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Date: 2023/7/2/19





Material data sheet

PP natural

Chemical Designation: Polypropylene
 DIN-abbreviation: PP
 Colour / Fillers: white opaque
 Density: 0,9 g/cm³

Main features

- excellent chemical resistance
- excellent stiffness
- heat stabilized
- very good weldable

Target Industries

- agricultural machinery
- chemical technology
- food engineering
- pharmaceutical industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)		1400	MPa	DIN EN ISO 527-1	1) n.b.= not broken
Tensile strength at yield		32	MPa	DIN EN ISO 527-1	
Elongation at yield		8	%	DIN EN ISO 527-1	
Impact strength (Charpy)		n. b.	kJ/m ²	DIN EN ISO 527-1 1)	
Ball indentation hardness		70	MPa	ISO 2039-1	
Shore hardness	Shore D	70		DIN EN ISO 868	

thermal properties	parameter	value	unit	norm	comment
Service temperature		+0 - +100	°C		1) Found in public sources. Individual testing regarding application conditions is mandatory.
Thermal expansion (CLTE)		12	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	





Material data sheet PP natural

electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁴	Ω	DIN IEC 60093	
Dielectric strength		58	kV/mm	ISO 60243-1	

other properties	parameter	value	unit	norm	comment
Flammability	corresponding to	B2		DIN 4102	1) 1) Corresponding means no listing The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.

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Date: 2017/11/23



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Material data sheet PTFE natural

Chemical Designation: Polytetrafluorethylene
 DIN-abbreviation: PTFE
 Colour / Fillers: white opaque
 Density: 2,15 g/cm³

Main features

- very good chemical resistance
- inherent flame retardant
- continuous service temperature up to 260 °C
- good UV and weather resistance
- very good electrical insulation
- very good slide and wear properties

Target Industries

- aircraft and aerospace technology
- chemical technology
- food technology
- cryogenic engineering
- mechanical engineering
- semiconductor technology

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Tensile strength		22	MPa	ASTM D 4894 1)	1) Tested on extruded and machined specimen 2) Tested on extruded an machined specimen
Elongation at break		220	%	ASTM D 4894 2)	
Compression strength	1 % strain	5	MPa	ASTM D 695	
Shore hardness	Shore D	55		ASTM D 2240	

thermal properties	parameter	value	unit	norm	comment
Glas transition temperature		-20	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Service temperature	short term	260	°C	- 2)	
Service temperature	Long term	260	°C	-	
Thermal expansion (CLTE)	23-100 °C, long.	13	10 ⁻⁵ K ⁻¹	ASTM D 696	
Thermal conductivity		12	10 ⁻⁵ K ⁻¹	ASTM C 177	





Material data sheet PTFE natural

electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁶	Ω	ASTM D 257	1) Without defects
volume resistivity		10 ¹⁷	Ω·cm	ASTM D 257	
Dielectric strength	In air, 0,125 mm thick	80	kV/mm	ASTM D 149	
Dielectric constant	50-109 Hz	2,1		ASTM D 150	

other properties	parameter	value	unit	norm	comment
Water absorption	23 °C	< 1.01	%	ASTM D 570	1) Corresponding means no listing at UL (yellow card).The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Flammability	corresponding to	V0		DIN IEC 60695-11-10	

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Date: 2020/05/13





Material data sheet PVDF natural

Chemical Designation: Polyvinylidene fluoride
 DIN-abbreviation: PVDF
 Colour / Fillers: white opaque
 Density: 1,78 g/cm³

Main features

- very good chemical resistance
- very good electrical insulation
- inherent flame retardant
- good slide and wear properties
- continuous service temperature up to 150 °C
- very good weldable
- very good UV and weather resistance

Target Industries

- mechanical engineering
- chemical technology
- electronics
- food technology
- energy industry

Characteristics

mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm / min	2200	MPa	DIN EN ISO 527-2 1)	1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen.
Tensile strength	50 mm / min	62	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50 mm / min	62	MPa	DIN EN ISO 527-2	
Elongation at yield	50 mm / min	8	%	DIN EN ISO 527-2	
Elongation at break	50 mm / min	17	%	DIN EN ISO 527-2	
Flexural strength	2 mm / min, 10 N	77	MPa	DIN EN ISO 178 2)	
Modulus of elasticity (flexural test)	2 mm / min, 10 N	2100	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5 mm / min, 10 N	16/28/59	MPa	EN ISO 604 3)	
Compression modulus	5 mm / min, 10 N	1900	MPa	EN ISO 604 4)	
Impact strength (Charpy)	max. 7,5 J	150	kJ/m ²	DIN EN ISO 179-1eU 5)	
Shore hardness	D	80		DIN EN ISO 868	





Material data sheet PVDF natural

thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		-40	°C	DIN EN ISO 11357 1)	1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		171	°C	DIN EN ISO 11357	
Service temperature	short term	150	°C	2)	
Service temperature	long term	150	°C		
Thermal expansion (CLTE)	23-60 °C, long	16	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100 °C, long	18	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
Specific heat		1.3	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.25	W/(K*m)	ISO 22007-4:2008	

electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹⁴	Ω	DIN IEC 60093	

other properties	parameter	value	unit	norm	comment
Water absorption	24 h / 96 h (23 °C)	<0.1 / <0.1	%	DIN EN ISO 62 1)	1) Ø ca. 50 mm, h = 13 mm 2) (+) good resistance 3) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/bases		+		- 2)	
Resistance to weathering		+)	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10 3)	

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Date: 2023/07/19





Material data sheet PE 500 green

PE 500 – is a high molecular low pressure polyethylene with a molecular weight of approx. 500.000 g/mol. (HMW-PE).

Colour: green / similar RAL 6024

Properties

- EU 1935/2004 - conform
- EU 10/2011 - conform
- FDA - conform



Target Industries

- Food industry

Characteristics and standard values

Properties Physical properties	Method	PE 500 - green	
		SI	US
Molecular-weight	k.a	~ 0.5 Mio. g/mol.	~ 0.5 Mio. g/mol.
Density	DINENISO 1183-1 (04/2013) ASTM D792	> 0.950 g/cm ³	> 59.306 lb/ft ³
Notched impact strength	DINENISO 11542-2 (01/2010)	> 15 kJ/m ²	> 7.1325 ft-lb/in ²
Abrasion-Index (Sand-Slurry)	DINENISO 15527 (05/2013)	360 – 440	360 – 440
Tensile strength at yield (1B - 50mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 26 N/mm ²	> 3770 psi
Elongation (Break / 1B – 50 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 350 %	> 350 %
Tensile-E-modulus (1B – 1 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 1100 N/mm ²	> 159500 psi
Static Friction	ASTM D 1894 (2011)	~ 0.15 - 0.22	~ 0.15 - 0.22
Dynamic Friction	ASTM D 1894 (2011)	~ 0.10 - 0.15	~ 0.10 - 0.15
Shore-D-Hardness, 3 sec. Value 6 mm plate	DINENISO 868 (10/2003)	65 – 67 D	65 – 67 D
Ball indentation hardness	DINENISO 2039	~ 50 N/mm ²	~ 7250 psi
Water absorption	DINENISO 62 (05/2008)	< 0.01 %	< 0.01 %





Werkstoffdatenblatt PE 500 green

Thermal properties	Method	PE 500 - green	
		SI	US
Melting Piont (DSC)	DINENISO 11357-1 (03/2010)	133 - 136 °C	271.4 – 276.8 °F
Thermal Conductivity	Wire method	~ 0.41 W/m*K	~ 2.46 (BTU-in)/hr-ft ² -°F
Max. operation temperature	Literature	80 °C	176 °F
Coefficient of thermal expansion (23 – 80°C)	ISO 11359	~ 0.00015 - 0.00020 mm/mm °C	~ 0.000083 - 0.000111 in/in °F

Electrical properties			
Volume resistivity	DINEN 62631-3-1 (01/2017)	> 1.0E+14 Ohm*cm	> 1.0E+14 Ohm*cm
Surface resistivity	DINEN 62631-3-2 (10/2016)	> 1.0E+13 Ohm	> 1.0E+13 Ohm
ATEX-Directive – TÜV approved!	ATEX-Directive	---	---
ESD-D	---	--- Ohm	--- Ohm

Burning properties			
Fire resistance (Self-classification)	DIN 4102	B2 Class	B2 Class
Fire resistance (Self-classification)	UL94	HB Class	HB Class

Physiological properties			
Food compliant		EU/FDA	EU/FDA

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2020/09/24





Material data sheet PE 500 natural

PE 500 natural – is a high molecular low pressure polyethylene with a molecular weight of approx. 500.000 g/mol. (HMW-PE).

Colour: natural

Properties

- EU 1935/2004 - conform
- EU 10/2011 - conform
- FDA – conform



Target Industries

- Food industry
- Chemical industry

Characteristics and standard values

Properties Physical properties	Method	PE 500 - natural	
		SI	US
Molecular-weight	k.a	~ 0.5 Mio. g/mol.	~ 0.5 Mio. g/mol.
Density	DINENISO 1183-1 (04/2013) ASTM D792	> 0.950 g/cm ³	> 59.306 lb/ft ³
Notched impact strength	DINENISO 11542-2 (01/2010)	> 25 kJ/m ²	> 11.8875 ft-lb/in ²
Abrasion-Index (Sand-Slurry)	DINENISO 15527 (05/2013)	360 – 440	360 – 440
Tensile strength at yield (1B - 50mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 26 N/mm ²	> 3770 psi
Elongation (Break / 1B – 50 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 350 %	> 350 %
Tensile-E-modulus (1B – 1 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 1100 N/mm ²	> 159500 psi
Static Friction	ASTM D 1894 (2011)	~ 0.15 - 0.20	~ 0.15 - 0.20
Dynamic Friction	ASTM D 1894 (2011)	~ 0.10 - 0.15	~ 0.10 - 0.15
Shore-D-Hardness, 3 sec. Value 6 mm plate	DINENISO 868 (10/2003)	65 – 67 D	65 – 67 D
Ball indentation hardness	DINENISO 2039	~ 50 N/mm ²	~ 7250 psi
Water absorption	DINENISO 62 (05/2008)	< 0.01 %	< 0.01 %





Werkstoffdatenblatt PE 500 natural

Thermal properties	Method	PE 500 - natural	
		SI	US
Melting Point (DSC)	DINENISO 11357-1 (03/2010)	133 - 136 °C	271.4 – 276.8 °F
Thermal Conductivity	Wire method	~ 0.41 W/m*K	~ 2.84253 (BTU-in)/hr-ft ² -°F
Max. operation temperature	Literature	80 °C	176 °F
Coefficient of thermal expansion (23 – 80°C)	ISO 11359	~ 0.00015 - 0.00020 mm/mm °C	~ 0.000083 - 0.000111 in/in °F

Electrical properties			
Volume resistivity	DINEN 62631-3-1 (01/2017)	> 1.0E+14 Ohm*cm	> 1.0E+14 Ohm*cm
Surface resistivity	DINEN 62631-3-2 (10/2016)	> 1.0E+13 Ohm	> 1.0E+13 Ohm
ATEX-Directive – TÜV approved!	ATEX-Directive	---	---
ESD-D	---	--- Ohm	--- Ohm

Burning properties			
Fire resistance (Self-classification)	DIN 4102	B2 Class	B2 Class
Fire resistance (Self-classification)	UL94	HB Class	HB Class

Physiological properties			
Food compliant		EU/FDA	EU/FDA

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2020/11/04





Material data sheet PE 500 black

PE 500 – is a high molecular low pressure polyethylene with a molecular weight of approx. 500.000 g/mol.

Colour: black

Characteristics and standard values

Properties Physical properties	Method	PE 500 - black	
		SI	US
Molecular-weight	k.a	~ 0.5 Mio. g/mol.	~ 0.5 Mio. g/mol.
Density	DINENISO 1183-1 (04/2013) ASTM D792	> 0.950 g/cm ³	> 59.306 lb/ft ³
Notched impact strength	DINENISO 11542-2 (01/2010)	> 15 kJ/m ²	> 7.1325 ft-lb/in ²
Abrasion-Index (Sand-Slurry)	DINENISO 15527 (05/2013)	360 – 440	360 – 440
Tensile strength at yield (1B - 50mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 26 N/mm ²	> 3770 psi
Elongation (Break / 1B – 50 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 250 %	> 250 %
Tensile-E-modulus (1B – 1 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 1100 N/mm ²	> 159500 psi
Static Friction	ASTM D 1894 (2011)	~ 0.15 - 0.22	~ 0.15 - 0.22
Dynamic Friction	ASTM D 1894 (2011)	~ 0.10 - 0.15	~ 0.10 - 0.15
Shore-D-Hardness, 3 sec. Value 6 mm plate	DINENISO 868 (10/2003)	65 – 67 D	65 – 67 D
Ball indentation hardness	DINENISO 2039	~ 50 N/mm ²	~ 7250 psi
Water absorption	DINENISO 62 (05/2008)	< 0.01 %	< 0.01 %





Werkstoffdatenblatt PE 500 natural

Thermal properties	Method	PE 500 - black	
		SI	US
Melting Point (DSC)	DINENISO 11357-1 (03/2010)	133 - 136 °C	271.4 – 276.8 °F
Thermal Conductivity	Wire method	~ 0.41 W/m*K	~ 2.84253 (BTU-in)/hr-ft ² -°F
Max. operation temperature	Literature	80 °C	176 °F
Coefficient of thermal expansion (23 – 80°C)	ISO 11359	~ 0.00015 - 0.00020 mm/mm °C	~ 0.000083 - 0.000111 in/in °F

Electrical properties			
Volume resistivity	DINEN 62631-3-1 (01/2017)	> 1.0E+14 Ohm*cm	> 1.0E+14 Ohm*cm
Surface resistivity	DINEN 62631-3-2 (10/2016)	> 1.0E+13 Ohm	> 1.0E+13 Ohm
ATEX-Directive – TÜV approved!	ATEX-Directive	---	---
ESD-D	---	--- Ohm	--- Ohm

Burning properties			
Fire resistance (Self-classification)	DIN 4102	B2 Class	B2 Class
Fire resistance (Self-classification)	UL94	HB Class	HB Class

Physiological properties			
Food compliant		EU/FDA	EU/FDA

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2020/09/24





Material data sheet PE 1000 green

PE 1000 – is an ultra high molecular low pressure polyethylene (UHMW-PE) with a molecular weight ~ 500.000 g/mol.

Colour: green / similar RAL 6024

Properties

- EU 1935/2004 – conform
- EU 10/2011 – conform
- FDA – conform
- extremely versatile
- good wear resistance
- very high notched impact strength
- very good sliding properties



Target Industries

- Food industry
- Mechanical industry
- Conveying industry
- Chemical industry

Characteristics and standard values

Properties Physical properties	Method	PE 1000 - green	
		SI	US
Molecular-weight	k.a	~ 0.5 Mio. g/mol.	~ 0.5 Mio. g/mol.
Density	DINENISO 1183-1 (04/2013) ASTM D792	> 0.930 g/cm ³	> 58.058 lb/ft ³
Notched impact strength	DINENISO 11542-2 (01/2010)	> 140 kJ/m ²	> 66.57 ft-lb/in ²
Abrasion-Index (Sand-Slurry)	DINENISO 15527 (05/2013)	100	100
Tensile strength at yield (1B - 50mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 18 N/mm ²	> 2610 psi
Elongation (Break / 1B – 50 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 350 %	> 350 %
Tensile-E-modulus (1B – 1 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 650 N/mm ²	> 94250 psi
Static Friction	ASTM D 1894 (2011)	~ 0.15 - 0.20	~ 0.15 - 0.20
Dynamic Friction	ASTM D 1894 (2011)	~ 0.10 - 0.15	~ 0.10 - 0.15
Shore-D-Hardness, 3 sec. Value 6 mm plate	DINENISO 868 (10/2003)	61 – 65 D	61 – 65 D
Ball indentation hardness	DINENISO 2039	~ 35 N/mm ²	~ 5075 psi
Water absorption	DINENISO 62 (05/2008)	< 0.01 %	< 0.01 %





Werkstoffdatenblatt PE 1000 green

Thermal properties	Method	PE 1000 - green	
		SI	US
Melting Point (DSC)	DINENISO 11357-1 (03/2010)	133 - 135 °C	271.4 – 275 °F
Thermal Conductivity	Wire method	~ 0.41 W/m*K	~ 2.84253 (BTU-in)/hr-ft ² -°F
Max. operation temperature	Literature	80 °C	176 °F
Coefficient of thermal expansion (23 – 80°C)	ISO 11359	~ 0.00015 - 0.00020 mm/mm °C	~ 0.000083 - 0.000111 in/in °F

Electrical properties			
Volume resistivity	DINEN 62631-3-1 (01/2017)	> 1.0E+14 Ohm*cm	> 1.0E+14 Ohm*cm
Surface resistivity	DINEN 62631-3-2 (10/2016)	> 1.0E+13 Ohm	> 1.0E+13 Ohm
ATEX-Directive – TÜV approved!	ATEX-Directive	---	---
ESD-D	---	--- Ohm	--- Ohm

Burning properties			
Fire resistance (Self-classification)	DIN 4102	B2 Class	B2 Class
Fire resistance (Self-classification)	UL94	HB Class	HB Class

Physiological properties			
Food compliant		EU/FDA	EU/FDA

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2020/09/24



Material data sheet PE 1000 natural

PE 1000 natural – is an ultra-high-molecular-low pressure polyethylene (UHMW-PE) with a molecular weight ~ 500.000 g/mol...

Colour: natural

Properties

- good wear resistance
- very high notched impact strength
- very good sliding properties
- extremely versatile
- EU 1935/2004 - conform
- EU 10/2011 - conform
- FDA – conform



Target Industries

- Mechanical industry
- Conveying industry
- Food industry
- Chemical industry

Characteristics and standard values

Properties Physical properties	Method	PE 1000 - natural	
		SI	US
Molecular-weight	k.a	~ 0.5 Mio. g/mol.	~ 0.5 Mio. g/mol.
Density	DINENISO 1183-1 (04/2013) ASTM D792	> 0.930 g/cm ³	> 58.058 lb/ft ³
Notched impact strength	DINENISO 11542-2 (01/2010)	> 170 kJ/m ²	> 80.835 ft-lb/in ²
Abrasion-Index (Sand-Slurry)	DINENISO 15527 (05/2013)	100	100
Tensile strength at yield (1B - 50mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 18 N/mm ²	> 2610 psi
Elongation (Break / 1B – 50 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 350 %	> 350 %
Tensile-E-modulus (1B – 1 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 650 N/mm ²	> 94250 psi
Static Friction	ASTM D 1894 (2011)	~ 0.15 - 0.20	~ 0.15 - 0.20
Dynamic Friction	ASTM D 1894 (2011)	~ 0.10 - 0.15	~ 0.10 - 0.15
Shore-D-Hardness, 3 sec. value 6 mm plate	DINENISO 868 (10/2003)	61 – 65 D	61 – 65 D
Ball indentation hardness	DINENISO 2039	~ 35 N/mm ²	~ 5075 psi
Water absorption	DINENISO 62 (05/2008)	< 0.01 %	< 0.01 %





Werkstoffdatenblatt PE 1000 natural

Thermal properties	Method	PE 1000 - natural	
		SI	US
Melting Point (DSC)	DINENISO 11357-1 (03/2010)	133 - 135 °C	271.4 – 275 °F
Thermal Conductivity	Wire method	~ 0.41 W/m*K	~ 2.84253 (BTU-in)/hr-ft ² -°F
Max. operation temperature	Literature	80 °C	176 °F
Coefficient of thermal expansion (23 – 80°C)	ISO 11359	~ 0.00015 - 0.00020 mm/mm °C	~ 0.000083 - 0.000111 in/in °F

Electrical properties			
Volume resistivity	DINEN 62631-3-1 (01/2017)	> 1.0E+14 Ohm*cm	> 1.0E+14 Ohm*cm
Surface resistivity	DINEN 62631-3-2 (10/2016)	> 1.0E+13 Ohm	> 1.0E+13 Ohm
ATEX-Directive – TÜV approved!	ATEX-Directive	---	---
ESD-D	---	--- Ohm	--- Ohm

Burning properties			
Fire resistance (Self-classification)	DIN 4102	B2 Class	B2 Class
Fire resistance (Self-classification)	UL94	HB Class	HB Class

Physiological properties			
Food compliant		EU/FDA	EU/FDA

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2020/09/24





Material data sheet PE 1000 black

PE 1000 black – is an ultra-high-molecular-low pressure polyethylene (UHMW-PE) with a molecular weight ~ 500.000 g/mol..

Colour: black / similar RAL9005

Properties

- good wear resistance
- very high notched impact strength
- very good sliding properties
- extremely versatile



Target Industries

- Mechanical engineering
- Conveying industry
- Food industry
- Chemical industry

Characteristics and standard values

Properties Physical properties	Method	PE 1000 - black	
		SI	US
Molecular-weight	k.a.	~ 0.5 Mio. g/mol.	~ 0.5 Mio. g/mol.
Density	DINENISO 1183-1 (04/2013) ASTM D792	> 0.930 g/cm ³	> 58.058 lb/ft ³
Notched impact strength	DINENISO 11542-2 (01/2010)	> 140 kJ/m ²	> 66.57 ft-lb/in ²
Abrasion-Index (Sand-Slurry)	DINENISO 15527 (05/2013)	100	100
Tensile strength at yield (1B - 50mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 18 N/mm ²	> 2610 psi
Elongation (Break / 1B – 50 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 350 %	> 350 %
Tensile-E-modulus (1B – 1 mm/Min.)	DINENISO 527-2 (06/2012) ASTM D 638 (2010)	> 650 N/mm ²	> 94250 psi
Static Friction	ASTM D 1894 (2011)	~ 0.15 - 0.20	~ 0.15 - 0.20
Dynamic Friction	ASTM D 1894 (2011)	~ 0.10 - 0.15	~ 0.10 - 0.15
Shore-D-Hardness, 3 sec. value 6 mm plate	DINENISO 868 (10/2003)	61 – 65 D	61 – 65 D
Ball indentation hardness	DINENISO 2039	~ 35 N/mm ²	~ 5075 psi
Water absorption	DINENISO 62 (05/2008)	< 0.01 %	< 0.01 %





Werkstoffdatenblatt PE 1000 black

Thermal properties	Method	PE 1000 - black	
		SI	US
Melting Piont (DSC)	DINENISO 11357-1 (03/2010)	133 - 135 °C	271.4 – 275 °F
Thermal Conductivity	Wire method	~ 0.41 W/m*K	~ 2.84253 (BTU-in)/hr-ft ² -°F
Max. operation temperature	Literature	~ 80 °C	176 °F
Coefficient of thermal expansion (23 – 80°C)	ISO 11359	~ 0.00015 - 0.00020 mm/mm °C	~ 0.000083 - 0.000111 in/in °F

Electrical properties			
Volume resistivity	DINEN 62631-3-1 (01/2017)	> 1.0E+14 Ohm*cm	> 1.0E+14 Ohm*cm
Surface resistivity	DINEN 62631-3-2 (10/2016)	> 1.0E+14 Ohm	> 1.0E+14 Ohm
ATEX-Directive – TÜV approved!	ATEX-Directive	---	---
ESD-D	---	--- Ohm	--- Ohm

Burning properties			
Fire resistance (Self-classification)	DIN 4102	B2 Class	B2 Class
Fire resistance (Self-classification)	UL94	HB Class	HB Class

Physiological properties			
Food compliant		EU/FDA	EU/FDA

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