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PEEK - ACETAL - NYLON - H.D.P.E. - POLYCARBONATE

IRELANDS LEADING STOCKHOLDER OF ENGINEERING PLASTICS

PRODUCT BROCHURE

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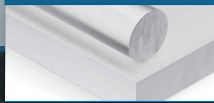
Acetal Delrin

Cast & Extruded Nylon

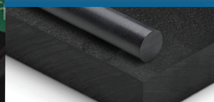


Polycarbonate

Polyester

PTFE

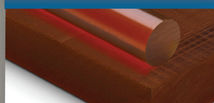
PVDF



PEEK

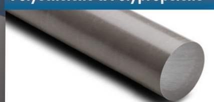
Polyimide

PPS

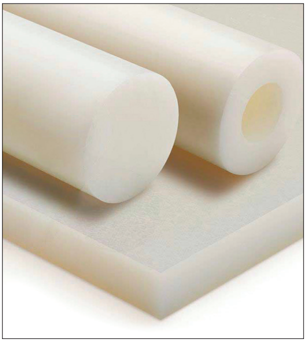


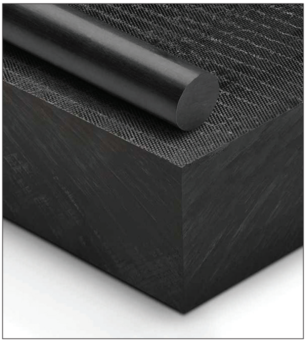
PEI

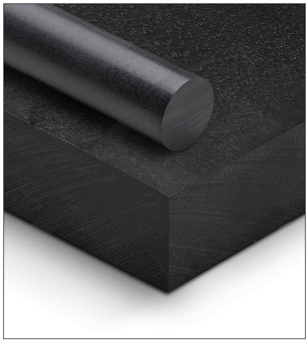
Polyethelene & Polypropelene



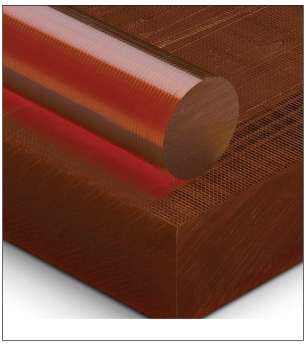
PVC









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PLASTICS COLOUR CODE CHART

PRODUCT	DESCRIPTION	COLOUR CODE
CAST NYLON 6	Very good mechanical, bearing & wear properties suitable for industrial wear application such as Bearings, Gears, Sprockets etc.	GREEN
EXTRUDED NYLON 66	Highest hardness and stiffness. Best abrasion, natural resistance and sliding properties of all the non-filled nylons. Suitable in Marine, Automotive, Construction & Mining industries.	RED
CO-POLYMER (POM) ACETAL	High mechanical strength & rigidity with low moisture absorption, excellent machinability. ***Up to 100mm in thickness available from stock. Other thicknesses are available on request.***	YELLOW
HOMO-POLYMER ACETAL	Good chemical resistance, high strength, excellent machinability, good slide and wear properties and easy to polish.	BLUE
PEEK	High Performance material with high temperature and chemical resistance. Excellent dimensional stability and high creep stability.	WHITE
PTFE (Teflon)	Good insulating properties, excellent insulating at high temperature applications.	BLACK
PVC	Good chemical resistance & fire rating, Easy to weld & glue. Applications include cladding, fluid handling, ventilation, pump & valve parts.	GREY
PE1000 (UHMWPE)	Good chemical & impact resistance. Good for wear & friction application. Applications such as hoppers, wear strips, marine, packaging & food processing machinery. ***PE1000 up to 50mm in thickness available from stock. Other thicknesses are available on request.***	BROWN

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Acetal Delrin Section

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Acetal Delrin POM-H – Black
(Tecaform AD – Black)

Chemical Designation
POM-H (Polyacetal (Homopolymer)

Colour
black opaque

Density
1.43g / cm^3

Main Features
- high strength
- difficult to bond
- not electrically insulating
- good slide and wear properties
- good machinability
- not hot water resistant over 60°
- good chemical resistance
- easy to polish

Colour Code: Black

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Shapes and Sizes

Rounds (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	85	90	95	100	

Plate (mm)

0.5	1	2	3	4	5	6	10	12	15
16	20	25	30	35	40	50	60	70	80
100									

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity	1mm/min	3600	MPa	DIN EN ISO 527-2	1)
(tensile test)					
Tensile strength	50mm/min	80	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	80	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	32	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	43	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	106	MPa	DIN EN ISO 178	2)
Modulus of elasticity	2mm/min, 10 N	3600	MPa	DIN EN ISO 178	
(flexural test)					
Compression strength	1% / 2%	22 / 38	MPa	EN ISO 604	3)
	5mm/min, 10 N				
Compression modulus	5mm/min, 10 N	2800	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m^2	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	14	kJ/m^2	DIN EN ISO 179-1eA	
Ball indentation hardness		185	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		-60	°C	DIN 53765	1)
Melting temperature		182	°C	DIN 53765	
Service temperature short term		150	°C		2)
Service temperature long term		110	°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		1,3	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0,43	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

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance	Silver electrode, 23°C,	10^{14}	Ω	DIN EN 61340-2-3	1)
	12% r.h.				
Specific volume resistance	Silver electrode, 23°C,	10^{14}	Ω*cm	DIN EN 61340-2-3	
	12% r.h.				
Dielectric strength	23°C, 50% r.h.	38	kV/mm	ISO 60243-1	2)
Resistance to tracking (CTI)	Platin electrode, 23°C,	600	V	DIN EN 60112	
	50% r.h., solvent A				

(1) Specimen in 20mm thickness
(2) Specimen in 1mm thickness

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.05 / 0.1	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		–	2)
Resistance to weathering		–			
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	3)

(1) Ø ca. 50mm, h=13mm
(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.

Acetal Delrin POM-H – Natural
(Tecaform AD – Natural)

Chemical Designation
POM-H (Polyacetal(Homopolymer))

Colour
white opaque

Density
1.43g / cm^3

Main Features

- high strength
- good slide and wear properties
- electrically insulating
- difficult to bond
- good chemical resistance
- good machinability
- easy to polish
- not hot water resistant over 60°C

Colour Code: White

Shapes and Sizes

Rounds (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	85	90	95	100	

Plate (mm)

0.5	1	2	3	4	5	6	10	12	15
16	20	25	30	35	40	50	60	70	80
100									

Mechanical Properties

Value	Unit	Parameter	Norm		
Modulus of elasticity (tensile test)	3400	MPa	1mm/min	DIN EN ISO 527-2	1)
Tensile strength	79	MPa	50mm/min	DIN EN ISO 527-2	
Tensile strength at yield	79	MPa	50mm/min	DIN EN ISO 527-2	2)
Elongation at yield	37	%	50mm/min	DIN EN ISO 527-2	
Elongation at break	45	%	50mm/min	DIN EN ISO 527-2	
Flexural strength	106	MPa	2mm/min, 10 N	DIN EN ISO 178	
Modulus of elasticity (flexural test)	3600	MPa	2mm/min, 10 N	DIN EN ISO 178	
Compression strength	19/33/69	MPa	1% / 2% / 5%	EN ISO 604	3)
Compression modulus	2700	MPa	5mm/min, 10 N	EN ISO 604	4)
Impact strength (Charpy)	n.b.	kJ/m^2	max. 7,5J	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	15	kJ/m^2	max. 7,5J	DIN EN ISO 179-1eA	
Ball indentation hardness	185	MPa		ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Value	Unit	Parameter	Norm	
Glass transition temperature	-60	C		DIN EN ISO 11357	1)
Melting temperature	182	C		DIN EN ISO 11357	
Service temperature	150	C	short term	NN	2)
Service temperature	110	C	long term	NN	
Thermal expansion (CLTE)	12	10-5*1/K	23-60°C, long.	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	13	10-5*1/K	23-100°C, long.	DIN EN ISO 11359-1;2	
Thermal conductivity	0.43	W/(k*m)		ISO 22007-4:2008	
Specific heat	1.3	J/(g*K)		ISO 22007-4:2008	

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

Electrical Properties

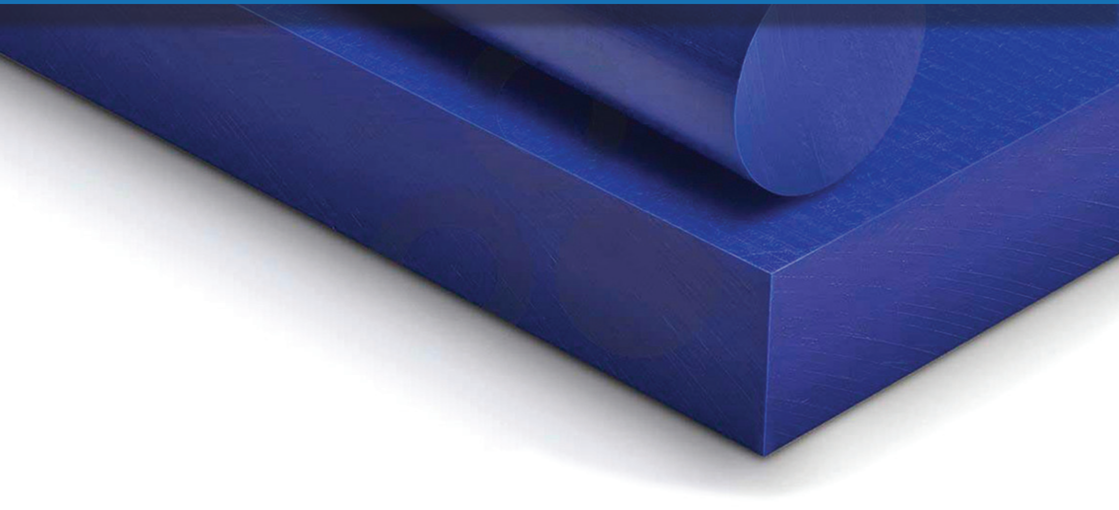
	Value	Unit	Parameter	Norm
surface resistivity	10^{14}	O		DIN IEC 60093

Other Properties

	Value	Unit	Parameter	Norm	
Water absorption	0.1	%	24h / 96h (23°C)	DIN EN ISO 62	1)
Resistance to hot water/ bases	–	–		–	2)
Resistance to weathering	–	–		NN	
Flammability (UL94)	HB	–	corresponding to	DIN IEC 60695-11-10;	3)

(1) Ø ca. 50mm, h=13mm
(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.

Acetal Inductive Detectable POM-C
(Tecaform AH ID – Blue)



Chemical Designation
POM-C (Polyacetal (Copolymer))

Colour
blue opaque

Density
1.49 g/cm^3

Fillers
detectable fillers

Main Features

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

Colour Code: Blue Opaque

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Shapes and Sizes

Rounds (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	85	90	95	100	

Plate (mm)

0.5	1	2	3	4	5	6	10	12	15
16	20	25	30	35	40	50	60	70	80
100									

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	3200	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	68	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	68	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	8	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	10	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	100	MPa	DIN EN ISO 178 2)	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	3100	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	17 / 31	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2400	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	59	kJ/m^2	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	4	kJ/m^2	DIN EN ISO 179-1eA	
Ball indentation hardness		174	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		-60	°C	DIN 53765	1)
Melting temperature		169	°C	DIN 53765	
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		0,39	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

Electrical Properties	Parameter	Value	Unit	Norm
Specific surface resistance		$> 10^{13}$	Ω	DIN IEC 60093

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.05 / 0.1	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

Acetal POM-C – Black
(Tecaform AH – Black)

Chemical Designation
POM-C (Polyacetal (Copolymer))

Colour
black opaque

Density
1.41 g/cm^3

Main Features

- high stiffness
- high strength
- high toughness
- good chemical resistance
- difficult to bond
- good slide and wear properties
- good machinability
- not electrically insulating

Colour Code: Black

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Shapes and Sizes

Rounds (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	85	90	95	100	

Plate (mm)

0.5	1	2	3	4	5	6	10	12	15
16	20	25	30	35	40	50	60	70	80
100									

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	2800	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	67	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	67	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	9	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	32	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	91	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2600	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	20 / 35	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2300	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	150	kJ/m^2	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	6	kJ/m^2	DIN EN ISO 179-1eA	
Ball indentation hardness		165	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		-60	°C	DIN 53765	1)
Melting temperature		166	°C	DIN 53765	
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	

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

Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm	
Surface resistivity	silver electrode 23°C, 12% r.h.	> 10^{14}	O	DIN IEC 60093	1)
Volume resistivity	silver electrode 23°C, 12% r.h.	> 10^{14}	O*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	

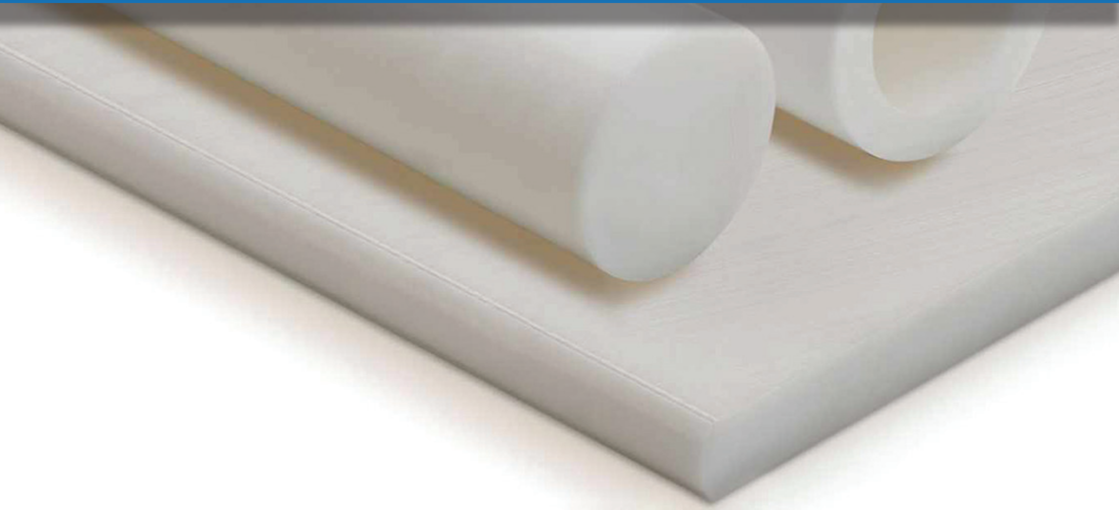
(1) Specimen in 20mm thickness
(2) Due to the black colourant and moisture uptake of the material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise.
(3) Specimen in 1mm thickness

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.05 / 0.1	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		–	2)
Resistance to weathering		–		–	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	3)

(1) Ø ca. 50mm, h=13mm
(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.

Acetal POM-C – Natural
(Tecaform AH – Natural)



Chemical Designation
POM-C (Polyacetal (Copolymer))

Colour
natural opaque

Density
1.41 g/cm^3

Main Features

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

Colour Code: Natural Opaque

Shapes and Sizes

Rounds (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	85	90	95	100	

Plate (mm)

0.5	1	2	3	4	5	6	10	12	15
16	20	25	30	35	40	50	60	70	80
100									

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	2800	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	67	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	67	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	9	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	32	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	91	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2600	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	20 / 35	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2300	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m^2	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	8	kJ/m^2	DIN EN ISO 179-1eA	
Ball indentation hardness		165	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		-60	°C	DIN 53765	1)
Melting temperature		166	°C	DIN 53765	
Service temperature	short term	140	°C		2)
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60°C, long.	13	10 K	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	14	10 K	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	

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

Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance	Silver electrode 23°C, 12% r.h.	10	Ω	DIN EN 61340-2-3	1)
Specific volume resistance	Silver electrode 23°C, 12% r.h.	10	Ω*cm	DIN EN 61340-2-3	
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	

(1) Specimen in 20mm thickness
(2) Specimen in 1mm thickness

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.05 / 0.1	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

Acetal POM-C Anti-Static
(Tecaform AH SD)

Chemical Designation
POM-C (Polyacetal (Copolymer))

Colour
natural opaque

Density
1.35 g/cm^3

Fillers
antistatic agent

Main Features

- antistatic
- soot-free
- high strength
- good wear properties
- good chemical resistance
- high stiffness
- difficult to bond
- high toughness

Colour Code: Natural Opaque

Shapes and Sizes

Rounds (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	85	90	95	100	

Plate (mm)

0.5	1	2	3	4	5	6	10	12	15
16	20	25	30	35	40	50	60	70	80
100									

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	1300	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	39	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	39	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	23	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	23	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	46	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	1200	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	12/19/34	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	1100	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m^2	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	9	kJ/m^2	DIN EN ISO 179-1eA	
Ball indentation hardness		74	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		-60	°C	DIN 53765	1)
Melting temperature		165	°C	DIN 53765	
Service temperature	short term	140	°C		2)
Service temperature	long term	100	°C		
Thermal expansion (CLTE)	23-60°C, long.	16	10 K	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	17	10 K	DIN EN ISO 11359-1;2	
Specific heat		1,6	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0,3	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

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance	Silver electrode 23°C, 12% r.h.	109 -1011	Ω	DIN IEC 60093	1)
Specific volume resistance	Silver electrode 23°C, 12% r.h.	109	Ω*cm	DIN EN 61340-2-3	
Dielectric Strength	23°C, 50% r.h.	5	kV/mm	ISO 60243-1	2)
Resistance to tracking (CTi)	Platin Electrode, 23°C, 50% r.h., solvent A	600	V	DIN EN 60112	

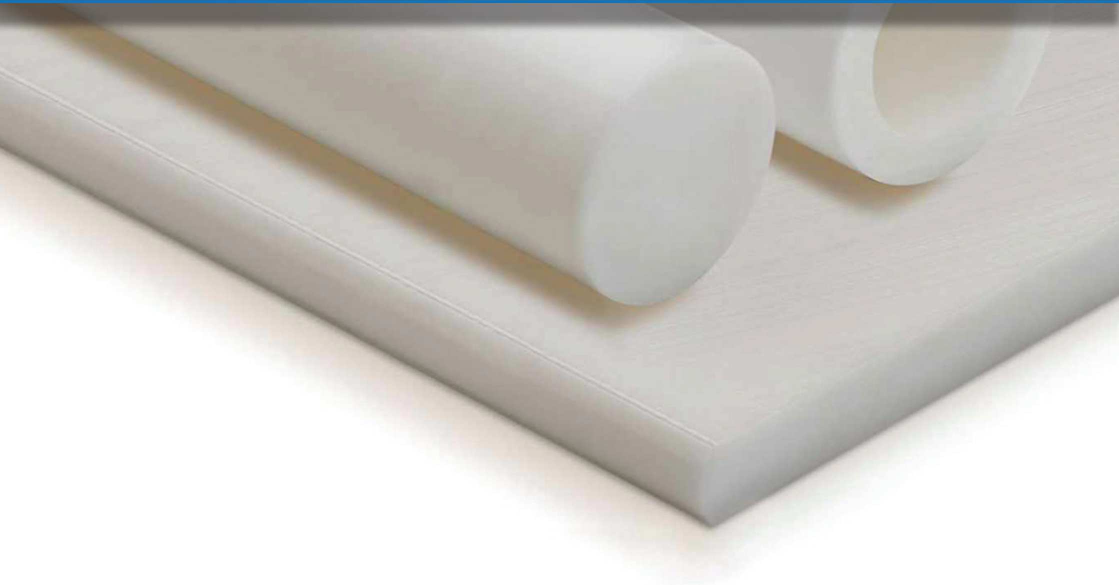
(1) Specimen in 20mm thickness
(2) Specimen in 1mm thickness

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.9 / 1.8	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

Acetal POM-C ESD
(Tecaform AH ELS)



Chemical Designation
POM-C (Polyacetal (Copolymer))

Colour
white

Density
1.41 g/cm^3

Main Features

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

Colour Code: White

Shapes and Sizes

Rounds (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	85	90	95	100	

Plate (mm)

0.5	1	2	3	4	5	6	10	12	15
16	20	25	30	35	40	50	60	70	80
100									

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	1800	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	42	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	42	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	11	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	11	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	56	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	1500	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5%	16/25/45	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	1500	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	74	kJ/m^2	DIN EN ISO 179-1eU	5)
Ball indentation hardness		96	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Value	Unit	Parameter	Norm	
Glass transition temperature	-60	C		DIN EN ISO 11357	1)
Melting temperature	169	C		DIN EN ISO 11357	
Service temperature	140	C	short term	NN	2)
Service temperature	100	C	long term	NN	
Thermal expansion (CLTE)	13	10-5*1/K	23-60°C, long.	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	14	10-5*1/K	23-100°C, long.	DIN EN ISO 11359-1;2	
Thermal conductivity	0.46	W/(k*m)		ISO 22007-4:2008	
Specific heat	1.3	J/(g*K)		ISO 22007-4:2008	

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

Electrical Properties

Electrical Properties	Value	Unit	Parameter	Norm	
volume resistivity	$10^3 - 10^5$	O*cm	Conductive rubber, 23°C, 12% r.h.	DIN EN 61340-2-3	
surface resistivity	$10^2 - 10^4$	O	Conductive rubber, 23°C, 12% r.h.	DIN EN 61340-2-3	1)

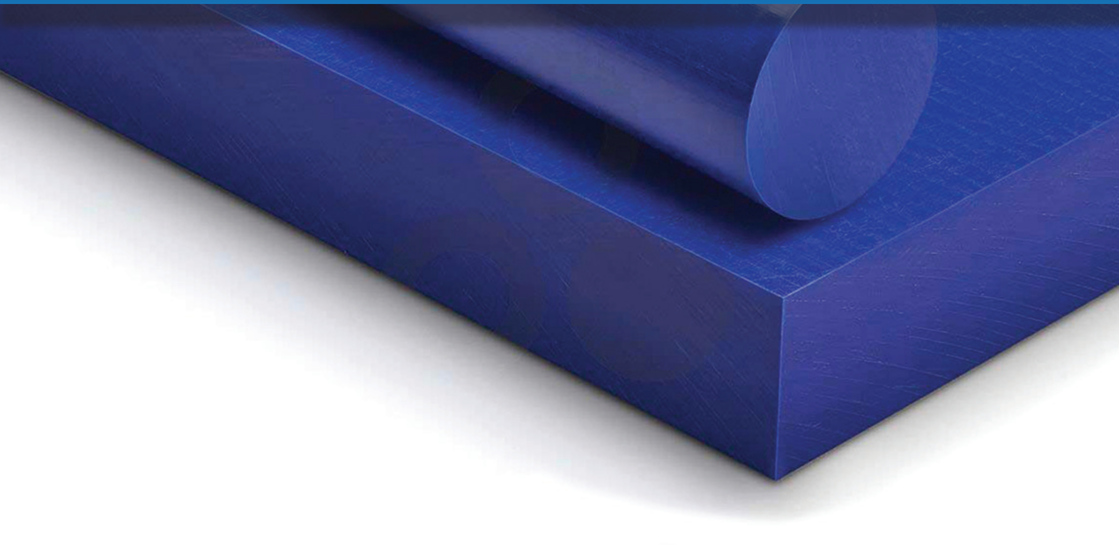
(1) Specimen in 20mm thickness

Other Properties

Other Properties	Value	Unit	Parameter	Norm	
Water absorption	0.2	%	24h / 96h (23°C)	DIN EN ISO 62	1)
Resistance to hot water/ bases	(+)	–		–	2)
Resistance to weathering	(+)	–		NN	3)
Flammability (UL94)	HB	–	corresponding to	DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

Acetal POM-C Medical Grade - Various Colours
(Tecaform AH MT - Blue)



Chemical Designation
POM-C (Polyacetal (Copolymer))

Colour
blue opaque

Density
1.41 g/cm^3

Main Features

- electrically insulating
- biocompatible
- good chemical reisitance
- good machinability
- high stiffness
- high toughness
- difficult to bond
- high strength

Colour Code: Blue Opaque

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Shapes and Sizes

Rounds (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	85	90	95	100	

Plate (mm)

0.5	1	2	3	4	5	6	10	12	15
16	20	25	30	35	40	50	60	70	80
100									

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	2800	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	69	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	70	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	15	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	30	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	94	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2800	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min,	18/32	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2200	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	120	kJ/m^2	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	9	kJ/m^2		
Ball indentation hardness		158	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		-60	°C	DIN 53765	1)
Melting temperature		169	°C	DIN 53765	
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	

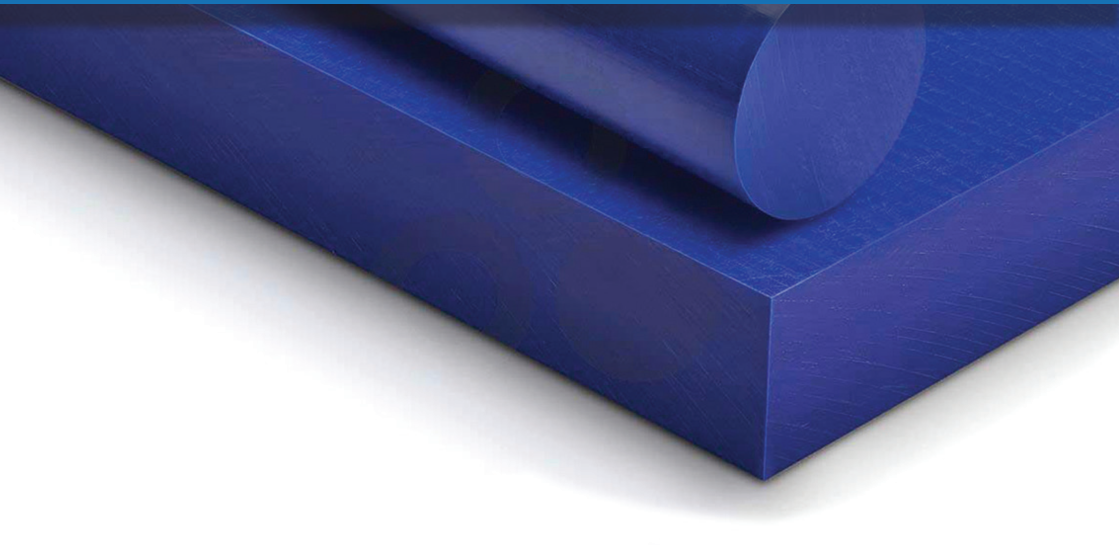
(1) Found in public sources.
(2) Found in public sources. Individual testing regarding application conditions is mandatory.

Other Properties

Other Properties	Value	Unit	Parameter	Norm	
Water absorption	0.1	%	24h / 96h (23°C)	DIN EN ISO 62	1)
Resistance to hot water/ bases	(+)	–		–	2)
Resistance to weathering	(+)	–		–	3)
Flammability (UL94)	HB	–	corresponding to	DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

Acetal POM-C Medical Grade EN1020-2.2 USP Class VI (Tecaform MT)



Chemical Designation
POM-C (Polyacetal (Copolymer))

Colour
blue opaque

Density
1.41 g/cm^3

Main Features

- electrically insulating
- biocompatible
- good chemical reisitance
- good machinability
- high stiffness
- high toughness
- difficult to bond
- high strength

Colour Code: Blue Opaque

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Shapes and Sizes

Rounds (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	85	90	95	100	

Plate (mm)

0.5	1	2	3	4	5	6	10	12	15
16	20	25	30	35	40	50	60	70	80
100									

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	2800	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	69	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	70	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	15	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	30	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	94	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2800	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min,	18/32	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2200	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	120	kJ/m^2	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	9	kJ/m^2		
Ball indentation hardness		158	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

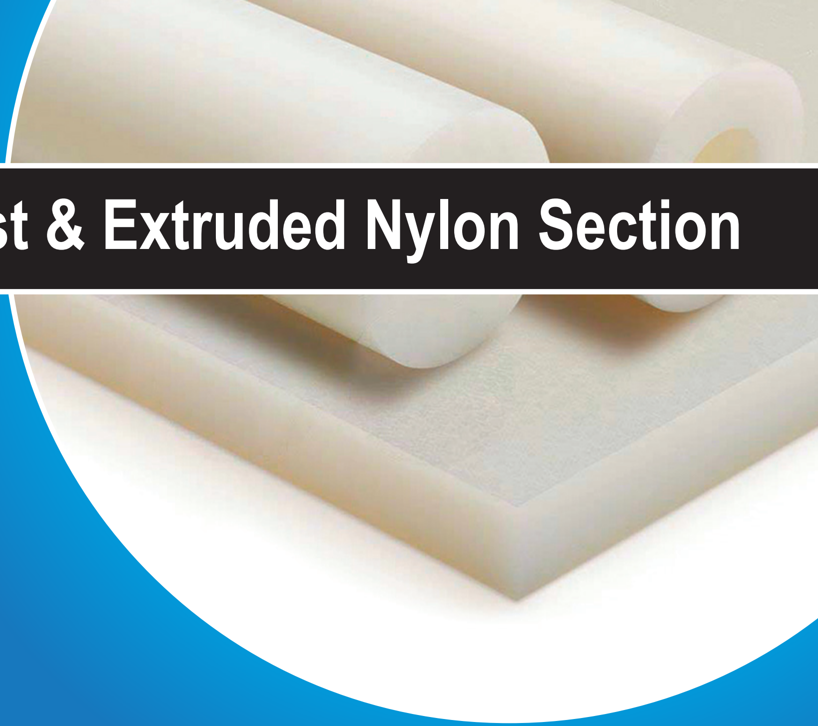
Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		-60	°C	DIN 53765	1)
Melting temperature		169	°C	DIN 53765	
Service temperature short term		140	°C		2)
Service temperature long term		100	°C		
Thermal expansion (CLTE)	23-60°C, long.	13	10^{-5} K^{-1}	DIN EN ISO 11359-1;2	
Thermal 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	

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

Other Properties

Other Properties	Value	Unit	Parameter	Norm	
Water absorption	0.05 / 0.1	%	24h / 96h (23°C)	DIN EN ISO 62	1)
Resistance to hot water/ bases	(+)	–		–	2)
Resistance to weathering	–	–		–	3)
Flammability (UL94)	HB	–	corresponding to	DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.



Cast & Extruded Nylon Section

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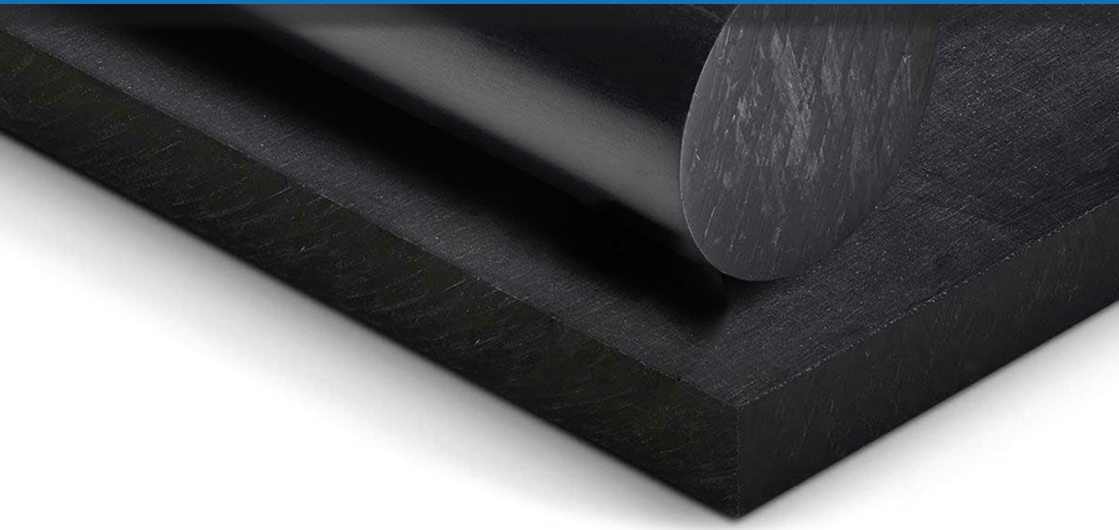
Cast Nylon – Black
(Tecast T MO)



Chemical Designation
PA 6 C (Cast polyamide 6)

Colour
black opaque

Density
1.15 g/cm^3

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

Colour Code:

Cast & Ext. Nylon

Shapes and Sizes

Rounds (mm)

50	55	60	65	70	75	80	85	90	95
100	110	120	125	130	135	140	150	160	170
180	190	200	210	220	230	250	280	300	320
350	370	400	150	500					

Plate (mm)

10	12	16	20	25	30	35	40	45	50
55	60	65	70	75	80	85	90	95	100
120	130								

Mechanical Properties

	Value	Unit	Parameter	Norm	
Tensile strength	82	MPa	50mm/min	DIN EN ISO 527-2	
Tensile strength at yield	80	MPa	50mm/min	DIN EN ISO 527-2	
Elongation at yield	4	%	50mm/min	DIN EN ISO 527-2	
Elongation at break	55	%	50mm/min	DIN EN ISO 527-2	
Flexural strength	102	MPa	2mm/min, 10 N	DIN EN ISO 178	1)
Modulus of elasticity (flexural test)	3000	MPa	2mm/min, 10 N	DIN EN ISO 178	
Compression strength		MPa	1% / 2% / 5%	EN ISO 604	2)
Compression modulus	2800	MPa	5mm/min, 10 N	EN ISO 604	3)
Impact strength (Charpy)	n.b.	kJ/m^2	max. 7,5J	DIN EN ISO 179-1eU	4)
Notched impact strength (Charpy)	4	kJ/m^2	max. 7,5J	DIN EN ISO 179-1eA	
Ball indentation hardness	170	MPa		ISO 2039-1	5)
Modulus of elasticity (tensile test)	3200	MPa	1mm/min	DIN EN ISO 527-2	6)

(1) For flexural test: support span 64mm, norm specimen.
(2) Specimen 10x10x10mm
(3) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(4) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(5) Specimen in 4mm thickness
(6) For tensile test: specimen type 1b

Thermal Properties

	Value	Unit	Parameter	Norm	
Melting temperature	217	C		DIN EN ISO 11357	
Service temperature	170	C	short term	NN	1)
Service temperature	100	C	long term	NN	
Thermal expansion (CLTE)	11	10-5*1/K	23-60°C, long.	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	11	10-5*1/K	23-100°C, long.	DIN EN ISO 11359-1;2	
Glass transition temperature	43	C		DIN EN ISO 11357	2)
Specific heat	1.6	J/(g*K)		ISO 22007-4:2008	
Thermal conductivity	0.33	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

	Value	Unit	Parameter	Norm	
Surface resistivity	10^{14}	O		DIN IEC 60093	
Volume resistivity	10^{14}	O*cm		DIN IEC 60093	1)

(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.

Other Properties

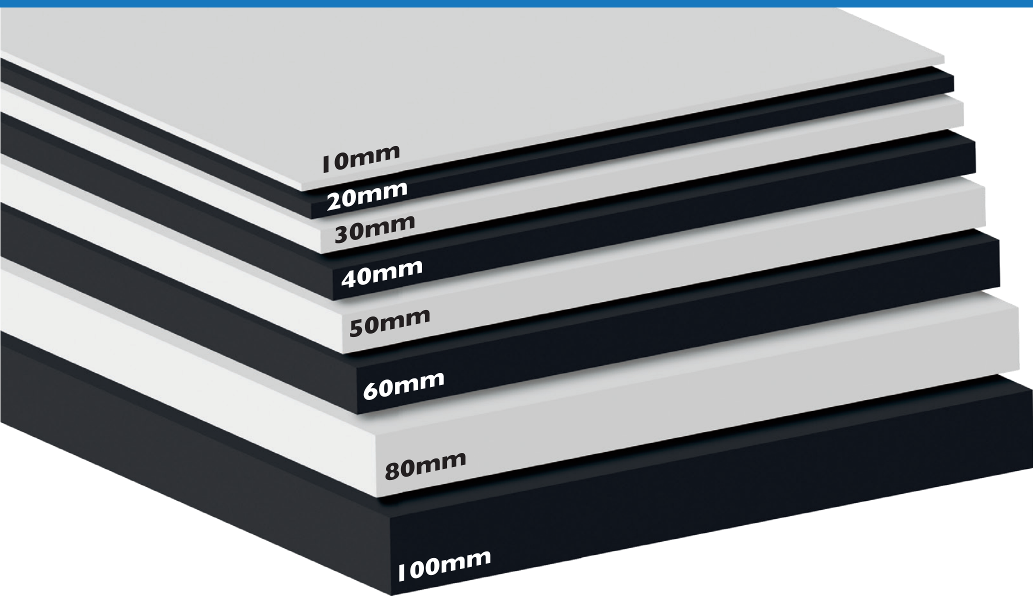
	Value	Unit	Parameter	Norm	
Resistance to hot water/ bases	(+)	–		–	1)
Flammability (UL94)	HB	–	corresponding to	DIN IEC 60695-11-10;	2)
Resistance to weathering	(+)	–		NN	
Water absorption	0.5	%	24h / 96h (23°C)	DIN EN ISO 62	3)

(1) (+) limited resistance
(2) 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.
(3) Ø ca. 50mm, h=13mm

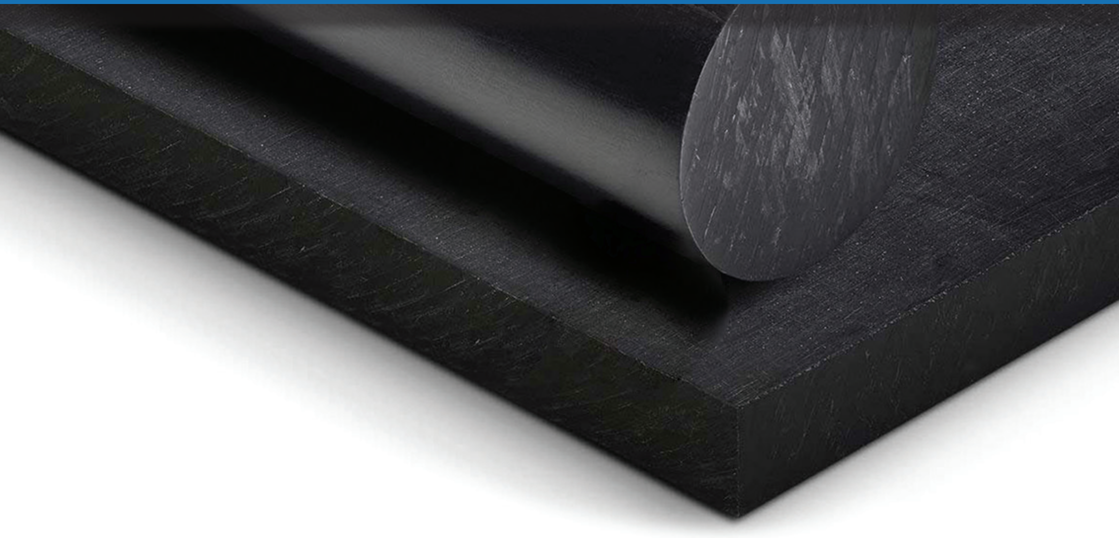
Engineering Plastic Plate Cut to Size -

From Stock, for immediate dispatch

CUT TO SIZE



Cast Nylon – Natural
(Tecast TM)



Chemical Designation
PA 6 C (Cast polyamide 6)

Density
1.15 g/cm^3

Data generated directly after machining
(standard climate Germany)

Main Features
- Good wear properties
- Not electrically insulating
- Resistance to many oils, greases and fuels
- High toughness
- Good damping
- Good slide and wear properties
- Sensitive to stress cracking
- High strength

Colour Code: Black Opaque

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PART MACHINING CUTTING, DRILLING & BILLETING
RAPID QUOTE SERVICE
EUROPEAN SOURCED
CUT TO SIZE

Shapes and Sizes

Rounds (mm)

50	55	60	65	70	75	80	85	90	95
100	110	120	125	130	135	140	150	160	170
180	190	200	210	220	230	250	280	300	320
350	370	400	150	500					

Plate (mm)

10	12	16	20	25	30	35	40	45	50
55	60	65	70	75	80	85	90	95	100
120	130								

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	3200	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	82	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	80	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	55	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	102	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	3000	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	22 / 38	MPa	EN ISO 604	3)
Compression modulus	5mm/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	
Ball indentation hardness		170	MPa	ISO 2039-1	6)

(1) For flexural test: support span 64mm, norm specimen.
(2) Specimen 10x10x10mm
(3) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(4) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(5) Specimen in 4mm thickness
(6) For tensile test: specimen type 1b

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		43	°C	DIN 53765	1)
Melting temperature		217	°C	DIN 53765	
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	

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

Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance		10^{14}	Ω	DIN IEC 60093	
Specific volume resistance		10^{14}	Ω*cm	DIN IEC 60093	1)

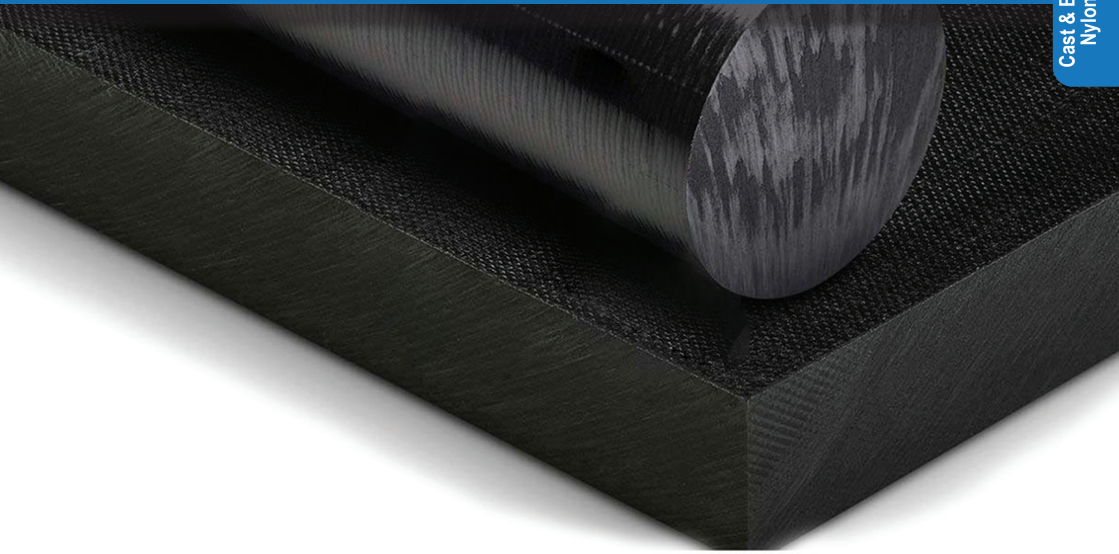
(1) Due to the black colourant and moisture uptake of the material the electrical insulation properties cannot be 100% guaranteed, despite single measurements suggesting otherwise.

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.2 / 0.5	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		–	2)
Resistance to weathering		(+)			
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	3)

(1) Ø ca. 50mm, h=13mm
(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.

Extruded Nylon 6 – Black
(Tecamid 6 – Black)



Chemical Designation
PA (Polyamide 6)

Colour
black

Density
1.14 g/cm^3

Main Features

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

Colour Code: Black

Shapes and Sizes

Rounds (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	90	100	110	125	150
165	180	200	250						

Plate (mm)

10	12	16	20	25	30	35	40	45	50
55	60	65	70	75	80	85	90	95	100
120	130								

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	3300	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	79	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	78	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	130	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	100	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2900	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	24 / 41	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2700	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m^2	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	7	kJ/m^2	DIN EN ISO 179-1eA	
Ball indentation hardness		155	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		45	°C	DIN 53765	1)
Melting temperature		221	°C	DIN 53765	
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	

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

Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance	Silver electrode, 23°C, 12% r.h.	10^{14}	Ω	DIN EN 61340-2-3	1)
Specific volume resistance	Silver electrode, 23°C, 12% r.h	10^{14}	Ω*cm	DIN EN 61340-2-3	
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	

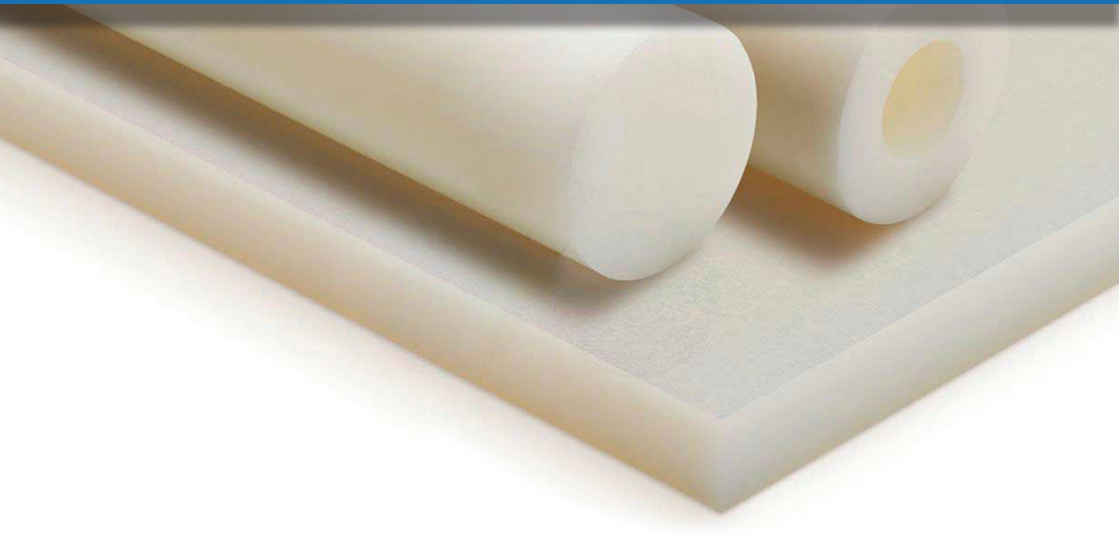
(1) Specimen in 20mm thickness
(2) Specimen in 1mm thickness

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.3 / 0.6	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

Extruded Nylon 6 – Natural
(Tecamid 6)



Chemical Designation
PA (Polyamide 6)

Colour
natural opaque

Density
1.14 g/cm^3

Data generated directly after machining (standard climate Germany)

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

Colour Code: Natural Opaque

Shapes and Sizes

Cast Nylon (mm)

50	55	60	65	70	75	80	85	90	95
100	110	120	125	130	135	140	150	160	170
180	190	200	210	220	230	250	280	300	320
350	370	400	450	500					

Extruded Nylon 6 - 66 (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	90	100	110	125	150
165	180	200	250						

Plate (mm)

10	12	16	20	25	30	35	40	45	50
55	60	65	70	75	80	85	90	95	100
120	130								

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	3300	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	79	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	78	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	130	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	100	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2900	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	24 / 41	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2700	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m^2	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	7	kJ/m^2	DIN EN ISO 179-1eA	
Ball indentation hardness		155	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		45	°C	DIN 53765	1)
Melting temperature		221	°C	DIN 53765	
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	

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

Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance	Silver electrode, 23°C, 12% r.h.	10^{14}	Ω	DIN EN 61340-2-3	1)
Specific volume resistance	Silver electrode, 23°C, 12% r.h	10^{14}	Ω*cm	DIN EN 61340-2-3	
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	

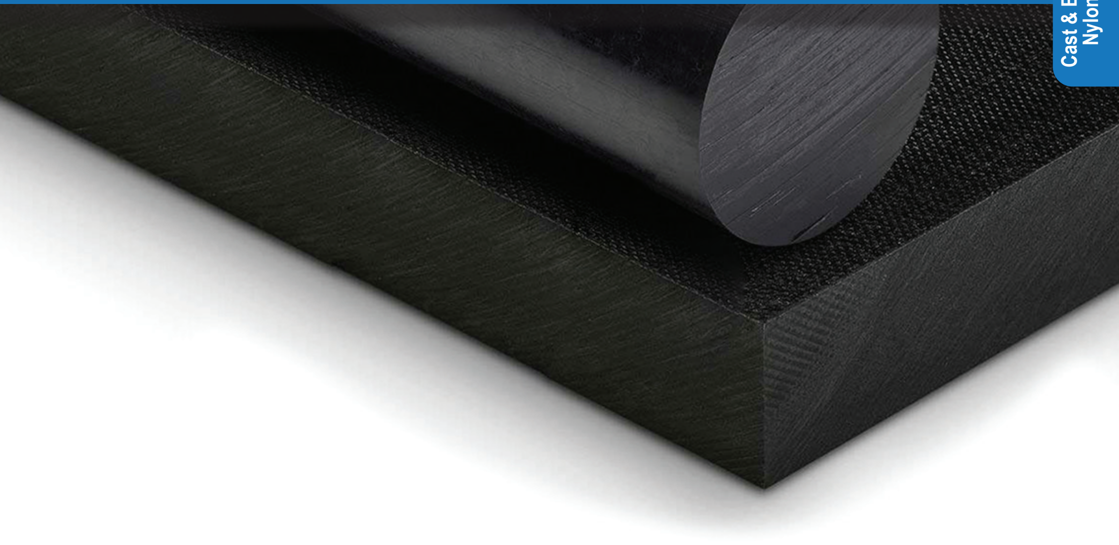
(1) Specimen in 20mm thickness
(2) Specimen in 1mm thickness

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.3 / 0.6	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

Extruded Nylon 6 GF30 – Black
(Tecamid 6 GF30 – Black)



Chemical Designation
PA (Polyamide 6)

Colour
black opaque

Density
1.36 g/cm^3

Fillers
glass fibres

Data generated directly after machining (standard climate Germany)

Main Features

- very high strength
- resistant to many oils, greases and fuels
- good wear properties
- good weldable and bondable
- high dimensional stability
- good heat deflection temperature
- good machinability
- not electrically insulating

Colour Code: Black Opaque

Shapes and Sizes

Rounds (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	90	100	110	125	150
165	180	200	250						

Plate (mm)

10	12	16	20	25	30	35	40	45	50
55	60	65	70	75	80	85	90	95	100
120	130								

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	5700	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	98	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	98	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	5	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	140	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	5200	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	21 / 42	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	4200	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	60	kJ/m^2	DIN EN ISO 179-1eU	5)
Ball indentation hardness		232	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Cast & Ext. Nylon

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		49	°C	DIN 53765	1)
Melting temperature		218	°C	DIN 53765	
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	

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

Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance	Silver electrode, 23°C, 12% r.h.	10^{14}	Ω	DIN EN 61340-2-3	1)
Specific volume resistance	Silver electrode, 23°C, 12% r.h	10^{14}	Ω*cm	DIN EN 61340-2-3	
Dielectric strength	23°C, 50% r.h.	32	kV/mm	ISO 60243-1	2)
Resistance to tracking (CTI)	Platin electrode, 23°C, 50% r.h., solvent A	550/475	V	DIN EN 60112	

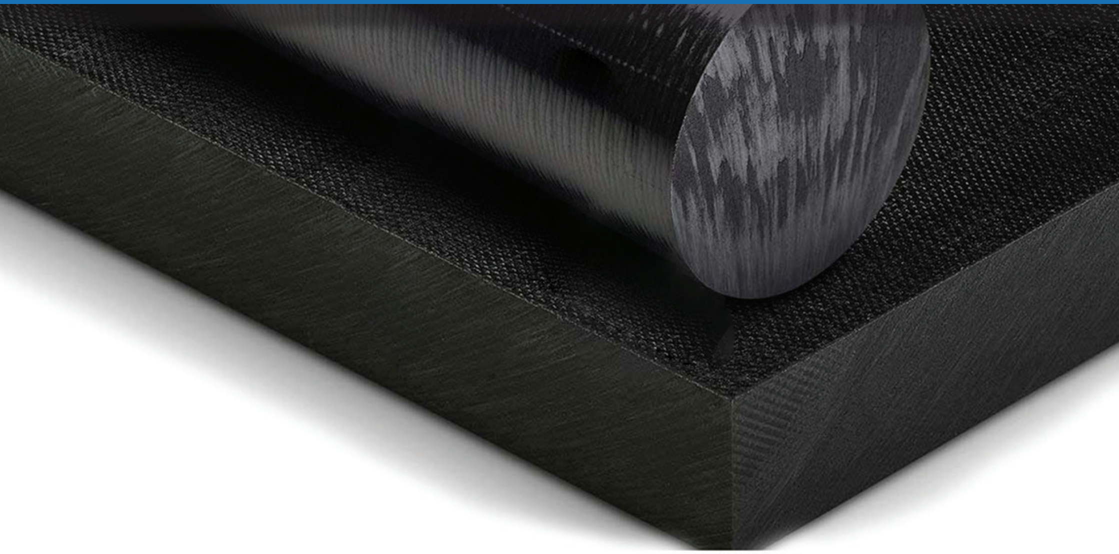
(1) Specimen in 20mm thickness
(2) Specimen in 1mm thickness

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (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	HB		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

Extruded Nylon 66 – Black
(Tecamid 66 – Black)



Chemical Designation
PA 66 (Polyamide 66)

Colour
black

Density
1.15 g/cm³

Data generated directly after machining (standard climate Germany)

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

Colour Code: Black

Shapes and Sizes

Rounds (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	90	100	110	125	150
165	180	200	250						

Plate (mm)

10	12	16	20	25	30	35	40	45	50
55	60	65	70	75	80	85	90	95	100
120	130								

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	3500	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	85	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	84	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	7	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	70	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	110	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	3100	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	20 / 35	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2700	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m²	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	5	kJ/m²	DIN EN ISO 179-1eA	
Ball indentation hardness		175	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		47	°C	DIN 53765	1)
Melting temperature		258	°C	DIN 53765	
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	

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

Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance		10	Ω	DIN IEC 60093	1)
Specific volume resistance		10	Ω*cm	DIN IEC 60093	2)

(1) Specimen in 20mm thickness
(2) Specimen in 1mm thickness

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.2 / 0.4	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

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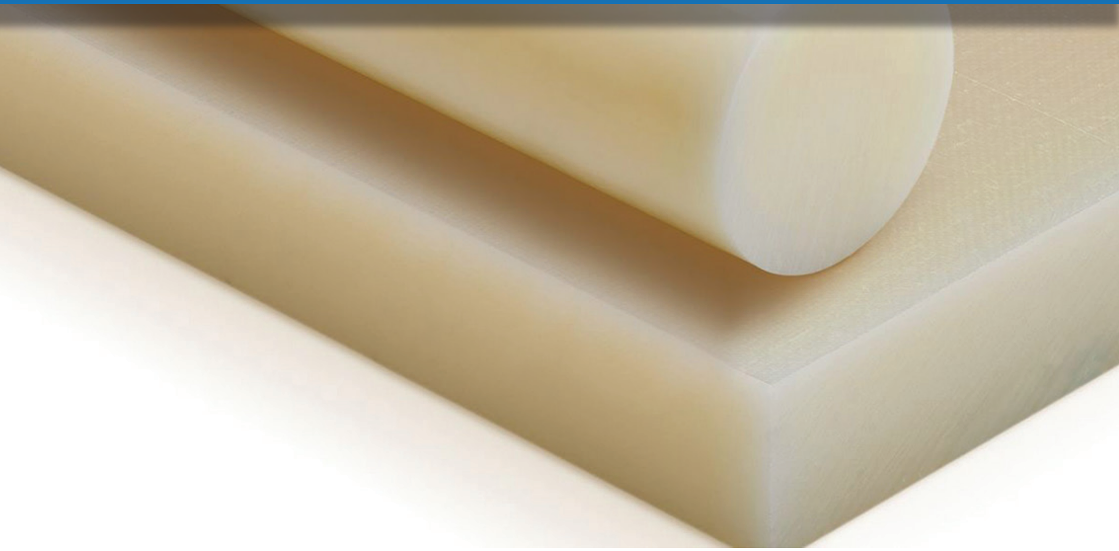
Extruded Nylon 66 – Natural
(Tecamid 66)



Chemical Designation
PA 66 (Polyamide 66)

Colour
ivory

Density
1.15 g/cm^3

Data generated directly after machining
(standard climate Germany)

Main Features

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

Colour Code: Ivory

Shapes and Sizes

Rounds (mm)

4	5	6	8	19	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	85	90	95	100	110
125	150	165	180	200	250				

Plate (mm)

10	12	16	20	25	30	35	40	45	50
55	60	65	70	75	80	85	90	95	100
120	130								

Mechanical Properties

Mechanical Properties	Value	Unit	Parameter	Norm	
Tensile strength at yield	84	MPa	50mm/min	DIN EN ISO 527-2	
Elongation at yield	7	%	50mm/min	DIN EN ISO 527-2	
Tensile strength	85	MPa	50mm/min	DIN EN ISO 527-2	
Modulus of elasticity (flexural test)	3100	MPa	2mm/min, 10 N	DIN EN ISO 178	
Ball indentation hardness	175	MPa		ISO 2039-1	1)
Impact strength (Charpy)	n.b.	kJ/m2	max. 7,5J	DIN EN ISO 179-1eU	2)
Compression modulus	2700	MPa	5mm/min, 10 N	EN ISO 604	3)
Flexural strength	110	MPa	2mm/min, 10 N	DIN EN ISO 178	4)
Compression strength	20/35/81	MPa	1% / 2% / 5%	EN ISO 604	5)
Modulus of elasticity (tensile test)	3500	MPa	1mm/min	DIN EN ISO 527-2	6)
Notched impact strength (Charpy)	5	kJ/m^2	max. 7,5J	DIN EN ISO 179-1eA	
Elongation at break	70	%	50mm/min	DIN EN ISO 527-2	

(1) Specimen in 4mm thickness
(2) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(3) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(4) For flexural test: support span 64mm, norm specimen.
(5) Specimen 10x10x10mm
(6) For tensile test: specimen type 1b

Thermal Properties

Thermal Properties	Value	Unit	Parameter	Norm	
Glass transition temperature	47	C		DIN EN ISO 11357	1)
Service temperature	170	C	short term	NN	
Service temperature	100	C	long term	NN	2)
Thermal expansion (CLTE)	12	10-5*1/K	23-100°C, long.	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	11	10-5*1/K	23-60°C, long.	DIN EN ISO 11359-1;2	
Melting temperature	258	C		DIN EN ISO 11357	
Thermal conductivity	0.36	W/(k*m)		ISO 22007-4:2008	
Specific heat	1.5	J/(g*K)		ISO 22007-4:2008	

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

Electrical Properties

Electrical Properties	Value	Unit	Parameter	Norm	
volume resistivity	10^{14}	O*cm		DIN IEC 60093	1)
surface resistivity	10^{14}	O		DIN IEC 60093	2)

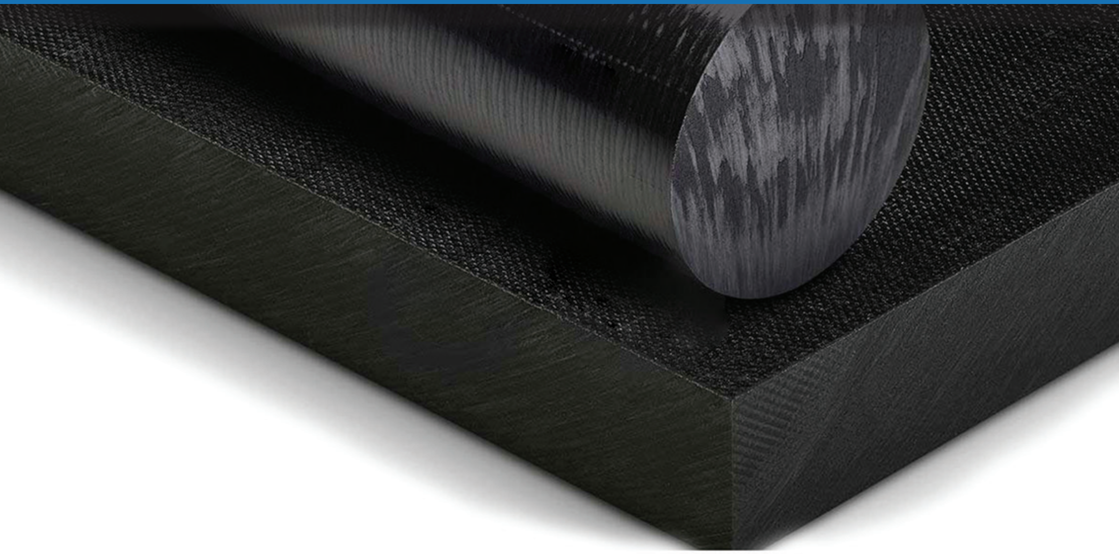
(1) Specimen in 20mm thickness
(2) Specimen in 1mm thickness

Other Properties

Other Properties	Value	Unit	Parameter	Norm	
Water absorption	0.4	%	24h / 96h (23°C)	DIN EN ISO 62	1)
Flammability (UL94)	HB	–	corresponding to	DIN IEC 60695-11-10;	2)
Resistance to hot water/ bases	(+)	–		–	3)
Resistance to weathering	–	–		–	4)

(1) Ø ca. 50mm, h=13mm
(2) 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.
(3) (+) limited resistance
(4) - poor resistance

Extruded Nylon 66 GF30 – Black
(Tecamid 66 GF30 – Black)



Chemical Designation
PA (Polyamide 66)

Colour
black

Density
1.34 g/cm^3

Fillers
glass fibres

Data generated directly after machining
(standard climate Germany)

Main Features

- very high stiffness
- resistant to many oils, greases and fuels
- good wear properties
- not electrically insulating
- very high strength
- high dimensional stability
- good heat deflection temperature
- good weldable and bondable

Colour Code: Black

Shapes and Sizes

Rounds (mm)

4	5	6	8	10	12	14	16	18	20
22	25	28	30	32	36	40	45	50	56
60	65	70	75	80	90	100	110	125	150
165	180	200	250						

Plate (mm)

10	12	16	20	25	30	35	40	45	50
55	60	65	70	75	80	85	90	95	100
120	130								

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	5500	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	91	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	91	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	8	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	14	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	135	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	4700	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	25 / 46	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	4100	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	97	kJ/m²	DIN EN ISO 179-1eU	5)
Ball indentation hardness		216	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		48	°C	DIN 53765	1)
Melting temperature		254	°C	DIN 53765	
Service temperature	short term	170	°C		2)
Service temperature	long term	100	°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	

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

Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance	Silver electrode, 23°C, 12% r.h.	10^{14}	Ω	DIN EN 60093	1)
Specific volume resistance	Silver electrode, 23°C, 12% r.h	10^{14}	Ω*cm	DIN EN 60093	
Dielectric strength	23°C, 50% r.h.	35	kV/mm	ISO 60243-1	2)
Resistance to tracking (CTI)	Platin electrode, 23°C, 50% r.h., solvent A	550/475	V	DIN EN 60112	

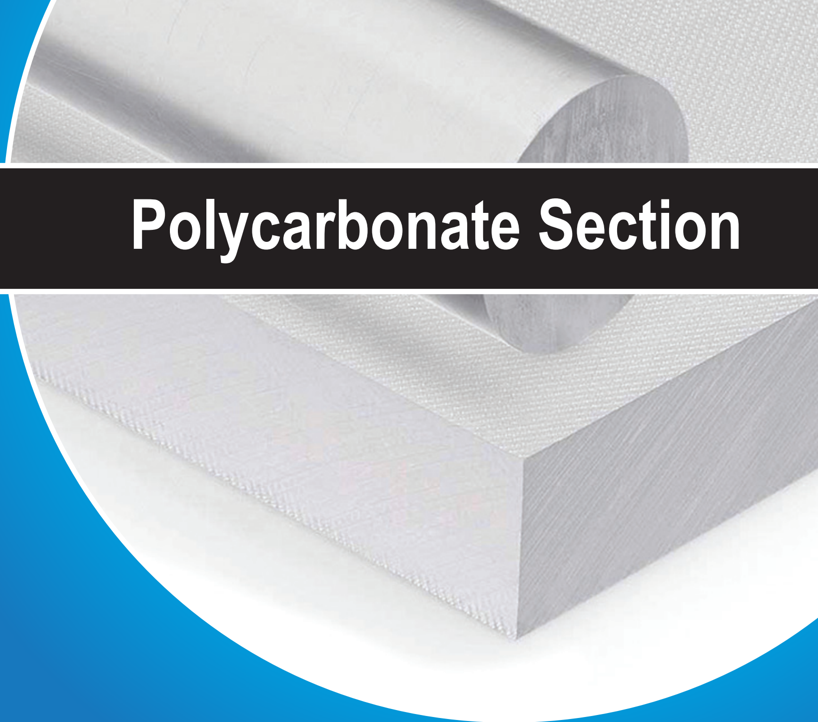
(1) Specimen in 20mm thickness
(2) Specimen in 1mm thickness

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.1 / 0.2	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

Polycarbonate Section



This section includes:

Polycarbonate (GF30) (Tecanat GF30 – Natural) 64
Polycarbonate Engineering Grade (Tecanat – Natural)..... 67
Polycarbonate Medical Grade (Tecanat MT – Natural) 70

Polycarbonate (GF30)
(Tecanat GF30 – Natural)

Chemical Designation
PC (Polycarbonate)

Colour
natural translucent

Density
1.42 g/cm^3

Fillers
glass fibres

Main Features

- good heat deflection temperature
- electrically insulating
- sensitive to stress cracking
- high strength
- good weldable and bondable

Colour Code: Natural Translucent

Shapes and Sizes

Rounds (mm)

10	16	20	25	30	40	50	60	70	80
100	125	150	200						

Polycarbon

Plate (mm)

10	16	20	30	40	50	60	80	100	

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	4400	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	85	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	87	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	6	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	138	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	4500	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	21 / 39	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	3300	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	71	kJ/m^2	DIN EN ISO 179-1eU	5)
Ball indentation hardness		190	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		147	°C	DIN 53765	1)
Melting temperature		n.a.	°C	DIN 53765	
Service temperature	short term	140	°C		2)
Service temperature	long term	120	°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		1,1	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0,32	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

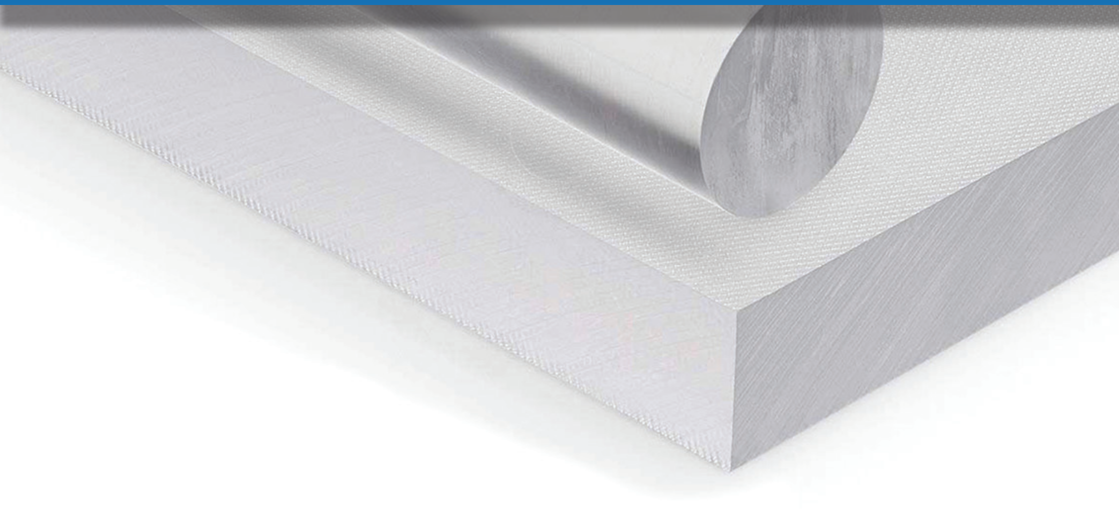
Electrical Properties	Parameter	Value	Unit	Norm
Specific surface resistance		10^{14}	Ω	DIN IEC 60093
Specific volume resistance		10^{14}	Ω*cm	DIN IEC 60093

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.1 / 0.2	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

Polycarbonate Engineering Grade
(Tecanat – Natural)



Chemical Designation
PC (Polycarbonate)

Colour
transparent

Density
1.19 g/cm^3

Main Features

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

Colour Code: Transparent

Shapes and Sizes

Rounds (mm)

10	16	20	25	30	40	50	60	70	80
100	125	150	200						

Plate (mm)

10	16	20	30	40	50	60	80	100	

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	2200	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	69	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	69	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	6	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	90	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	97	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2300	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	16 / 29	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2000	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m^2	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	14	kJ/m^2	DIN EN ISO 179-1eA	
Ball indentation hardness		190	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		149	°C	DIN 53765	1)
Melting temperature		n.a.	°C	DIN 53765	
Service temperature	short term	140	°C		2)
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	

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

Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm
Specific surface resistance		10	Ω	DIN IEC 60093
Specific volume resistance		10	Ω*cm	DIN IEC 60093

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.03 / 0.06	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

Polycarbonate Medical Grade
(Tecanat MT – Natural)

Chemical Designation
PC (Polycarbonate)

Colour
transparent

Density
1.19 g/cm^3

Main Features

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

Colour Code: Transparent

Shapes and Sizes

Rounds (mm)

10	16	20	25	30	40	50	60	70	80
100	125	150	200						

Polycarbon

Plate (mm)

10	16	20	30	40	50	60	80	100	

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	2200	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	69	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	69	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	6	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	90	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	97	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2300	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	16 / 29	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2000	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m^2	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	14	kJ/m^2	DIN EN ISO 179-1eA	
Ball indentation hardness		190	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		149	°C	DIN 53765	1)
Melting temperature		n.a.	°C	DIN 53765	
Service temperature	short term	140	°C		2)
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	

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

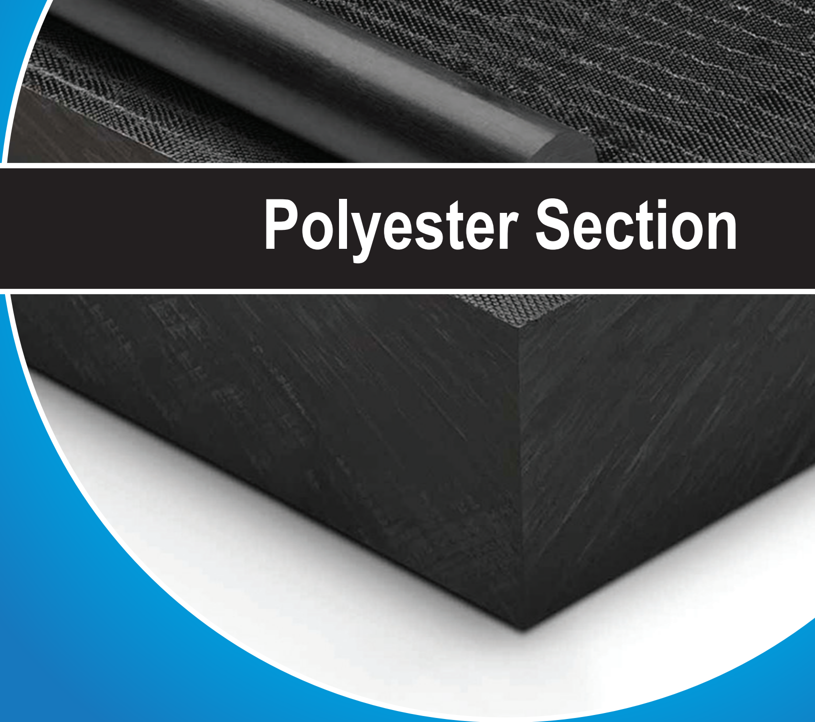
Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm
Specific surface resistance		10	Ω	DIN IEC 60093

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.03 / 0.06	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.



Polyester Section

This section includes:

Polyester – Black (Tecapet – Black) 74
Polyester – White (Tecapet – White) 78

Polyester – Black
(Tecapet – Black)

Chemical Designation
PET (Polyethylene terephthalate)

Colour
black

Alternative Colours available
white

Density
1.39 g/cm^3

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

Colour Code: Black

SECURELY PACKED
98% ON TIME DELIVERY
NO MOQ NO MINIMUM ORDER QUANTITY
PART MACHINING CUTTING, DRILLING & BILLETING
RAPID QUOTE SERVICE
EUROPEAN SOURCED
CUT TO SIZE

Shapes and Sizes

Rounds (mm)

10	16	20	25	30	36	40	45	50	56
60	65	70	80	90	100	110	120	125	130
140	150	160	180	200					

Plate (mm)

8	10	12	16	20	25	30	40	50	60
80	100								

Polyester

Mechanical Properties

Mechanical Properties	Value	Unit	Parameter	Norm	
Modulus of elasticity (tensile test)	3400	MPa	1mm/min	DIN EN ISO 527-2	1)
Tensile strength	91	MPa	50mm/min	DIN EN ISO 527-2	
Tensile strength at yield	91	MPa	50mm/min	DIN EN ISO 527-2	
Elongation at yield	4	%	50mm/min	DIN EN ISO 527-2	
Elongation at break	15	%	50mm/min	DIN EN ISO 527-2	
Flexural strength	134	MPa	2mm/min, 10 N	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	3400	MPa	2mm/min, 10 N	DIN EN ISO 178	
Compression strength	19/36/86	MPa	1% / 2% / 5%	EN ISO 604	3)
Compression modulus	2800	MPa	5mm/min, 10 N	EN ISO 604	4)
Impact strength (Charpy)	27	kJ/m^2	max. 7,5J	DIN EN ISO 179-1eU	5)
Ball indentation hardness	195	MPa		ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen.
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Value	Unit	Parameter	Norm	
Glass transition temperature	81	C		DIN EN ISO 11357	1)
Melting temperature	244	C		DIN EN ISO 11357	
Service temperature	170	C	short term	NN	2)
Service temperature	110	C	long term	NN	
Thermal expansion (CLTE)	8	10-5*1/K	23-60°C, long	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	10	10-5*1/K	23-100°C, long.	DIN EN ISO 11359-1;2	

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

Electrical Properties

Electrical Properties	Value	Unit	Parameter	Norm	
surface resistivity	10^{14}	O		DIN IEC 60093	
volume resistivity	10^{14}	O*cm		DIN IEC 60093	1)

(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.

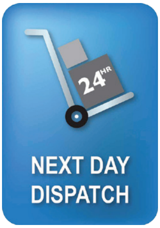
Other Properties

Other Properties	Value	Unit	Parameter	Norm	
Resistance to hot water/ bases	–	–		–	1)
Flammability (UL94)	HB	–	corresponding to	DIN IEC 60695-11-10;	2)
Resistance to weathering	(+)	–		–	3)
Water absorption	0.03	%	24h / 96h (23°C)	DIN EN ISO 62	4)

(1) - poor resistance
(2) 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.
(3) (+) limited resistance
(4) Ø ca. 50mm, h=13mm

Polyester

- Acetal plate up to 100mm
- PE 1000 Natural plate up to 50mm
- PE 1000 sheets up to 3000mm x 1250mm
- Other sizes available on request



Engineering Plastic Plate, available

FROM STOCK FOR IMMEDIATE DISPATCH

Polyester – White
(Tecapet – White)

Chemical Designation
PET (Polyethylene terephthalate)

Colour
white opaque

Density
1.36 g/cm^3

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

Colour Code: White Opaque

Shapes and Sizes

Rounds (mm)

10	16	20	25	30	36	40	45	50	56
60	65	70	80	90	100	110	120	125	130
140	150	160	180	200					

Plate (mm)

8	10	12	16	20	25	30	40	50	60
80	100								

Polyester

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	3100	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	79	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	79	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	5	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	10	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	121	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	3200	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	19 / 35	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2700	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	81	kJ/m^2	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	4	kJ/m^2	DIN EN ISO 179-1eA	
Ball indentation hardness		175	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen.
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		81	°C	DIN 53765	1)
Melting temperature		244	°C	DIN 53765	
Service temperature	short term	170	°C		2)
Service temperature	long term	110	°C		
Thermal expansion (CLTE)	23-60°C, long.	8	10 K	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	10	10 K	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	

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

Electrical Properties

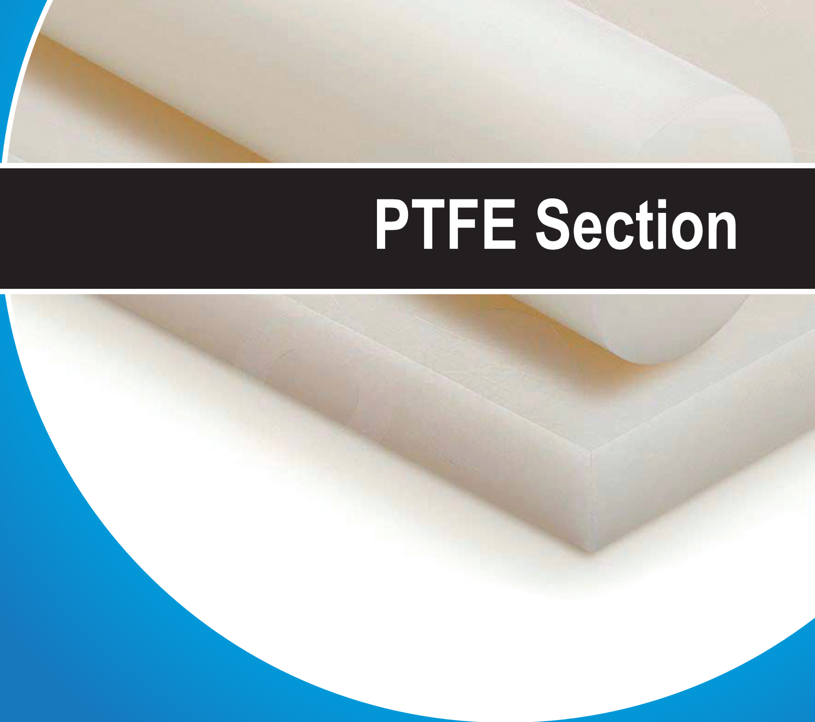
Electrical Properties	Parameter	Value	Unit	Norm
Specific surface resistance		10	Ω	DIN IEC 60093
Specific volume resistance		10	Ω*cm	DIN IEC 60093
Resistance to tracking (CTI)		600	V	DIN EN 60112

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.02 / 0,03	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		–	–		2)
Resistance to weathering		–			
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	3)

(1) - poor resistance
(2) 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.
(3) ∅ ca. 50mm, h=13mm

PTFE Section



This section includes:

PTFE (Teflon) – Natural (Tecaflon PTFE – Natural).......... 82

PTFE (Teflon) – Natural
(Tecaflon PTFE – Natural)

Chemical Designation
Polytetrafluorethylene

DIN-Abbreviation
PTFE (Polytetrafluorethylene)

Colours, Fillers
white opaque

Density
2.15 g/cm^3

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

Colour Code: White Opaque

Shapes and Sizes

Rounds (mm)

4	5	6	7	8	9	9.5	10	11	12
13	14	15	16	17	18	19	20	22	23
24	25	28	30	32	35	38	40	45	50
55	60	65	70	75	80	90	100	105	110
120	125	130	140	150	160	170	180	190	200

Plate (mm)

1.5	2	2.5	3	4	5	6	8	10	12
13	15	16	19	20	25	30	35	40	45
50	60	70	80						

PTFE

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Tensile strength		22	MPa	ASTM D 4894	1)
Elongation at break		220	%	ASTM D 4894	2)
Compression strength	1% deformation	5	MPa	ASTM D 695	
Shore hardness	Shore D	55		ASTM D 2240	

(1) Tested on extruded and machined specimen
(2) Tested on extruded and machined specimen

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		-20	°C	DIN 53765	1)
Service temperature	short term	260	°C	–	2)
Service temperature	long term	260	°C	–	
Thermal expansion (CLTE)	25-100°C, long.	13	10^{-5} K^{-1}	ASTM D 696	
Thermal conductivity		0,2	W/(K*m)	ASTM C 177	

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

Electrical Properties

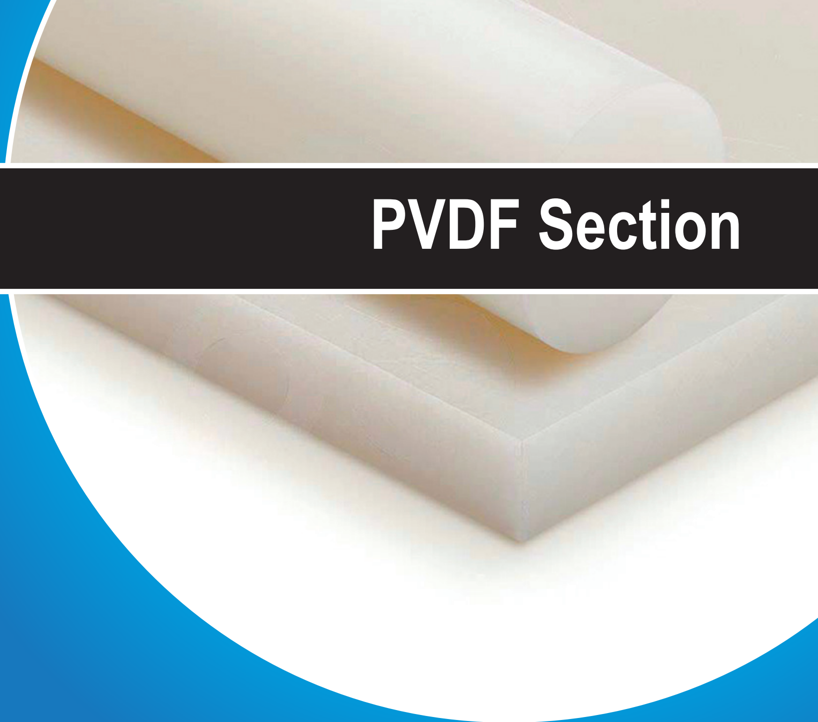
Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance		1016	Ω	ASTM D 257	1)
Specific volume resistance		1017	Ω*cm	ASTM D 257	
Dielectric strength	in air, thickness 0.125mm	80	kV/mm	ASTM D 149	
Dielectric constant	50-109 Hz	2,1		ASTM D 150	

(1) Without defects

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	23°C	<0.01	%	ASTM D %70	
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1)

(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.



PVDF Section

This section includes:

PVDF Rod/Plate (Tecaflon PVDF)...................................... 86

PVDF Rod/Plate
(Tecaflon PVDF)

Chemical Designation
PVDF (Polyvinylidene fluoride)

Colour, Fillers
white opaque

Density
1.78 g/cm^3

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

Colour Code: White Opaque

Shapes and Sizes

Rounds (mm)

10	15	20	25	30	35	40	45	50	60
70	80	90	100	110	125	140	150	165	200
250									

Plate (mm)

1	2	3	4	5	6	8	10	12	15
20	30	40	50	60	80	100			

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	2200	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	62	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	62	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	8	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	17	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	77	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2100	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	16 / 28	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	1900	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	150	kJ/m^2	DIN EN ISO 179-1eU	5)
Ball indentation hardness		129	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		-40	°C	DIN 53765	1)
Melting temperature		171	°C	DIN 53765	
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	

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

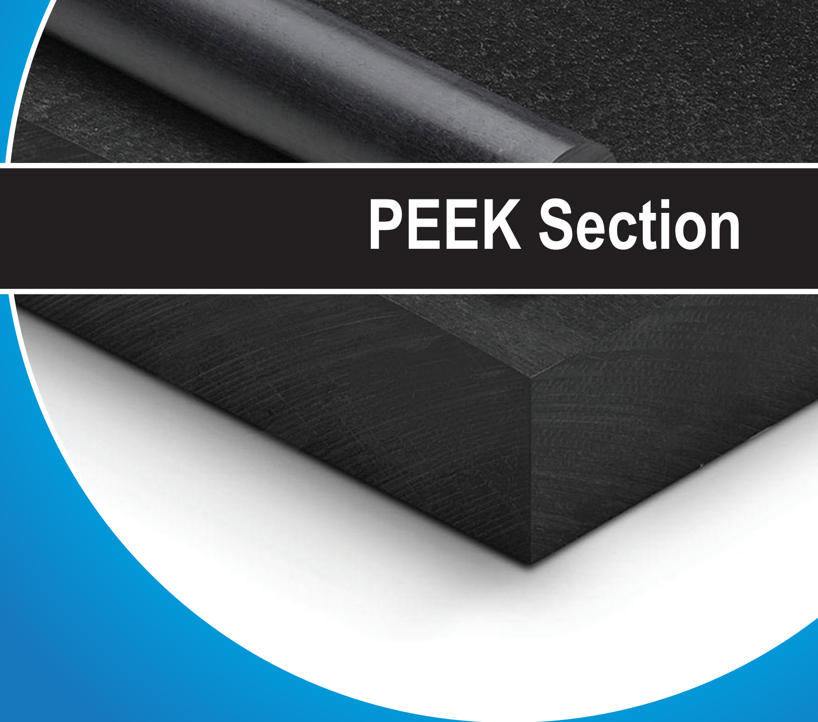
Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm
Specific surface resistance		10^{14}	Ω	DIN IEC 60093

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	<0.01	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		–	–		2)
Resistance to weathering		–			
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	3)

(1) Ø ca. 50mm, h=13mm
(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.



PEEK Section

This section includes:

PEEK – Black (Tecapeek – Black) 90
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PEEK CF30 – Black (Tecapeek CF30 – Black)................. 96
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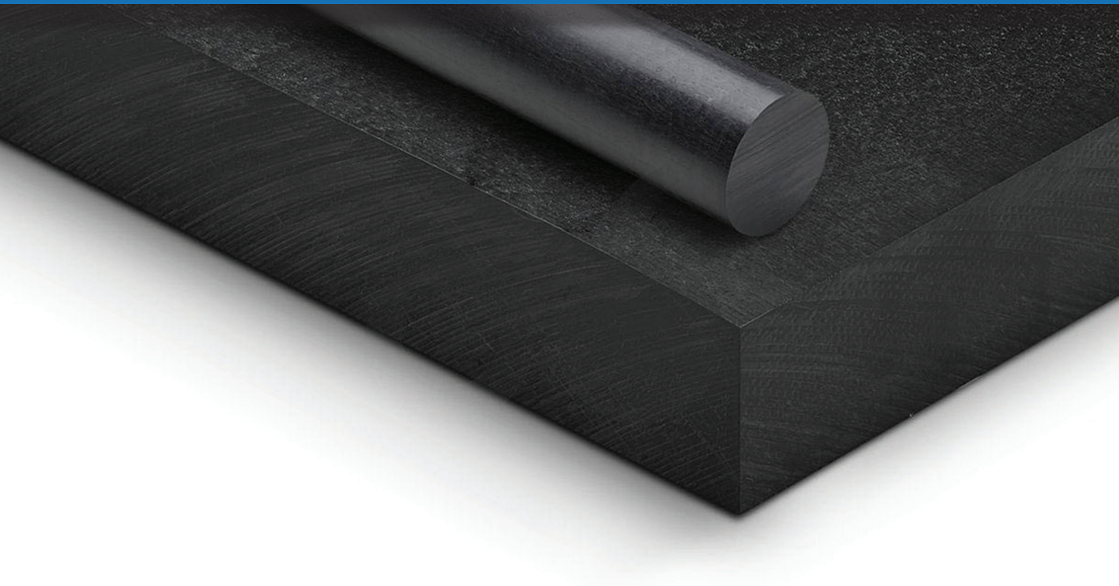
PEEK – Black
(Tecapeek – Black)



Chemical Designation
PEEK (Polyetheretherketone)

Colour
black

Density
1.31 g/cm^3

Main Features
- good heat deflection temperature
- inherent flame retardant
- resistance against high energy radiation
- high strength
- high creep resistance
- good chemical resistance
- hydrolysis and superheated steam resistant

Colour Code: Black

Shapes and Sizes

Rounds (mm)

5	6	8	10	12	15	16	18	20	22
25	28	30	32	36	40	45	50	56	60
65	70	80	90	100	110	120	125	140	150
160	165	180	200						

Plate (mm)

5	6	8	10	12	16	18	20	25	30
36	40	45	50	120					

Mechanical Properties

Mechanical Properties	Value	Unit	Parameter	Norm	
Tensile strength	100	MPa	50mm/min	DIN EN ISO 527-2	
Tensile strength at yield	100	MPa	50mm/min	DIN EN ISO 527-2	
Elongation at yield	3	%	50mm/min	DIN EN ISO 527-2	
Elongation at break	3	%	50mm/min	DIN EN ISO 527-2	
Flexural strength	171	MPa	2mm/min, 10 N	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	4100	MPa	2mm/min, 10 N	DIN EN ISO 178	
Compression strength	22/41/95	MPa	1% / 2% / 5%	EN ISO 604	3)
Compression modulus	3300	MPa	5mm/min, 10 N	EN ISO 604	4)
Impact strength (Charpy)	75	kJ/m^2	max. 7,5J	DIN EN ISO 179-1eU	5)
Ball indentation hardness	253	MPa		ISO 2039-1	6)
Modulus of elasticity (tensile test)	4100	MPa	1mm/min	DIN EN ISO 527-2	1)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Value	Unit	Parameter	Norm	
Glass transition temperature	151	C		DIN EN ISO 11357	1)
Melting temperature	341	C		DIN EN ISO 11357	
Service temperature	300	C	short term	NN	2)
Service temperature	260	C	long term	NN	
Thermal expansion (CLTE)	5	10-5*1/K	23-60°C, long.	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	5	10-5*1/K	23-100°C, long.	DIN EN ISO 11359-1;2	
Thermal conductivity	0.30	W/(k*m)		ISO 22007-4:2008	
Specific heat	1.1	J/(g*K)		ISO 22007-4:2008	
Thermal expansion (CLTE)	7	10-5*1/K	100-150°C, long.	DIN EN ISO 11359-1;2	

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

Electrical Properties

Electrical Properties	Value	Unit	Parameter	Norm
surface resistivity	10^{12}	O		DIN IEC 60093

Other Properties

Other Properties	Value	Unit	Parameter	Norm	
Resistance to hot water/ bases	+	–		–	2)
Flammability (UL94)	V0	–	corresponding to	DIN IEC 60695-11-10;	4)
Resistance to weathering	–	–		–	3)
Water absorption	0.03	%	24h / 96h (23°C)	DIN EN ISO 62	1)

(1) Ø ca. 50mm, h=13mm
(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.

PEEK – Natural
(Tecapeek – Natural)

Chemical Designation
PEEK (Polyetheretherketone)

Colour
natural opaque

Density
1.31 g/cm^3

Main Features

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

PEEK

Colour Code: Natural Opaque

Shapes and Sizes

Rounds (mm)

5	6	8	10	12	15	16	18	20	22
25	28	30	32	36	40	45	50	56	60
65	70	80	90	100	110	120	125	140	150
160	165	180	200						

Plate (mm)

5	6	8	10	12	16	18	20	25	30
36	40	45	50	120					

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity(tensile test)	1mm/min	4200	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	116	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	116	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	5	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	15	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	175	MPa	DIN EN ISO 178	2)
Modulus of elasticity(flexural test)	2mm/min, 10 N	4200	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/ min, 10 N	23 / 43	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	3400	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7.5J	n.b.	kJ/m^2	DIN EN ISO 179-1eU	5)
Notched impact strength(Charpy)	max. 7.5J	4	kJ/m^2	DIN EN ISO 179-1eA	
Ball indentation hardness		253	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		150	°C	DIN 53765	1)
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		2)
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	

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

Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance	Silver electrode, 23°C, 12% r.h.	10^{15}	Ω	DIN IEC 60093	1)
Specific volume resistance	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	2)
Resistance to tracking (CTI)	Platin electrode, 23°C, 50% r.h., solvent A	125	V	DIN EN 60112	

(1) Specimen in 20mm thickness
(2) Specimen in 1mm thickness

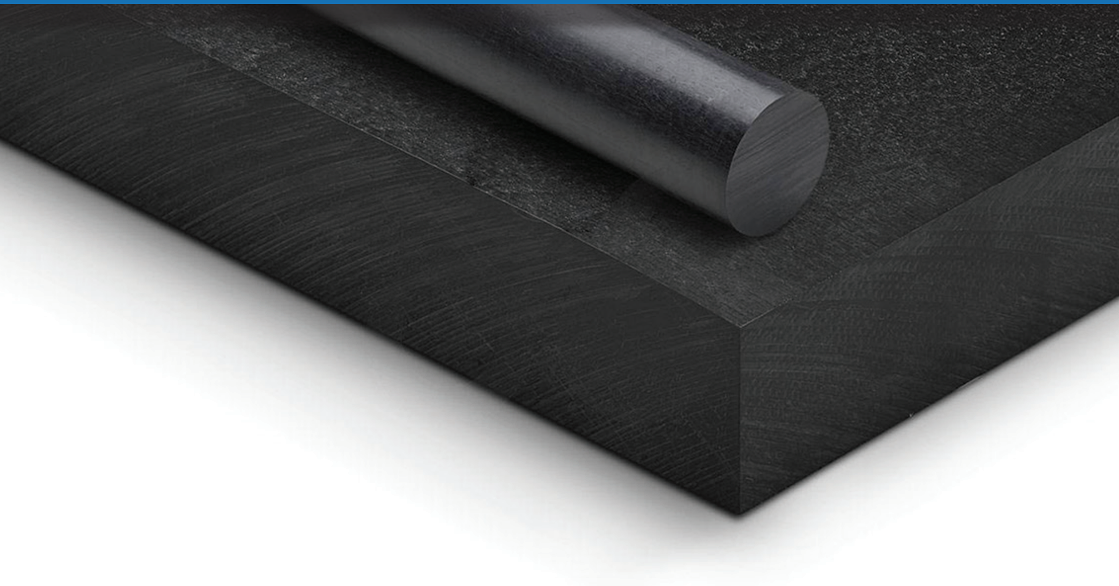
PEEK

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.02 /0.03	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	listed (value at 1.5mm)	V0		DIN IEC 60695-11-10;	

(1) Ø ca. 50mm, h=13mm
(2) (+) good resistance
(3) - poor resistance

PEEK CF30 – Black
(Tecapeek CF30 – Black)



Chemical Designation
PEEK (Polyetheretherketone)

Colour
black

Density
1.38 g/cm^3

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

Colour Code: Black

Shapes and Sizes

Rounds (mm)

5	6	8	10	12	15	16	18	20	22
25	28	30	32	36	40	45	50	56	60
65	70	80	90	100	110	120	125	140	150
160	165	180	200						

Plate (mm)

5	6	8	10	12	16	18	20	25	30
36	40	45	50	120					

Mechanical Properties

Mechanical Properties	Value	Unit	Parameter	Norm	
Modulus of elasticity (tensile test)	6000	MPa	1mm/min	DIN EN ISO 527-2	1)
Tensile strength	112	MPa	50mm/min	DIN EN ISO 527-2	
Elongation at break	10	%	50mm/min	DIN EN ISO 527-2	
Compression strength	25/47/111	MPa	1% / 2% / 5%	EN ISO 604	2)
Impact strength (Charpy)	92	kJ/m^2	max. 7,5J	DIN EN ISO 179-1eU	3)
Ball indentation hardness	298	MPa		ISO 2039-1	4)

(1) For tensile test: specimen type 1b
(2) Specimen 10x10x10mm
(3) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(4) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Value	Unit	Parameter	Norm	
Glass transition temperature	147	C		DIN EN ISO 11357	1)
Melting temperature	341	C		DIN EN ISO 11357	
Service temperature	300	C	short term	NN	2)
Service temperature	260	C	long term	NN	
Thermal expansion (CLTE)	4	10-5*1/K	23-60°C, long.	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	4	10-5*1/K	23-100°C, long.	DIN EN ISO 11359-1;2	
Thermal conductivity	0.66	W/(k*m)		ISO 22007-4:2008	
Specific heat	1.2	J/(g*K)		ISO 22007-4:2008	
Thermal expansion (CLTE)	6	10-5*1/K	100-150°C, long.	DIN EN ISO 11359-1;2	

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

Electrical Properties

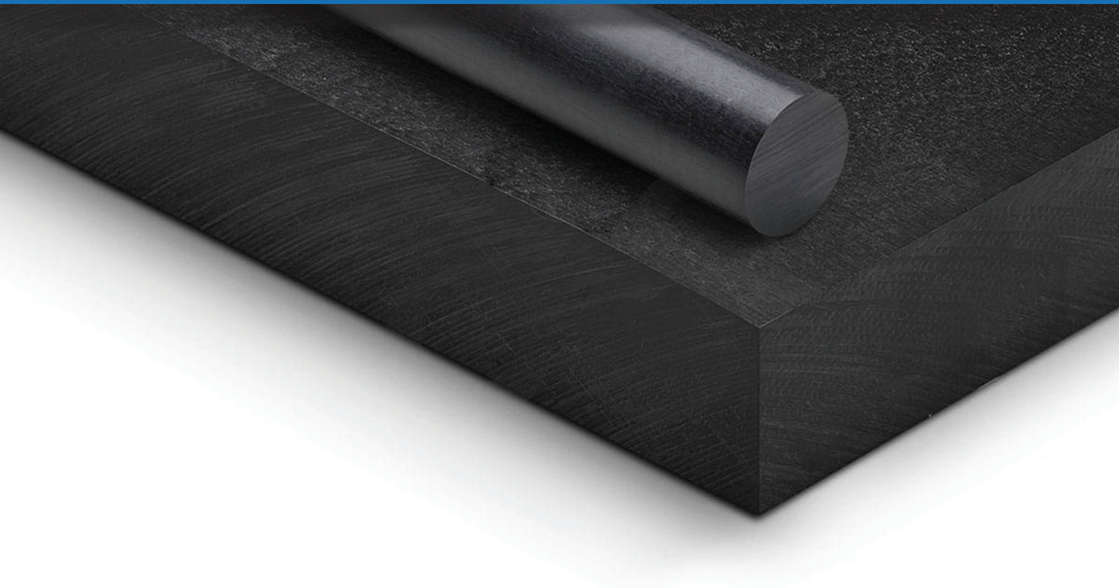
Electrical Properties	Value	Unit	Parameter	Norm
surface resistivity	10^3– 10^{12}	O		DIN EN 61340-2-3
volume resistivity	10^3– 10^{12}	O*cm		DIN EN 61340-2-3

Other Properties

Other Properties	Value	Unit	Parameter	Norm	
Resistance to hot water/ bases	+	–		–	2)
Flammability (UL94)	V0	–	corresponding to	DIN IEC 60695-11-10;	4)
Resistance to weathering	–	–		–	3)
Water absorption	0.03	%	24h / 96h (23°C)	DIN EN ISO 62	1)

(1) Ø ca. 50mm, h=13mm
(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.

PEEK ELS Nano – Black
(Tecapeek ELS Nano – Black)



Chemical Designation
PEEK (Polyetheretherketone)

Colour
black opaque

Density
1.36 g/cm^3

Fillers
CNT

Main Features
- high dimensional stability
- continuous service temperature up to 260°C
- high strength
- very good chemical resistance
- electrically conductive
- high thermal and mechanical capacity
- good machinability
- high toughness

Colour Code: Black Opaque

Shapes and Sizes

Rounds (mm)

5	6	8	10	12	15	16	18	20	22
25	28	30	32	36	40	45	50	56	60
65	70	80	90	100	110	120	125	140	150
160	165	180	200						

Plate (mm)

5	6	8	10	12	16	18	20	25	30
36	40	45	50	120					

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	4800	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	106	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	106	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	4	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	178	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	4700	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/ min, 10 N	27 / 47	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	3600	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	58	kJ/m^2	DIN EN ISO 179-1eU	5)
Ball indentation hardness		253	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition	temperature	147	°C	DIN 53765 *	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.	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		0,46	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

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance	Conductive rubber, 23°C, 12% r.h.	$10^2 – 10^4$	Ω	DIN EN 61340-2-3	1)
Specific volume resistance	Conductive rubber, 23°C, 12% r.h.	$10^3 – 10^5$	Ω*cm	DIN EN 61340-2-3	

(1) Specimen in 20mm thickness

PEEK

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.02 /0.03	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+		–	2)
Resistance to weathering		(+)		–	3)
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(2) (+) good 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.

PEEK GF30
(Tecapeek GF30)

Chemical Designation
PEEK (Polyetheretherketone)

Colour
natural opaque

Density
1.53 g/cm^3

Fillers
glass fibres

Main Features
- good heat deflection temperature
- good chemical resistance
- inherent flame retardant
- hydrolysis and superheated steam resistant
- very high stiffness
- very high creep resistant
- high dimensional stability
- resistance against high energy radiation

Colour Code: Natural Opaque

Shapes and Sizes

Rounds (mm)

5	6	8	10	12	15	16	18	20	22
25	28	30	32	36	40	45	50	56	60
65	70	80	90	100	110	120	125	140	150
160	165	180	200						

Plate (mm)

5	6	8	10	12	16	18	20	25	30
36	40	45	50	120					

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	6400	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	105	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	105	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	3	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	3	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	164	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	6600	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/ min, 10 N	29 / 52	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	4800	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	33	kJ/m^2	DIN EN ISO 179-1eU	5)
Ball indentation hardness		316	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		147	°C	DIN 53765	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.	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	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0,35	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

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance	.	10^{14}	Ω	DIN EN 61340-2-3	
Specific volume resistance	.	10^{15}	Ω*cm	DIN EN 61340-2-3	
Dielectric strength	23°C, 50% r.h.	36	kV/mm	ISO 60243-1	1)

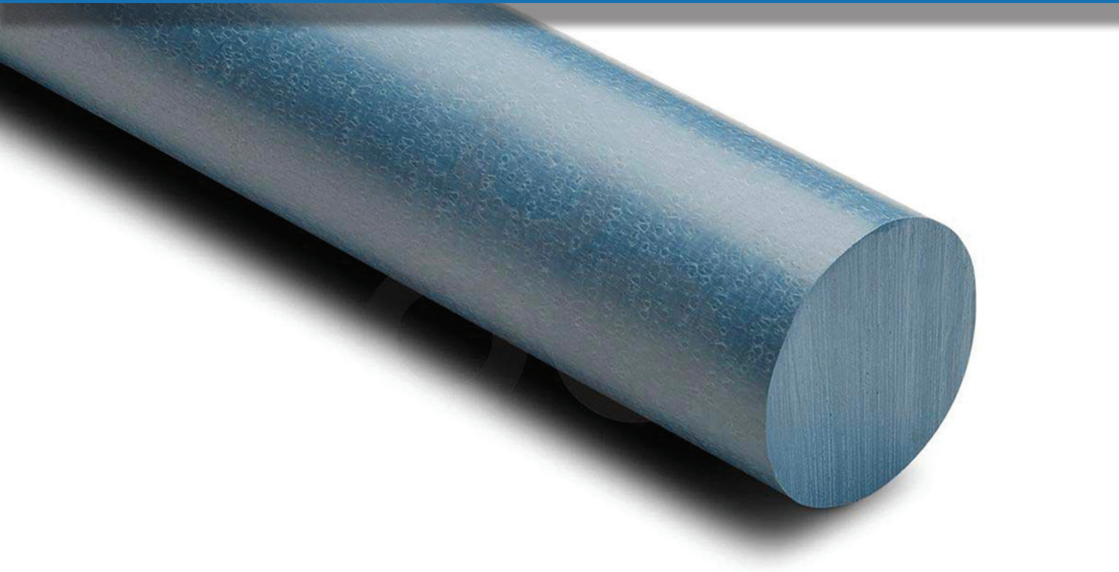
(1) Specimen in 20mm thickness

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.02 /0.03	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+		–	2)
Resistance to weathering		(+)		–	3)
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

PEEK GFID
(Tecapeek ID)



Chemical Designation
PEEK (Polyetheretherketone)

Colour
blue grey opaque

Density
1.49 g/cm^3

Fillers
detectable filler

Main Features
- detectable via metal detector
- good chemical resistance
- high creep resistance
- inherent flame retardant
- good heat deflection temperature
- hydrolysis and superheated steam resistant
- good machinability

Colour Code: Blue Grey Opaque

Shapes and Sizes

Rounds (mm)

5	6	8	10	12	15	16	18	20	22
25	28	30	32	36	40	45	50	56	60
65	70	80	90	100	110	120	125	140	150
160	165	180	200						

Plate (mm)

5	6	8	10	12	16	18	20	25	30
36	40	45	50	120					

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	4600	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	111	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	111	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	6	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	166	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	3700	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/ min, 10 N	25 / 46	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	4800	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	72	kJ/m^2	DIN EN ISO 179-1eU	5)
Ball indentation hardness		260	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		150	°C	DIN 53765	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.	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	

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

Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance	.	10^{14}	Ω	DIN EN 60093	
Specific volume resistance	.	10^{14}	Ω*cm	DIN EN 60093	

PEEK

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.02 /0.03	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

PEEK MT – Natural
(Tecapeek MT – Natural)

Chemical Designation
PEEK (Polyetheretherketone)

Colour
natural opaque

Density
1.31 g/cm^3

Main Features
- high creep resistance
- very good stress cracking resistance
- good machinability
- resistance against high energy radiation
- very good chemical resistance
- hydrolysis and superheated steam resistant
- good slide and wear properties
- very good sterilisable

Colour Code: Natural Opaque

Shapes and Sizes

Rounds (mm)

5	6	8	10	12	15	16	18	20	22
25	28	30	32	36	40	45	50	56	60
65	70	80	90	100	110	120	125	140	150
160	165	180	200						

Plate (mm)

5	6	8	10	12	16	18	20	25	30
36	40	45	50	120					

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	4200	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	116	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	116	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	5	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	15	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	175	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	4200	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	23 / 43	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	3400	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m²	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	4	kJ/m²	DIN EN ISO 179-1eA	
Ball indentation hardness		253	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		150	°C	DIN 53765	1)
Melting temperature		342	°C	DIN 53765	
Service temperature	short term	300	°C		2)
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	

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

Electrical Properties

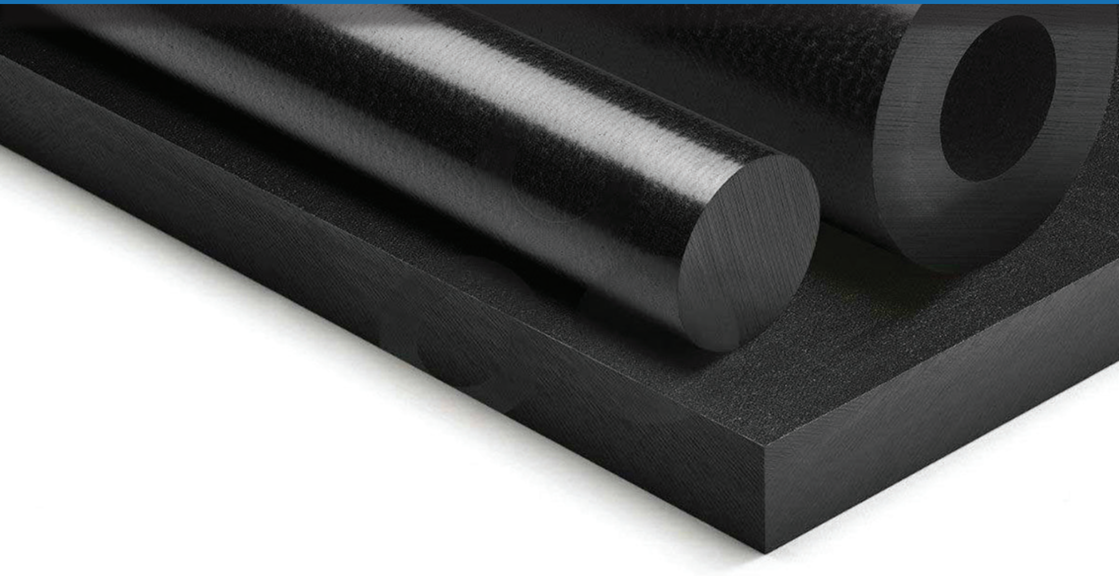
Electrical Properties	Parameter	Value	Unit	Norm
Specific surface resistance	.	10^{14}	Ω	DIN EN 60093
Specific volume resistance	.	10^{14}	Ω*cm	DIN EN 60093

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.02 /0.03	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+		–	2)
Resistance to weathering		-		–	3)
Flammability (UL94)	listed (value at 1.5mm)	V0		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

PEEK PVX – Black
(Tecapeek PVX – Black)



PEEK

Chemical Designation
PEEK (Polyetheretherketone)

Colour
black opaque

Density
1.44 g/cm^3

Fillers
carbon fibres, PTFE, graphite

Main Features
- good heat deflection temperature
- high creep resistance
- good slide and wear properties
- hydrolysis and superheated steam resistant
- good wear properties
- inherent flame retardant
- very good chemical resistance
- not electrically insulating

Colour Code: Black Opaque

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CUT TO SIZE

Shapes and Sizes

Rounds (mm)

5	6	8	10	12	15	16	18	20	22
25	28	30	32	36	40	45	50	56	60
65	70	80	90	100	110	120	125	140	150
160	165	180	200						

Plate (mm)

5	6	8	10	12	16	18	20	25	30
36	40	45	50	120					

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	5500	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	84	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	84	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	3	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	3	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	142	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	6000	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/ min, 10 N	23 / 44	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	4000	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	28	kJ/m²	DIN EN ISO 179-1eU	5)
Ball indentation hardness		250	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		146	°C	DIN 53765	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

Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance	Conductive rubber, 23°C, 12% r.h.	$10^4 - 10^{11}$	Ω	DIN EN 61340-2-3	1)
Specific volume resistance	Conductive rubber, 23°C, 12% r.h.	$10^7 - 10^{12}$	Ω*cm	DIN EN 61340-2-3	

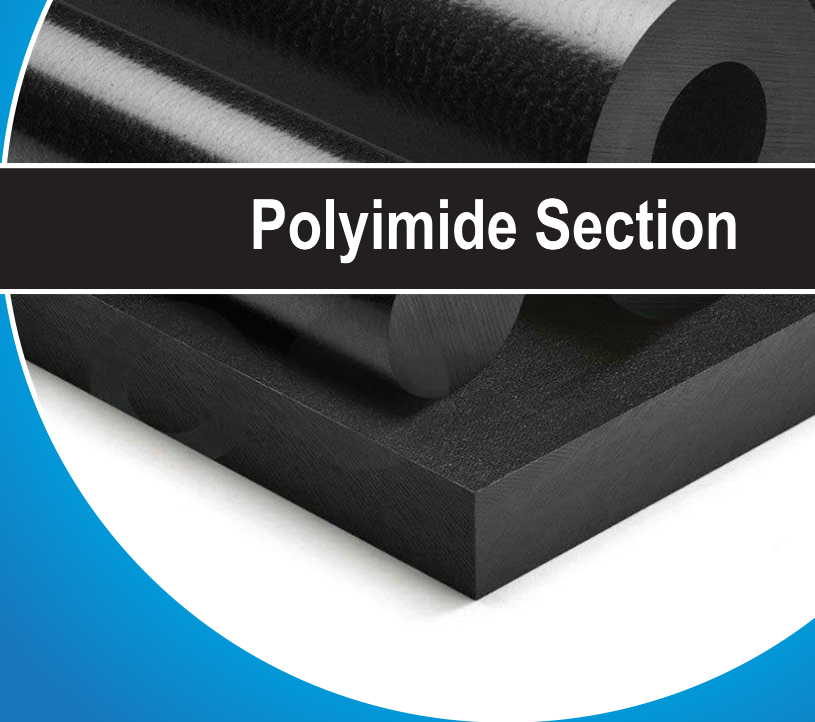
(1) Specimen in 20mm thickness

PEEK

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	0.02 /0.03	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+		–	2)
Resistance to weathering		(+)		–	3)
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.



Polyimide Section

This section includes:

Polyimide (Tecasint) 116

Polyimide
(Tecasint)

Chemical Designation
PI (Polyimide)

Colour
black

Density
1.34 g/cm^3

Main Features
- high thermal and mechanical capacity
- very good thermal stability
- good chemical resisitance
- resistance against high energy radiation
- low outgassing
- high creep resistance
- sensitive to hydrolysis in higher thermal range

Colour Code: Black

Shapes and Sizes

For more information on the range of shapes, sizes and grades we have available please contact us as we will be happy to assist you with reaching your requirements.

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm
Modulus of elasticity(tensile test)	1mm/min, 23°C	3600	MPa	DIN EN ISO 527-1
Tensile strength	50 mm/min, 23°C	116	MPa	DIN EN ISO 527-1
Elongation at break	50 mm/min, 23°C	3,8	%	DIN EN ISO 527-1
Elongation at break	10 mm/min, 23°C	6	%	DIN EN ISO 178
Flexural strength	10 mm/min, 23°C	170	MPa	DIN EN ISO 178
Modulus of elasticity (flexural test)	2 mm/min, 23°C	3700	MPa	DIN EN ISO 178
Compression strength	10 mm/min, 23°C	500	MPa	EN ISO 604
Compression strength	10mm/min, 10% strain, 23°C	190	MPa	EN ISO 604
Compression modulus	1 mm/min, 23°C	2000	MPa	EN ISO 604
Compressive strain at break	10 mm/min, 23°C	45	%	EN ISO 604
Impact strength (Charpy)	max 7.5 J, 23°C	75,8	kJ/m^2	DIN EN ISO 179-1eU
Notched impact strength (Charpy)	max 7.5 J, 23°C	5	kJ/m^2	DIN EN ISO 179-1eA
Shore hardness	Shore D, 23°C	90	D	DIN 53505

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		368	°C	–	1)
Heat distortion temperature	1.85 MPa	368	°C	DIN 53 461	
Service temperature	long-term	–	°C	–	2)
Thermal expansion (CLTE)	50-200°C	4.3 / 4.3	10 K	DIN 53 752	
Thermal expansion (CLTE)	200-300°C	5.3 / 5.3	10 K	DIN 53 752	
Specific heat		1,04	J/(g*K) –		
Thermal conductivity	40°C	0,22	W/(K*m)	ISO 8302	
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

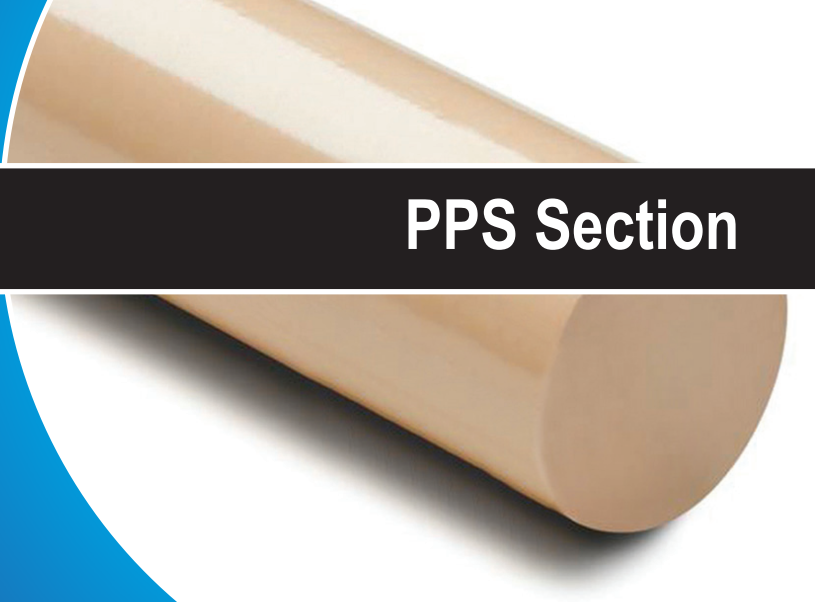
Electrical Properties	Parameter	Value	Unit	Norm	
Specific surface resistance	23°C	10	Ω	DIN IEC 60093	1)
Specific volume resistance	23°C	10	Ω*cm	DIN IEC 60093	
Electric strength DC	23°C	20	kV*mm	ISO 60243-1	
Dielectric loss factor	50 Hz, 23°C	1*10		DIN 53483-1	
Dielectric loss factor	27 MHz, 23°C	3*10		DIN 53483-1	
Dielectric constant	50 Hz, 23°C	3,5		DIN IEC 60250	
Dielectric constant	27 MHz, 23°C	3,1		DIN IEC 60250	

(1) Specimen in 20mm thickness

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24 h in water, 23°C	1,08	%	DIN EN ISO 62	
Water absorption	24 h in water, 80°C	3,29	%	DIN EN ISO 62	
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1)

(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.



PPS Section

This section includes:

PPS (Tecatron) 120
PPSU (Tecason) 123

PPS
(Tecatron)

Chemical Designation
PPS (Polyphenylensulfide)

Colour
natural opaque

Density
1.36 g/cm^3

Main Features
- good heat deflection temperature
- good chemical resistance
- resistance against high energy radiation
- high strength
- high dimensional stability
- high stiffness
- high creep resistance

Colour Code: Natural Opaque

Shapes and Sizes

For more information on the range of shapes, sizes and grades we have available please contact us as we will be happy to assist you with reaching your requirements.

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	4100	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	102	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	100	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	4	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	151	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	4000	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	20 / 38	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	3300	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	29	kJ/m^2	DIN EN ISO 179-1eU	5)
Ball indentation hardness		248	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

PPS

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		97	°C	DIN 53765	1)
Melting temperature		281	°C	DIN 53765	
Service temperature	short term	260	°C		2)
Service temperature	long term	230	°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.	7	10^{-5} K^{-1}	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150°C, long.	12	10^{-5} K^{-1}	DIN EN ISO 11359-1;2	
Specific heat		1	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0,25	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

Electrical Properties	Parameter	Value	Unit	Norm
Specific surface resistance		10^{14}	Ω	DIN IEC 60093
Specific volume resistance		10^{14}	Ω*cm	DIN IEC 60093

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	<0.01 / 0,01	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

PPSU
(Tecason)

Chemical Designation
PPS (Polyphenylensulfide)

Colour
natural opaque

Density
1.36 g/cm^3

Main Features

- good heat deflection temperature
- good chemical resistance
- resistance against high energy radiation
- high strength
- high dimensional stability
- high stiffness
- high creep resistance

Colour Code: Natural Opaque

Shapes and Sizes

For more information on the range of shapes, sizes and grades we have available please contact us as we will be happy to assist you with reaching your requirements.

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity(tensile test)	1mm/min	4100	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	102	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	100	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	4	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	151	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	4000	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	20 / 38	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	3300	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	29	kJ/m^2	DIN EN ISO 179-1eU	5)
Ball indentation hardness		248	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		97	°C	DIN 53765	1)
Melting temperature		281	°C	DIN 53765	
Service temperature	short term	260	°C		2)
Service temperature	long term	230	°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.	7	$10^{-5} K^{-1}$	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150°C, long.	12	$10^{-5} K^{-1}$	DIN EN ISO 11359-1;2	
Specific heat		1	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0,25	W/(K*m)	ISO 22007-4:2008	

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

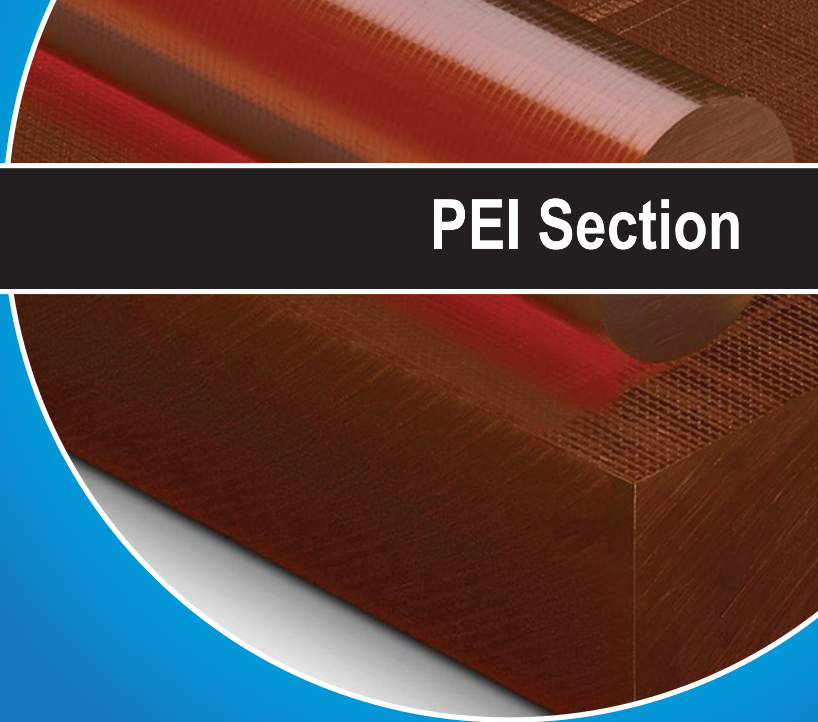
Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm
Specific surface resistance		10^{14}	Ω	DIN IEC 60093
Specific volume resistance		10^{14}	Ω*cm	DIN IEC 60093

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	<0.01 / 0,01	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.

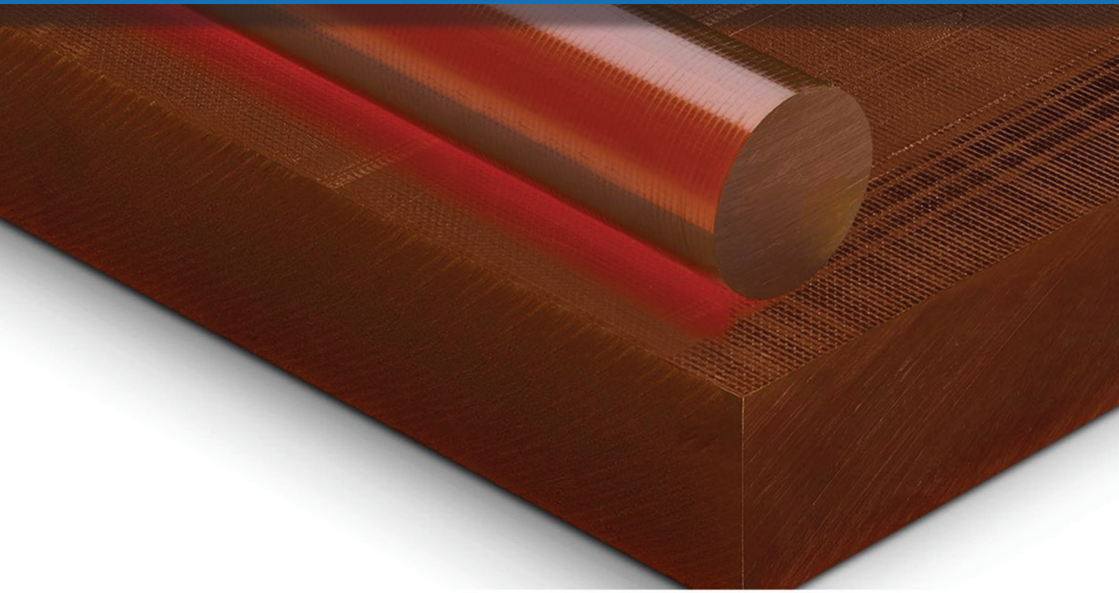


PEI Section

This section includes:

PEI (Tecapei) 128

PEI
(Tecapei)



Chemical Designation
PEI (Polyethereimide)

Colour
amber transparent

Density
1.28 g/cm^3

Main Features
- high thermal and mechanical capacity
- resistance against high energy radiation
- high dimensional stability
- inherent flame retardant

Colour Code: Amber Transparent

Shapes and Sizes

For more information on the range of shapes, sizes and grades we have available please contact us as we will be happy to assist you with reaching your requirements.

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm	
Modulus of elasticity (tensile test)	1mm/min	3200	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	127	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	127	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	7	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	35	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	164	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	3300	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	23 / 41	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2800	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	113	kJ/m^2	DIN EN ISO 179-1eU	5)
Ball indentation hardness		225	MPa	ISO 2039-1	6)

(1) For tensile test: specimen type 1b
(2) For flexural test: support span 64mm, norm specimen.
(3) Specimen 10x10x10mm
(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
(5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
(6) Specimen in 4mm thickness

PEI

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm	
Glass transition temperature		216	°C	DIN 53765	1)
Melting temperature		n.a.	°C	DIN 53765	
Service temperature	short term	200 °C			2)
Service temperature	long term	170 °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.	6	10^{-5} K^{-1}	DIN EN ISO 11359-1;2	
Specific heat		1,2	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0,21	W/(K*m)	ISO 22007-4:2008	

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

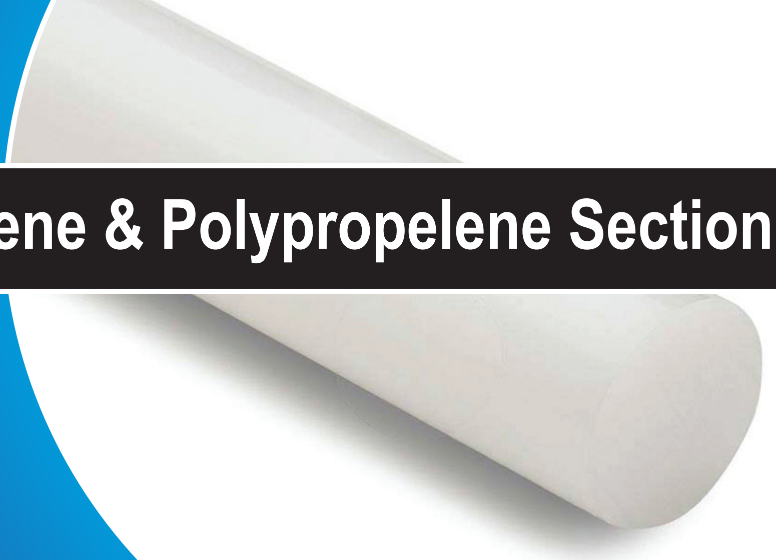
Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm
Specific surface resistance		10	Ω	DIN IEC 60093
Specific volume resistance		10	Ω*cm	DIN IEC 60093

Other Properties

Other Properties	Parameter	Value	Unit	Norm	
Water absorption	24h / 96h (23°C)	<0.05 / 0,1	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+		–	2)
Resistance to weathering		–		–	3)
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)

(1) Ø ca. 50mm, h=13mm
(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.



Polyethelene & Polypropelene Section

This section includes:

HDPE (Tecafine PE) 132
Polypropylene (Round & Flat) (Polyprolene) 135
UHMWPE (Tecafine PE 10 - Tecafine PE 100) 138

HDPE
(Tecafine PE)

Chemical Designation
Polyethylene

Colour, Fillers
opaque

DIN-Abbreviation
PE-HD

Fillers
carbon fibres, PTFE, graphite

Main Features
- very low moisture absorption
- good sliding properties
- easily welded
- difficult to bond
- resistant to cleaning agents & xxx acids
- resistant to numerous solvents
- low hardness
- low density
- very good electrical
- insulation good cold impact strength of resistance

Colour Code: Opaque

Shapes and Sizes

Rounds (mm)

20	25	30	40	50	60	70	80	90	100
110	120	130	140	150	160	180	200		

Plate (mm)

8	10	12	15	20	25	30	35	40	50
60	70	80	100						

Mechanical Properties

Mechanical Properties	Dry/Moist	Unit	Standard
Tensile strength at yield	25	MPa	DIN EN ISO 527
Elongation at yield		%	
Tensile strength at break		MPa	
Elongation at break		%	
Modulus of elasticity in tension	1000	MPa	DIN EN ISO 527
Modulus of elasticity after flexural test	1000-1400	MPa	DIN EN ISO 178
Hardness	50		DIN 53 456 (Kugeldruckhärte)
Impact strength 23° C (Charpy)	n.b.	KJ/m^2	DIN EN ISO 179
Creep rupture strength after 1000 h with static load	12,5	MPa	
Time yield limit for 1% elongation after 1000 h	3	MPa	
Co-efficient of friction p = 0,05 N/mm^2v=0,6 m/s	0,29		
on steel, hardened and ground			
Wear p = 0,05 N/mm^2v=0,6 m/s		μm/km	
on steel, hardened and ground			

Thermal Properties

Thermal Properties	Dry/Moist	Unit	Standard
Crystalline melting point	130	°C	DIN 53 765
Glass transition temperature	-95	°C	DIN 53 765
Heat distortion temperature HDT, Method A	42-49	°C	ISO-R 75 Verfahren A (DIN 53 461)
Heat distortion temperature HDT, Method B	70-85	°C	ISO-R 75 Verfahren B (DIN 53 461)
Max. service temperature short term	90	°C	
Max. service temperature long term	90	°C	
Thermal conductivity (23° C)	0,35-0,43	W/(K·m)	
Specific heat (23° C)	1,7-2	J/g.K	
Coefficient of thermal expansion (23-55°C)	13-15	10-51/K	DIN 53 752

Electrical Properties

Electrical Properties	Dry/Moist	Unit	Standard
Dielectric constant (106 Hz)	2,4		DIN 53 483, IEC-250
Dielectric loss factor (106 Hz)	0,0002		DIN 53 483, IEC-250
Specific volume resistance	> 10^15	*cm	DIN IEC 60093
Surface resistance	> 10^13		DIN IEC 60093
Dielectric strength	>50	kV/mm	DIN 53 481, IEC-243, VDE 0303 Teil 2
Resistance to tracking	KA 3c		DIN 53 480, VDE 0303 Teil 1

Other Properties

Miscellaneous Properties	Dry/Moist	Unit	Standard
Density	0,96	g/cm3	DIN 53 479
Moisture absorption (23°C/50RH)		%	DIN EN ISO 62
Water absorption to equilibrium	0,02	%	DIN EN ISO 62
Flammability acc. to UL standard 94	HB		

Polypropylene (Round & Flat)
(Polyprolene)

Chemical Designation
PP

Colour
natural/black

Density
0.91 g/cm^3

Colour Code: Natural/Black

NEXT DAY DISPATCH
SECURELY PACKED
98% ON TIME DELIVERY
NO MOQ NO MINIMUM ORDER QUANTITY
PART MACHINING CUTTING, DRILLING & BILLETING
RAPID QUOTE SERVICE
EUROPEAN SOURCED
CUT TO SIZE

Shapes and Sizes

Rounds (mm)

20	25	30	40	50	60	70	80	90	100
110	120	130	140	150	160	180	200		

Plate (mm)

8	10	12	15	20	25	30	35	40	50
60	70	80	100						

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm
Modulus of elasticity (tensile test)		1350	MPa	DIN 53457
Tensile strength at yield		32	MPa	DIN EN ISO 527
Elongation at break		13	%	DIN 53455
Notched impact strength (Charpy)		7	kJ/m^2	DIN EN ISO 179

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm
Service temperature	long term	100	°C	
Thermal expansion (CLTE)	23-60°C, long.	16	10^{-5}*K^{-1}	ISO 11359-2
Thermal conductivity		0,22	W/(K*m)	DIN 52612

Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm
Surface resistance		10^{13}	W	DIN 53482
Dielectric strength		>55	kV/mm	DIN 53481

Other Properties

Other Properties	Parameter	Value	Unit	Norm
Water absorption	saturation (23°C)	0,1	%	DIN 53495
Flammability		HB		UL94

UHMWPE
(Tecafine PE 10 - Tecafine PE 100)

Chemical Designation
Polyethylene

Colour
opaque/black

DIN-Abbreviation
PE-UHMW

Main Features
- Tough
- Good sliding properties
- Resistant to dilute acids,cleaning agents, numerous solvents
- Very good electrical insulation
- Difficult to bond
- Lightweight
- Very good abrasion resistance
- Very low water absorption

Colour Code: Opaque/Black

Shapes and Sizes

Rounds (mm)

20	25	30	40	50	60	70	80	90	100
110	120	130	140	150	160	180	200		

Plate (mm)

8	10	12	15	20	25	30	35	40	50
60	70	80	100						

Mechanical Properties

Mechanical properties		unit	standard
Density	0,93	g/cm³	DIN EN ISO 527 / D 792
Tensile strength at yield	17	MPa	DIN EN ISO 527 / D 638
Tensile strength at break	40	MPa	DIN EN ISO 527 / D 638
Elongation at break	>50	%	DIN EN ISO 527 / D 638
Modulus of elasticity in tension	650	MPa	DIN EN ISO 527 / D 638
Modulus of elasticity in flexure	800	MPa	DIN EN ISO 178 / D 790
Ball indentation hardness	35	MPa	DIN EN ISO 2039 / 1
Impact strength	No br.	kJ/m²	DIN EN ISO 179 / D 256
Creep rupture strength after 1000 hrs with static load		MPa	
Time yield limit for 1% elongation after 1000 hrs.		MPa	
Coefficient of friction against hardened and ground steel	– 0.29		
p = 0,05 N/mm², v = 0,6 m/s			
Wear conditions as above		µm/km	

Thermal Properties

Thermal Properties		Unit	Standard
Crystalline melting point	135	°C	DIN 53 736
Glass transition temperature		°C	DIN 53 736
Heat distortion temperature			
Method A	42	°C	R 75
Method B	~70	°C	R 75
Max. service temperature			
short term	120	°C	
long term	90	°C	
Coefficient of thermal conductivity	0,41	W/(m . K)	
Specific heat	1,84	J/(g . K)	
Coefficient of thermal expansion	20	10^{-5}/K	DIN 53 483 /D 696

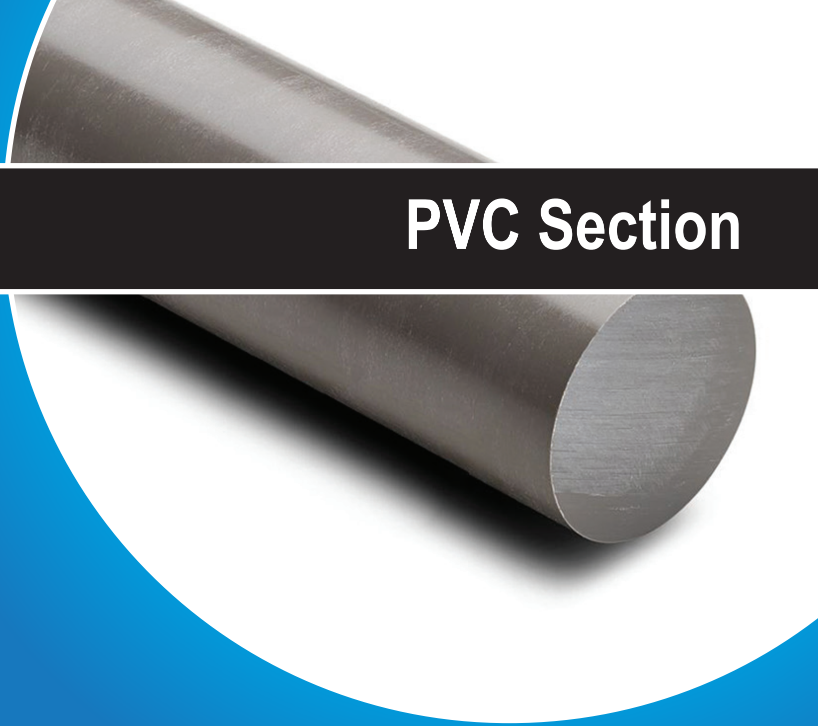
Electrical Properties

Electrical Properties		Unit	Standard
Dielectric constant at 105 Hz	3		DIN 53 483
Dielectric loss factor at 105 Hz			DIN 53 483
Specific volume resistance	10^{14}	Ω . cm	DIN 60093
Surface resistance	10^{12}	Ω	DIN 60093
Dielectric strength 1 mm	45	kV/mm	ASTM 149
Tracking resistance KA 3c, KB>600,KC>600			DIN 53 480

Other Properties

Miscellaneous Properties		Unit	Standard
Moisture absorption: Equilibrium in standard	0,01	%	DIN EN 150/ASTM 62
atmosphere (23 °C / 50 % relative humidity)			
Water absorption at saturation at 23 °C	0,02	%	DIN EN 150/ASTM 62
Resistance to hot water, washing soda	resistant		
Flammability according to UL standard 94	HB		
Resistance to weathering	natural not resistant, black resistant		

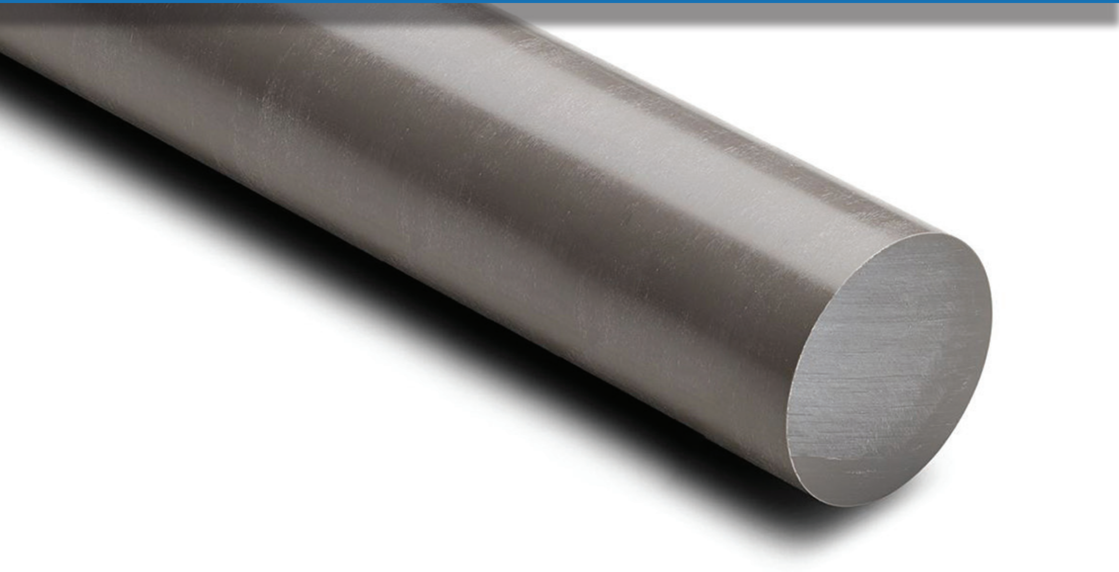
PVC Section



This section includes:

PVC (Polyvinyl Chloride) 142

PVC
(Polyvinyl Chloride)



Chemical Designation
PVC

Colour
brown

Density
1.44 g/cm^3

Main Features
- good heat deflection temperature
- electrically insulating
- sensitive to stress cracking
- high strength
- good weldable and bondable

Colour Code: Brown

Shapes and Sizes

Rounds (mm)

6	8	10	12	15	18	20	25	30	35
40	45	50	55	60	65	70	75	80	90
100	110	120	130	140	150	160	180	200	225
250	300								

Plate (mm)

1	1.5	2	3	4	4.5	5	6	8	10
12	15	20	25	30	35	40	50	75	80
90	100	110	120	130	140	150	160	180	200
250	300								

Mechanical Properties

Mechanical Properties	Parameter	Value	Unit	Norm
Tensile strength at yield		45	MPa	DIN EN ISO 527
Elongation at break		15	%	DIN EN ISO 527
Modulus of elasticity (tensile test)		3000	MPa	DIN EN ISO 527
Notched impact strength (Charpy)		2	kJ/m^2	DIN EN ISO 179
Ball indentation hardness		140	MPa	DIN EN ISO 2039-1

Thermal Properties

Thermal Properties	Parameter	Value	Unit	Norm
Service temperature	short term	70	°C	Average
Service temperature	long term	60	°C	Average
Thermal conductivity		0,2	W/(K*m)	DIN 52612-1
Coefficient of linear thermal		8	$10^{-5}K^{-1}$	DIN 53752

Electrical Properties

Electrical Properties	Parameter	Value	Unit	Norm
Surface resistance		10^{13}	W	IEC 60093
Specific volume resistance		10^{15}	W*cm	IEC 60093
Dielectric constant		3		IEC 60250
Dielectric strength		39	kV/mm	IEC 60243-1

Other Properties

Other Properties	Parameter	Value	Unit	Norm
Flammability		V0		UL94

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