Bayblend® – typical values

					Standard grades					
					Non reinforced					
Properties	**Test conditions**	**Units**	**Standards**		**T45**	**T45 PG**	**T65**	**T85**	**T50 XF**	**T65 XF**
Rheological properties										
Melt viscosity[1)]	260 °C; 1000 s^{-1}	Pas	b. o. ISO 11443		200	200	230	290	190	200
C Melt volume-flow rate (MVR)	240 °C; 5 kg	cm^3/(10 min)	ISO 1133							
C Melt volume-flow rate (MVR)	260 °C; 5 kg	cm^3/(10 min)	ISO 1133		12	12	12	12	26	18
Molding shrinkage, parallel	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577							
Molding shrinkage, parallel	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.55 – 0.75	0.55 – 0.75	0.55 – 0.75	0.55 – 0.75	0.55 – 0.75	0.5 – 0.7
Molding shrinkage, normal	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577							
Molding shrinkage, normal	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.55 – 0.75	0.55 – 0.75	0.55 – 0.75	0.55 – 0.75	0.55 – 0.75	0.5 – 0.7
Mechanical properties (23 °C / 50 % r. h.)										
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2		2100	2100	2200	2300	2200	2400
C Tensile yield stress	50 mm/min	MPa	ISO 527-1,-2		49	49	52	55	50	54
C Tensile yield strain	50 mm/min	%	ISO 527-1,-2		3.7	3.7	4.2	4.7	4.5	4.4
Tensile stress at break	50 mm/min	MPa	ISO 527-1,-2		40	40	45	48	48	47
Tensile strain at break	50 mm/min	%	b. o. ISO 527-1,-2		> 50	> 50	> 50	> 50	> 50	> 50
Tensile yield stress	5 mm/min	MPa	ISO 527-1,-2							
Tensile yield strain	5 mm/min	%	ISO 527-1,-2							
C Tensile stress at break	5 mm/min	MPa	ISO 527-1,-2							
C Tensile strain at break	5 mm/min	%	ISO 527-1,-2							
Izod impact strength	23 °C	kJ/m^2	ISO 180/U		N	N	N	N	N	N
Izod impact strength	–30 °C	kJ/m^2	ISO 180/U		N	N	N	N	N	N
Izod notched impact strength	23 °C	kJ/m^2	ISO 180/A		40	40	45	48	45	45
Izod notched impact strength	–20 °C	kJ/m^2	ISO 180/A							
Izod notched impact strength	–30 °C	kJ/m^2	ISO 180/A		36	36	41	38	38	35
Thermal properties										
C Temperature of deflection under load	1,80 MPa	°C	ISO 75-1,-2		95	95	100	109	97	102
C Temperature of deflection under load	0,45 MPa	°C	ISO 75-1,-2		112	112	122	127	116	122
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306		110	110	118	129	113	118
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306		112	112	120	131	115	120
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2		0.85	0.85	0.8	0.75	0.9	0.8
C Coefficient of linear thermal expansion, normal	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2		0.9	0.9	0.85	0.8	0.9	0.85
C Burning behavior UL 94 (wall thickness)		Class	UL 94		HB (0.85 mm)	HB (0.85 mm)	HB (0.85 mm)	HB (0.85 mm)	HB (0.85 mm)	HB (0.85 mm)
C Burning behavior UL 94 (wall thickness)		Class	UL 94							
C Burning behavior UL 94-5V	2.0 mm	Class	UL 94							
Burning behavior UL 94-5V	3.0 mm	Class	UL 94							
Electrical properties (23 °C / 50 % r. h.)										
C Relative permittivity	100 Hz	–	IEC 60250		3.1	3.1	3.1	3.1		3.1
C Relative permittivity	1 MHz	–	IEC 60250		3.0	3.0	3.0	3.0		3.0
C Dissipation factor	100 Hz	10^{-4}	IEC 60250		35	35	30	20		30
C Dissipation factor	1 MHz	10^{-4}	IEC 60250		85	85	85	85		85
C Volume resistivity		Ohm·m	IEC 60093		1E14	1E14	1E14	1E14		1E14
C Surface resistivity		Ohm	IEC 60093		1E16	1E16	1E16	1E16		1E16
C Electrical strength	1 mm	kV/mm	IEC 60243-1		35	35	35	35		35
C Comparative tracking index (CTI)	Solution A	Rating	IEC 60112		275	275	250	225		250
Other properties (23 °C)										
C Water absorption (saturation value)	Water at 23 °C	%	ISO 62		0.7	0.7	0.7	0.7	0.7	0.7
C Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62		0.2	0.2	0.2	0.2	0.2	0.2
C Density	–	kg/m^3	ISO 1183		1100	1100	1130	1150	1110	1130
Glass fiber content	–	%	ISO 3451-1							
Processing conditions for test specimens										
C Injection molding: melt temperature	–	°C	ISO 294		260	260	260	260	260	260
C Injection molding: mold temperature	–	°C	ISO 294		80	80	80	80	80	80
C Injection molding: injection velocity	–	mm/s	ISO 294		240	240	240	240	240	240

C These property characteristics are taken from the CAMPUS® plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350 (Plastics Acquisition and Presentation of Corporate Single-Point Data, 1993).

*Disclamer (see note on page 27).

Impact properties:
N = non break
b. o. = based on
r. h. = relative humidity

[1)]Determination of true viscosity using the method of representative viscosity

Bayblend® – typical values

					Standard grades					
					Non reinforced					
Properties	**Test conditions**	**Units**	**Standards**		**T85 XF**	**KU 1-1446***	**DP T90***	**DP T90 HT***	**DP W65***	**DP W85 XF***
Rheological properties										
Melt viscosity[1]	260 °C; 1000 s^{-1}	Pas	b. o. ISO 11443		250	300	200	250	200	230
C Melt volume-flow rate (MVR)	240 °C; 5 kg	cm^3/(10 min)	ISO 1133							
C Melt volume-flow rate (MVR)	260 °C; 5 kg	cm^3/(10 min)	ISO 1133		19	5	25	26	12	27
Molding shrinkage, parallel	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577							
Molding shrinkage, parallel	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.5 – 0.7	0.65 – 0.85	0.55 – 0.75	0.6 – 0.8	0.55 – 0.75	0.55 – 0.75
Molding shrinkage, normal	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577							
Molding shrinkage, normal	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.5 – 0.7	0.65 – 0.85	0.55 – 0.75	0.6 – 0.8	0.55 – 0.75	0.55 – 0.75
Mechanical properties (23 °C / 50 % r. h.)										
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2		2300	1800	2300	2400	2000	2450
C Tensile yield stress	50 mm/min	MPa	ISO 527-1,-2		54	45	54	56	46	62
C Tensile yield strain	50 mm/min	%	ISO 527-1,-2		4.7	4.5	4.2	5.0	4	4.9
Tensile stress at break	50 mm/min	MPa	ISO 527-1,-2		50	44	45	48	42	53
Tensile strain at break	50 mm/min	%	b. o. ISO 527-1,-2		> 50	> 50	> 50	> 50	> 50	> 50
Tensile yield stress	5 mm/min	MPa	ISO 527-1,-2							
Tensile yield strain	5 mm/min	%	ISO 527-1,-2							
C Tensile stress at break	5 mm/min	MPa	ISO 527-1,-2							
C Tensile strain at break	5 mm/min	%	ISO 527-1,-2							
Izod impact strength	23 °C	kJ/m^2	ISO 180/U		N	N	N	N	N	
Izod impact strength	–30 °C	kJ/m^2	ISO 180/U		N	N	N	N		
Izod notched impact strength	23 °C	kJ/m^2	ISO 180/A		48	45	42	44	45	45
Izod notched impact strength	–20 °C	kJ/m^2	ISO 180/A					21		15
Izod notched impact strength	–30 °C	kJ/m^2	ISO 180/A		35	35	20		20	
Thermal properties										
C Temperature of deflection under load	1,80 MPa	°C	ISO 75-1,-2		109	98			98	109
C Temperature of deflection under load	0,45 MPa	°C	ISO 75-1,-2		127	118			116	127
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306		128	118	125	133	111	130
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306		130	120	127	135	113	132
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2		0.75	0.9			0.95	0.65
C Coefficient of linear thermal expansion, normal	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2		0.8	0.95			1.0	0.68
C Burning behavior UL 94 (wall thickness)		Class	UL 94		HB (0.85 mm)	HB (1.5 mm)	HB (0.9 mm)	HB[2] (1.5 mm)	HB[2] (1.57 mm)	
C Burning behavior UL 94 (wall thickness)		Class	UL 94							
C Burning behavior UL 94-5V	2.0 mm	Class	UL 94							
Burning behavior UL 94-5V	3.0 mm	Class	UL 94							
Electrical properties (23 °C / 50 % r. h.)										
C Relative permittivity	100 Hz	–	IEC 60250		3.1	3.0			3.1	
C Relative permittivity	1 MHz	–	IEC 60250		3.0	2.9			3.0	
C Dissipation factor	100 Hz	10^{-4}	IEC 60250		20	25			30	
C Dissipation factor	1 MHz	10^{-4}	IEC 60250		85	85			75	
C Volume resistivity		Ohm·m	IEC 60093		1E14	1E14			1E14	
C Surface resistivity		Ohm	IEC 60093		1E16	1E16			1E16	
C Electrical strength	1 mm	kV/mm	IEC 60243-1		35	35			35	
C Comparative tracking index (CTI)	Solution A	Rating	IEC 60112		225	275			275	
Other properties (23 °C)										
C Water absorption (saturation value)	Water at 23 °C	%	ISO 62		0.7	0.7	0.7	0.7	0.7	
C Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62		0.2	0.2	0.2	0.2	0.2	
C Density	–	kg/m^3	ISO 1183		1140	1110	1140		1100	1160
Glass fiber content	–	%	ISO 3451-1							
Processing conditions for test specimens										
C Injection molding: melt temperature	–	°C	ISO 294		260	260	260	260	260	260
C Injection molding: mold temperature	–	°C	ISO 294		80	80	80	80	80	80
C Injection molding: injection velocity	–	mm/s	ISO 294		240	240	240	240	240	240

C These property characteristics are taken from the CAMPUS® plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350 (Plastics Acquisition and Presentation of Corporate Single-Point Data, 1993).

*Disclaimer (see note on page 27).

Impact properties:
N = non break
b. o. = based on
r. h. = relative humidity

[1] Determination of true viscosity using the method of representative viscosity

[2] Bayer test

Bayblend® – typical values

					Standard grades				
					Glass fiber-reinforced				
Properties	**Test conditions**	**Units**	**Standards**		**T88-2N**	**T88-4N**	**KU 2-1522***	**DP T88 GF-10***	**DP T88 GF-20***
Rheological properties									
Melt viscosity[1)]	260 °C; 1000 s^{-1}	Pas	b. o. ISO 11443		320	330	190	210	210
C Melt volume-flow rate (MVR)	240 °C; 5 kg	cm^3/(10 min)	ISO 1133						
C Melt volume-flow rate (MVR)	260 °C; 5 kg	cm^3/(10 min)	ISO 1133						
Molding shrinkage, parallel	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577						
Molding shrinkage, parallel	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.35 – 0.55	0.2 – 0.4	0.3 – 0.5	0.25 – 0.45	0.2 – 0.4
Molding shrinkage, normal	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577						
Molding shrinkage, normal	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.35 – 0.55	0.3 – 0.6	0.3 – 0.5	0.35 – 0.55	0.3 – 0.5
Mechanical properties (23 °C / 50 % r. h.)									
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2		3900	5900	4200	5100	7500
C Tensile yield stress	50 mm/min	MPa	ISO 527-1,-2						
C Tensile yield strain	50 mm/min	%	ISO 527-1,-2						
Tensile stress at break	50 mm/min	MPa	ISO 527-1,-2						
Tensile strain at break	50 mm/min	%	b. o. ISO 527-1,-2						
Tensile yield stress	5 mm/min	MPa	ISO 527-1,-2		65	77	70	100	120
Tensile yield strain	5 mm/min	%	ISO 527-1,-2		3	2	3	3.2	2
C Tensile stress at break	5 mm/min	MPa	ISO 527-1,-2		63	77	68	95	120
C Tensile strain at break	5 mm/min	%	ISO 527-1,-2		4	2	3	3.7	2
Izod impact strength	23 °C	kJ/m^2	ISO 180/U		25	20	25	35	38
Izod impact strength	–30 °C	kJ/m^2	ISO 180/U		25	20	25	35	38
Izod notched impact strength	23 °C	kJ/m^2	ISO 180/A		11	9	10	8	8.0
Izod notched impact strength	–20 °C	kJ/m^2	ISO 180/A						
Izod notched impact strength	–30 °C	kJ/m^2	ISO 180/A		9	8	6	6	8.0
Thermal properties									
C Temperature of deflection under load	1,80 MPa	°C	ISO 75-1,-2		118	122	121	121	119
C Temperature of deflection under load	0,45 MPa	°C	ISO 75-1,-2		130	134	134	134	129
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306		129	132	132	132	128
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306		131	134	134	134	130
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2		0.42	0.3	0.4	0.38	0.3
C Coefficient of linear thermal expansion, normal	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2		0.8	0.8	0.75	0.62	0.7
C Burning behavior UL 94 (wall thickness)		Class	UL 94		HB (1.5 mm)	HB (1.1 mm)	HB (1.0 mm)	HB (0.85 mm)	HB (0.85 mm)
C Burning behavior UL 94 (wall thickness)		Class	UL 94						
C Burning behavior UL 94-5V	2.0 mm	Class	UL 94						
Burning behavior UL 94-5V	3.0 mm	Class	UL 94						
Electrical properties (23 °C / 50 % r. h.)									
C Relative permittivity	100 Hz	–	IEC 60250		3.3	3.3	3.3		
C Relative permittivity	1 MHz	–	IEC 60250		3.2	3.2	3.2		
C Dissipation factor	100 Hz	10^{-4}	IEC 60250		25	25	30		
C Dissipation factor	1 MHz	10^{-4}	IEC 60250		85	85	100		
C Volume resistivity		Ohm·m	IEC 60093		1E14	1E14	1E14		1E14
C Surface resistivity		Ohm	IEC 60093		1E16	1E16	1E16		1E16
C Electrical strength	1 mm	kV/mm	IEC 60243-1		35	35	40		35
C Comparative tracking index (CTI)	Solution A	Rating	IEC 60112		175	175	200	200	150
Other properties (23 °C)									
C Water absorption (saturation value)	Water at 23 °C	%	ISO 62		0.6	0.6	0.6	0.6	0.6
C Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62		0.2	0.2	0.2	0.2	0.2
C Density	–	kg/m^3	ISO 1183		1200	1250	1220	1230	1290
Glass fiber content	–	%	ISO 3451-1		10	20	10	10	20
Processing conditions for test specimens									
C Injection molding: melt temperature	–	°C	ISO 294		260	260	260	260	260
C Injection molding: mold temperature	–	°C	ISO 294		80	80	80	80	80
C Injection molding: injection velocity	–	mm/s	ISO 294		540	540	540	540	540

C These property characteristics are taken from the CAMPUS® plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350 (Plastics Acquisition and Presentation of Corporate Single-Point Data, 1993).

*Disclamer (see note on page 27).

Impact properties:
N = non break
b. o. = based on
r. h. = relative humidity

[1)]Determination of true viscosity using the method of representative viscosity

Bayblend® – typical values

					Standard grades		
					Mineral-filled		
Properties	**Test conditions**	**Units**	**Standards**		**DP T95 MF***	**DP T90 MF-20***	**DP ET 1100***
Rheological properties							
Melt viscosity[1)]	260 °C; 1000 s^{-1}	Pas	b. o. ISO 11443		410	230	600
C Melt volume-flow rate (MVR)	240 °C; 5 kg	cm^3/(10 min)	ISO 1133				
C Melt volume-flow rate (MVR)	260 °C; 5 kg	cm^3/(10 min)	ISO 1133		18	12	10
Molding shrinkage, parallel	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577				
Molding shrinkage, parallel	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.5 – 0.7	0.3 – 0.5	0.5 – 0.7
Molding shrinkage, normal	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577				
Molding shrinkage, normal	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.5 – 0.7	0.25 – 0.45	0.5 – 0.7
Mechanical properties (23 °C / 50 % r. h.)							
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2		3350	5200	3300
C Tensile yield stress	50 mm/min	MPa	ISO 527-1,-2		66	67	60
C Tensile yield strain	50 mm/min	%	ISO 527-1,-2		4.6	3	4.3
Tensile stress at break	50 mm/min	MPa	ISO 527-1,-2		52	66	58
Tensile strain at break	50 mm/min	%	b. o. ISO 527-1,-2		> 50	3	> 50
Tensile yield stress	5 mm/min	MPa	ISO 527-1,-2				
Tensile yield strain	5 mm/min	%	ISO 527-1,-2				
C Tensile stress at break	5 mm/min	MPa	ISO 527-1,-2				
C Tensile strain at break	5 mm/min	%	ISO 527-1,-2				
Izod impact strength	23 °C	kJ/m^2	ISO 180/U		≥ 150	33	N
Izod impact strength	–30 °C	kJ/m^2	ISO 180/U			30	N
Izod notched impact strength	23 °C	kJ/m^2	ISO 180/A		9	6	45
Izod notched impact strength	–20 °C	kJ/m^2	ISO 180/A				
Izod notched impact strength	–30 °C	kJ/m^2	ISO 180/A		9	5	13
Thermal properties							
C Temperature of deflection under load	1,80 MPa	°C	ISO 75-1,-2		124	111	125
C Temperature of deflection under load	0,45 MPa	°C	ISO 75-1,-2		136	127	135
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306		140	128	140
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306		142	130	142
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2		0.55	0.4	0.55
C Coefficient of linear thermal expansion, normal	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2		0.65	0.56	0.7
C Burning behavior UL 94 (wall thickness)		Class	UL 94		HB (0.85 mm)	HB (0.85 mm)	HB (0.85 mm)
C Burning behavior UL 94 (wall thickness)		Class	UL 94				
C Burning behavior UL 94-5V	2.0 mm	Class	UL 94				
Burning behavior UL 94-5V	3.0 mm	Class	UL 94				
Electrical properties (23 °C / 50 % r. h.)							
C Relative permittivity	100 Hz	–	IEC 60250		3.2	3.3	
C Relative permittivity	1 MHz	–	IEC 60250		3.0	3.2	
C Dissipation factor	100 Hz	10^{-4}	IEC 60250		15	15	
C Dissipation factor	1 MHz	10^{-4}	IEC 60250		90	32	
C Volume resistivity		Ohm·m	IEC 60093		1E14	1E14	
C Surface resistivity		Ohm	IEC 60093		1E16	1E16	
C Electrical strength	1 mm	kV/mm	IEC 60243-1		35	35	35
C Comparative tracking index (CTI)	Solution A	Rating	IEC 60112		200	225	
Other properties (23 °C)							
C Water absorption (saturation value)	Water at 23 °C	%	ISO 62		0.6		0.6
C Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62		0.2		0.2
C Density	–	kg/m^3	ISO 1183		1240	1290	1247
Glass fiber content	–	%	ISO 3451-1				
Processing conditions for test specimens							
C Injection molding: melt temperature	–	°C	ISO 294		260	260	260
C Injection molding: mold temperature	–	°C	ISO 294		80	80	80
C Injection molding: injection velocity	–	mm/s	ISO 294		240	240	240

C These property characteristics are taken from the CAMPUS® plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350 (Plastics Acquisition and Presentation of Corporate Single-Point Data, 1993).

*Disclaimer (see note on page 27).

Impact properties:
N = non break
b. o. = based on
r. h. = relative humidity

[1)] Determination of true viscosity using the method of representative viscosity

Bayblend® – typical values

					FR-grades				
					Non reinforced				
Properties	**Test conditions**	**Units**	**Standards**		**FR 3000**	**FR 3000 HI**	**FR 3002**	**FR 3005**	**FR 3005 HF**
Rheological properties									
Melt viscosity[1]	260 °C; 1000 s^{-1}	Pas	b. o. ISO 11443		160	185	190	125	105
C Melt volume-flow rate (MVR)	240 °C; 5 kg	cm^3/(10 min)	ISO 1133		24	20	19	30	40
C Melt volume-flow rate (MVR)	260 °C; 5 kg	cm^3/(10 min)	ISO 1133						
Molding shrinkage, parallel	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.5 – 0.7	0.5 – 0.7	0.5 – 0.7	0.5 – 0.7	0.5 – 0.7
Molding shrinkage, parallel	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577						
Molding shrinkage, normal	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.5 – 0.7	0.5 – 0.7	0.5 – 0.7	0.5 – 0.7	0.5 – 0.7
Molding shrinkage, normal	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577						
Mechanical properties (23 °C / 50 % r. h.)									
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2		2700	2700	2700	2800	2700
C Tensile yield stress	50 mm/min	MPa	ISO 527-1,-2		60	60	60	60	60
C Tensile yield strain	50 mm/min	%	ISO 527-1,-2		3.5	4.0	4.0	3.5	3.5
Tensile stress at break	50 mm/min	MPa	ISO 527-1,-2		45	45	50	45	45
Tensile strain at break	50 mm/min	%	b. o. ISO 527-1,-2		> 40	> 50	> 50	> 30	> 40
Tensile yield stress	5 mm/min	MPa	ISO 527-1,-2						
Tensile yield strain	5 mm/min	%	ISO 527-1,-2						
C Tensile stress at break	5 mm/min	MPa	ISO 527-1,-2						
C Tensile strain at break	5 mm/min	%	ISO 527-1,-2						
Izod impact strength	23 °C	kJ/m^2	ISO 180/U		N	N	N	N	N
Izod impact strength	–30 °C	kJ/m^2	ISO 180/U						
Izod notched impact strength	23 °C	kJ/m^2	ISO 180/A		35	35	30	18	13
Izod notched impact strength	–20 °C	kJ/m^2	ISO 180/A						
Izod notched impact strength	–30 °C	kJ/m^2	ISO 180/A		10	10		8	8
Thermal properties									
C Temperature of deflection under load	1,80 MPa	°C	ISO 75-1,-2		82	82	84	78	81
C Temperature of deflection under load	0,45 MPa	°C	ISO 75-1,-2		92	92	92	87	90
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306		95	95	97	93	94
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306		97	97	99	95	96
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2		0.76	0.76	0.76	0.76	0.76
C Coefficient of linear thermal expansion, normal	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2		0.8	0.8	0.8	0.8	0.8
C Burning behavior UL 94 (wall thickness)		Class	UL 94						
C Burning behavior UL 94 (wall thickness)		Class	UL 94		V-0 (1.5 mm)	V-0 (1.5 mm)	V-0 (1.2 mm)	V-0 (1.5 mm)	V-0 (1.5 mm)
C Burning behavior UL 94-5V	2.0 mm	Class	UL 94		5VB	5VB	5VB[2]	5VB	5VB
Burning behavior UL 94-5V	3.0 mm	Class	UL 94		5VA	5VA		5VA	5VA
Electrical properties (23 °C / 50 % r. h.)									
C Relative permittivity	100 Hz	–	IEC 60250		3.2	3.2	3.2	3.2	3.2
C Relative permittivity	1 MHz	–	IEC 60250		3.1	3.1	3.1	3.1	3.1
C Dissipation factor	100 Hz	10^{-4}	IEC 60250		50	50	50	50	50
C Dissipation factor	1 MHz	10^{-4}	IEC 60250		60	60	60	65	65
C Volume resistivity		Ohm·m	IEC 60093		1E14	1E14	1E14	1E14	1E14
C Surface resistivity		Ohm	IEC 60093		1E16	1E16	1E16	1E16	1E16
C Electrical strength	1 mm	kV/mm	IEC 60243-1		35	35	35	35	35
C Comparative tracking index (CTI)	Solution A	Rating	IEC 60112		350	350	350	350	350
Other properties (23 °C)									
C Water absorption (saturation value)	Water at 23 °C	%	ISO 62		0.5	0.5	0.5	0.5	0.5
C Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62		0.2	0.2	0.2	0.2	0.2
C Density	–	kg/m^3	ISO 1183		1180	1180	1180	1180	1180
Glass fiber content	–	%	ISO 3451-1						
Processing conditions for test specimens									
C Injection molding: melt temperature	–	°C	ISO 294		240	240	240	240	240
C Injection molding: mold temperature	–	°C	ISO 294		80	80	80	80	80
C Injection molding: injection velocity	–	mm/s	ISO 294		240	240	240	240	240

C These property characteristics are taken from the CAMPUS® plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350 (Plastics Acquisition and Presentation of Corporate Single-Point Data, 1993).

*Disclamer (see note on page 27).

Impact properties:
N = non break
b. o. = based on
r. h. = relative humidity

[1]Determination of true viscosity using the method of representative viscosity

[2]Bayer test

Bayblend® – typical values

					FR-grades			
					Non reinforced			
Properties	**Test conditions**	**Units**	**Standards**		**FR 3010**	**FR 3030**	**DP FR 3006***	**DP 3008***
Rheological properties								
Melt viscosity[1)]	260 °C; 1000 s^{-1}	Pas	b. o. ISO 11443		245	410	130	195
C Melt volume-flow rate (MVR)	240 °C; 5 kg	cm^3/(10 min)	ISO 1133		15		34	13
C Melt volume-flow rate (MVR)	260 °C; 5 kg	cm^3/(10 min)	ISO 1133			10		
Molding shrinkage, parallel	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.5 – 0.7		0.5 – 0.7	0.5 – 0.7
Molding shrinkage, parallel	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577			0.5 – 0.7		
Molding shrinkage, normal	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.5 – 0.7		0.5 – 0.7	0.5 – 0.7
Molding shrinkage, normal	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577			0.5 – 0.7		
Mechanical properties (23 °C / 50 % r. h.)								
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2		2700	2700	2700	2800
C Tensile yield stress	50 mm/min	MPa	ISO 527-1,-2		60	69	60	60
C Tensile yield strain	50 mm/min	%	ISO 527-1,-2		4.0	5	4.0	4.0
Tensile stress at break	50 mm/min	MPa	ISO 527-1,-2		50	53	50	50
Tensile strain at break	50 mm/min	%	b. o. ISO 527-1,-2		> 50	> 50	> 50	> 50
Tensile yield stress	5 mm/min	MPa	ISO 527-1,-2					
Tensile yield strain	5 mm/min	%	ISO 527-1,-2					
C Tensile stress at break	5 mm/min	MPa	ISO 527-1,-2					
C Tensile strain at break	5 mm/min	%	ISO 527-1,-2					
Izod impact strength	23 °C	kJ/m^2	ISO 180/U		N	N	N	N
Izod impact strength	–30 °C	kJ/m^2	ISO 180/U					
Izod notched impact strength	23 °C	kJ/m^2	ISO 180/A		35	40	12	30
Izod notched impact strength	–20 °C	kJ/m^2	ISO 180/A					
Izod notched impact strength	–30 °C	kJ/m^2	ISO 180/A		10	10		10
Thermal properties								
C Temperature of deflection under load	1,80 MPa	°C	ISO 75-1,-2		90	96	91	85
C Temperature of deflection under load	0,45 MPa	°C	ISO 75-1,-2		100	106	101	95
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306		108	113	108	101
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306		110	115	110	103
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2		0.76	0.76	0.68	0.76
C Coefficient of linear thermal expansion, normal	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2		0.8	0.8	0.68	0.8
C Burning behavior UL 94 (wall thickness)		Class	UL 94				V-0 (2.0 mm)	
C Burning behavior UL 94 (wall thickness)		Class	UL 94		V-0 (1.5 mm)	V-0 (1.5 mm)	V-1 (1.5 mm)	V-0 (1.5 mm)
C Burning behavior UL 94-5V	2.0 mm	Class	UL 94		5VB	5VB		5VB
Burning behavior UL 94-5V	3.0 mm	Class	UL 94		5VA	5VA		5VA
Electrical properties (23 °C / 50 % r. h.)								
C Relative permittivity	100 Hz	–	IEC 60250		3.2	3.2	3.2	3.2
C Relative permittivity	1 MHz	–	IEC 60250		3.1	3.1	3.1	3.1
C Dissipation factor	100 Hz	10^{-4}	IEC 60250		50	37	50	50
C Dissipation factor	1 MHz	10^{-4}	IEC 60250		70	75	70	70
C Volume resistivity		Ohm·m	IEC 60093		1E14	1E15	1E14	1E14
C Surface resistivity		Ohm	IEC 60093		1E16	1E17	1E16	1E16
C Electrical strength	1 mm	kV/mm	IEC 60243-1		35	35	30	30
C Comparative tracking index (CTI)	Solution A	Rating	IEC 60112		350	350	350	300
Other properties (23 °C)								
C Water absorption (saturation value)	Water at 23 °C	%	ISO 62		0.5	0.5	0.5	0.5
C Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62		0.2	0.2	0.2	0.2
C Density	–	kg/m^3	ISO 1183		1180	1180	1180	1180
Glass fiber content	–	%	ISO 3451-1					
Processing conditions for test specimens								
C Injection molding: melt temperature	–	°C	ISO 294		240	260	240	240
C Injection molding: mold temperature	–	°C	ISO 294		80	80	80	80
C Injection molding: injection velocity	–	mm/s	ISO 294		240	240	240	240

C These property characteristics are taken from the CAMPUS® plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350 (Plastics Acquisition and Presentation of Corporate Single-Point Data, 1993).

*Disclamer (see note on page 27).

Impact properties:
N = non break
b. o. = based on
r. h. = relative humidity

[1)]Determination of true viscosity using the method of representative viscosity

Bayblend® – typical values

					FR-grades		
					Non reinforced		
Properties	**Test conditions**	**Units**	**Standards**	**DP 3008 HR***	**DP FR 3011***	**KU 2-1514***	**KU 2-1514 BBS073***
Rheological properties							
Melt viscosity[1)]	260 °C; 1000 s^{-1}	Pas	b. o. ISO 11443	195	240	450	520
C Melt volume-flow rate (MVR)	240 °C; 5 kg	cm^3/(10 min)	ISO 1133	13	17		
C Melt volume-flow rate (MVR)	260 °C; 5 kg	cm^3/(10 min)	ISO 1133			19	15
Molding shrinkage, parallel	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577	0.5 – 0.7	0.5 – 0.7		
Molding shrinkage, parallel	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577			0.5 – 0.7	0.5 – 0.7
Molding shrinkage, normal	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577	0.5 – 0.7	0.5 – 0.7		
Molding shrinkage, normal	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577			0.5 – 0.7	0.5 – 0.7
Mechanical properties (23 °C / 50 % r. h.)							
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2800	2600	2400	2400
C Tensile yield stress	50 mm/min	MPa	ISO 527-1,-2	60	65	60	57
C Tensile yield strain	50 mm/min	%	ISO 527-1,-2	4.0	4.0	5	5
Tensile stress at break	50 mm/min	MPa	ISO 527-1,-2	50	50	54	50
Tensile strain at break	50 mm/min	%	b. o. ISO 527-1,-2	> 50	> 50	> 50	> 50
Tensile yield stress	5 mm/min	MPa	ISO 527-1,-2				
Tensile yield strain	5 mm/min	%	ISO 527-1,-2				
C Tensile stress at break	5 mm/min	MPa	ISO 527-1,-2				
C Tensile strain at break	5 mm/min	%	ISO 527-1,-2				
Izod impact strength	23 °C	kJ/m^2	ISO 180/U	N	N	N	N
Izod impact strength	–30 °C	kJ/m^2	ISO 180/U				
Izod notched impact strength	23 °C	kJ/m^2	ISO 180/A	30	12	45	55
Izod notched impact strength	–20 °C	kJ/m^2	ISO 180/A				
Izod notched impact strength	–30 °C	kJ/m^2	ISO 180/A	10	10	15	15
Thermal properties							
C Temperature of deflection under load	1,80 MPa	°C	ISO 75-1,-2	85	98	115	115
C Temperature of deflection under load	0,45 MPa	°C	ISO 75-1,-2	95	108	126	126
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	101	116	134	134
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	103	118	136	136
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.76		0.68	0.68
C Coefficient of linear thermal expansion, normal	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.8		0.68	0.68
C Burning behavior UL 94 (wall thickness)		Class	UL 94				
C Burning behavior UL 94 (wall thickness)		Class	UL 94	V-0 (1.5 mm)	V-0 (1.5 mm)	V-0 (1.5 mm)	V-0 (1.5 mm)
C Burning behavior UL 94-5V	2.0 mm	Class	UL 94	5VB	5VB	5VB	5VB
Burning behavior UL 94-5V	3.0 mm	Class	UL 94		5VA	5VA	5VA
Electrical properties (23 °C / 50 % r. h.)							
C Relative permittivity	100 Hz	–	IEC 60250	3.2		3.2	3.2
C Relative permittivity	1 MHz	–	IEC 60250	3.1		3.1	3.1
C Dissipation factor	100 Hz	10^{-4}	IEC 60250	50		20	20
C Dissipation factor	1 MHz	10^{-4}	IEC 60250	70		80	80
C Volume resistivity		Ohm·m	IEC 60093	1E14		1E15	1E15
C Surface resistivity		Ohm	IEC 60093	1E16		1E17	1E17
C Electrical strength	1 mm	kV/mm	IEC 60243-1	30		35	35
C Comparative tracking index (CTI)	Solution A	Rating	IEC 60112	300		350	350
Other properties (23 °C)							
C Water absorption (saturation value)	Water at 23 °C	%	ISO 62	0.5	0.5	0.5	0.5
C Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62	0.2	0.2	0.2	0.2
C Density	–	kg/m^3	ISO 1183	1180	1190	1190	1190
Glass fiber content	–	%	ISO 3451-1				
Processing conditions for test specimens							
C Injection molding: melt temperature	–	°C	ISO 294	240	240	260	260
C Injection molding: mold temperature	–	°C	ISO 294	80	80	80	80
C Injection molding: injection velocity	–	mm/s	ISO 294	240	240	240	240

C These property characteristics are taken from the CAMPUS® plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350 (Plastics Acquisition and Presentation of Corporate Single-Point Data, 1993).

*Disclamer (see note on page 27).

Impact properties:
N = non break
b. o. = based on
r. h. = relative humidity

[1)]Determination of true viscosity using the method of representative viscosity

Bayblend® – typical values

					FR-grades	
					Mineral-filled	
Properties	**Test conditions**	**Units**	**Standards**		**DP FR 3020***	**DP 3021***
Rheological properties						
Melt viscosity[1)]	260 °C; 1000 s^{-1}	Pas	b. o. ISO 11443		200	165
C Melt volume-flow rate (MVR)	240 °C; 5 kg	cm^3/(10 min)	ISO 1133		20	13
C Melt volume-flow rate (MVR)	260 °C; 5 kg	cm^3/(10 min)	ISO 1133			
Molding shrinkage, parallel	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.4 – 0.6	0.3 – 0.5
Molding shrinkage, parallel	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577			
Molding shrinkage, normal	150 x 105 x 3 mm; 240 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577		0.4 – 0.6	0.3 – 0.5
Molding shrinkage, normal	150 x 105 x 3 mm; 260 °C / mold 80 °C; 500 bar	%	b. o. ISO 2577			
Mechanical properties (23 °C / 50 % r. h.)						
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2		3200	4800
C Tensile yield stress	50 mm/min	MPa	ISO 527-1,-2		65	65
C Tensile yield strain	50 mm/min	%	ISO 527-1,-2		4.0	3.0
Tensile stress at break	50 mm/min	MPa	ISO 527-1,-2		50	40
Tensile strain at break	50 mm/min	%	b. o. ISO 527-1,-2		> 30	10
Tensile yield stress	5 mm/min	MPa	ISO 527-1,-2			
Tensile yield strain	5 mm/min	%	ISO 527-1,-2			
C Tensile stress at break	5 mm/min	MPa	ISO 527-1,-2			
C Tensile strain at break	5 mm/min	%	ISO 527-1,-2			
Izod impact strength	23 °C	kJ/m^2	ISO 180/U			
Izod impact strength	–30 °C	kJ/m^2	ISO 180/U			
Izod notched impact strength	23 °C	kJ/m^2	ISO 180/A		11	6
Izod notched impact strength	–20 °C	kJ/m^2	ISO 180/A			
Izod notched impact strength	–30 °C	kJ/m^2	ISO 180/A			
Thermal properties						
C Temperature of deflection under load	1,80 MPa	°C	ISO 75-1,-2		85	85
C Temperature of deflection under load	0,45 MPa	°C	ISO 75-1,-2		95	92
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306		101	96
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306		103	98
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2			
C Coefficient of linear thermal expansion, normal	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2			
C Burning behavior UL 94 (wall thickness)		Class	UL 94			
C Burning behavior UL 94 (wall thickness)		Class	UL 94		V-0 (0.75 mm)	V-0 (1.5 mm)
C Burning behavior UL 94-5V	2.0 mm	Class	UL 94		5VB	
Burning behavior UL 94-5V	3.0 mm	Class	UL 94		5VA	
Electrical properties (23 °C / 50 % r. h.)						
C Relative permittivity	100 Hz	–	IEC 60250			3.1
C Relative permittivity	1 MHz	–	IEC 60250			3.0
C Dissipation factor	100 Hz	10^{-4}	IEC 60250			50
C Dissipation factor	1 MHz	10^{-4}	IEC 60250			70
C Volume resistivity		Ohm·m	IEC 60093			1E14
C Surface resistivity		Ohm	IEC 60093			1E16
C Electrical strength	1 mm	kV/mm	IEC 60243-1			35
C Comparative tracking index (CTI)	Solution A	Rating	IEC 60112			275
Other properties (23 °C)						
C Water absorption (saturation value)	Water at 23 °C	%	ISO 62		0.5	0.5
C Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62		0.2	0.2
C Density	–	kg/m^3	ISO 1183		1200	1280
Glass fiber content	–	%	ISO 3451-1			
Processing conditions for test specimens						
C Injection molding: melt temperature	–	°C	ISO 294		240	240
C Injection molding: mold temperature	–	°C	ISO 294		80	80
C Injection molding: injection velocity	–	mm/s	ISO 294		240	240

C These property characteristics are taken from the CAMPUS® plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350 (Plastics Acquisition and Presentation of Corporate Single-Point Data, 1993).

*Disclaimer (see note on page 27).

Impact properties:
N = non break
b. o. = based on
r. h. = relative humidity

[1)]Determination of true viscosity using the method of representative viscosity

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