# Durethan BTC965FM30 000000

## PA 6, 68 % mineral, injection molding, halogen free flame retardant, improved heat conductivity, heat-aging stabilized

ISO Shortname: ISO 16396-PA 6,MD68 FR(61),GF2HR,S12-140

Rheological properties         Since State Sta	Property	Test Condition	Unit	Standard	guide value d.a.m.	cond.
°C; 600 bar         'SC; 600 bar         ISO 294-4         0.5           Post-shrinkage, transverse         60x60x2; 120 °C; 4 h         %         ISO 294-4         0.1           Post-shrinkage, transverse         60x60x2; 120 °C; 4 h         %         ISO 294-4         0.1           Mechanical properties (23 °C/50 % r. h.)         Imm/min         MPa         ISO 527-1,-2         13100         6700           CTensile modulus         1 <mm min<="" td="">         MPa         ISO 527-1,-2         0.7         1.2           CTensile Stress at break         5<mm min<="" td="">         MPa         ISO 527-1,-2         0.7         1.2           Charpy impact strength         23 °C         k.J/m²         ISO 179-1eU         9         9           Izod impact strength         23 °C         k.J/m²         ISO 178-A         14200         6200           Flexural strength         2<mm min<="" td="">         MPa         ISO 178-A         120         1.8           Flexural strength         2<mm min<="" td="">         %         ISO 178-A         1.2         1.8           Vicat softening temperature         10 °C/min&lt;°C         ISO 11357-1,-3         220         C           CTemperature of deflection under load         1.80 MPa&lt;°C         ISO 11357-1,-2         160           Vi</mm></mm></mm></mm>	Rheological properties					
"C; 600 bar           Post-shrinkage, parallel         60x60x2; 120 °C; 4 h         %         ISO 294-4         0.1           Mechanical properties (23 °C/50 % r. h.)         Tensile modulus         1 mm/min         MPa         ISO 527-1,-2         13100         6700           CTensile Stress at break         5 mm/min         MPa         ISO 527-1,-2         0.7         1.2           Changy impact strength         23 °C         kJ/m²         ISO 180-1U         9         9           Izod impact strength         23 °C         kJ/m²         ISO 180-1U         10         10           Flexural Modulus         2 mm/min         MPa         ISO 178-A         1320         650           Flexural strength         2 mm/min         MPa         ISO 178-A         1.20         6200           Flexural strength         2 mm/min         %         ISO 178-A         1.20         620           Coefficient of linear thermal expansion, parallel         21 m/min         %         ISO 178-A         1.20         6200           Coefficient of linear thermal expansion, parallel         21 m/min         °C         ISO 1357-1,-3         220         C           CTemsteresture         10 °C/min         °C         ISO 1357-1,-2         160         Vicat so	C Molding shrinkage, parallel		%	ISO 294-4	0.6	
Post-shrinkage, transverse         60x80x2; 120 °C; 4 h         %         ISO 294-4         0.1           Mechanical properties (23 °C/50 % r. h.)         CTensile modulus         1 mm/min         MPa         ISO 527-1,-2         13100         6700           CTensile Strain at break         5 mm/min         MPa         ISO 527-1,-2         0.7         1.2           Changy impact strength         23 °C         kJ/m²         ISO 180-1U         9         9           Izod impact strength         23 °C         kJ/m²         ISO 178-A         14200         6200           Flexural strength         2 mm/min         MPa         ISO 178-A         1420         6200           Flexural strength         2 mm/min         MPa         ISO 178-A         1.20         65           Flexural strength         2 mm/min         %         ISO 178-A         1.2         1.8           Thermal properties         C         ISO 11357-1,-3         220         C         C         Iso 11357-1,-3         220         C         C         ISO 1306         212         C         Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.4         C         C         ISO 2007-4         2.5         T         T <td>C Molding shrinkage, transverse</td> <td></td> <td>%</td> <td>ISO 294-4</td> <td>0.5</td> <td></td>	C Molding shrinkage, transverse		%	ISO 294-4	0.5	
Mechanical properties (23 °C/50 % r. h.)           CTensile modulus         1 mm/min         MPa         ISO 527-1,2         13100         6700           CTensile Stress at break         5 mm/min         MPa         ISO 527-1,2         75         45           CTensile Stress at break         5 mm/min         MPa         ISO 527-1,2         0.7         1.2           CCharpy impact strength         23 °C         kJ/m²         ISO 179-1eU         9         9           Izod impact strength         23 °C         kJ/m²         ISO 178-A         14200         6200           Flexural strength         2 mm/min         MPa         ISO 178-A         1.2         1.8           Thermal properties         C         C         ISO 178-A         1.2         1.8           CTemperature         10 °C/min         °C         ISO 11357-1,-3         220         C           CTemperature         of 0 °C/min         °C         ISO 11357-1,-2         0.6         10           Vical softening temperature         50 N; 120 °C/h         °C         ISO 1359-1,-2         0.5         T           Thermal conductivity, in-plane         W(m-K)         ISO 22007-4         2.5         T         Thermal conductivity, in-plane         W(m-K)         <	Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.1	
CTensile modulus         1 mm/min         MPa         ISO 527-1,-2         13100         6700           CTensile Stress at break         5 mm/min         MPa         ISO 527-1,-2         75         45           CTensile Strain at break         5 mm/min         %         ISO 527-1,-2         0.7         1.2           CCharpy impact strength         23 °C         kJ/m²         ISO 179-1eU         9         9           Izod impact strength         23 °C         kJ/m²         ISO 178-A         14200         6200           Flexural strength         2 mm/min         MPa         ISO 178-A         1.2         1.8           Thermal properties         2 mm/min         %         ISO 178-A         1.2         1.8           CTemperature         10 °C/min         °C         ISO 178-A         1.2         1.8           Thermal properties         C         ISO 178-A         1.2         1.8           CTemperature         0 °C/min         °C         ISO 75-1,-2         160           Vicat softening temperature         50 N; 120 °C/h         °C         ISO 75-1,-2         0.4           C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.4	Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.1	
C Tensile Stress at break         5 mm/min         MPa         ISO 527-1,-2         75         45           C Tensile Strain at break         5 mm/min         %         ISO 527-1,-2         0.7         1.2           C Charpy impact strength         23 °C         k.//m²         ISO 179-16U         9         9           Izod impact strength         23 °C         k.//m²         ISO 178-A         14200         6200           Flexural strength         2 mm/min         MPa         ISO 178-A         130         65           Flexural strength         2 mm/min         %         ISO 178-A         1.2         1.8           Thermal properties         T         Temmerature of deflection under load         1.80 MPa         °C         ISO 178-A         1.2         1.8           Coefficient of linear thermal expansion, parallel         210 °C/h         °C         ISO 11357-1,-3         220         C           Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.4         C           Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.5           Thermal conductivity, through-plane         W/(m-K)         ISO 22007-4         2.5	Mechanical properties (23 °C/50 % r. h.)					
C Tensile Strain at break         5 mm/min         %         ISO 527-1,-2         0.7         1.2           C Charpy impact strength         23 °C         kJ/m²         ISO 179-1eU         9         9           Izod impact strength         23 °C         kJ/m²         ISO 180-1U         10         10           Flexural modulus         2 mm/min         MPa         ISO 178-A         14200         6200           Flexural strength         2 mm/min         MPa         ISO 178-A         130         65           Flexural strength         2 mm/min         %         ISO 178-A         1.2         1.8           Thermal properties         C         ISO 11357-1,-3         220         C         C         C         ISO 11357-1,-2         160         Vicat softening temperature         10 °C/m         °C         ISO 306         212         C         Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.4         C         C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.4         C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 °/K         ISO 22007-4         2.5         Thermal conductivity, through-plane         W/(m-K)	C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	13100	6700
C Charpy impact strength         23 °C         kJ/m²         ISO 179-1eU         9         9           Izod impact strength         23 °C         kJ/m²         ISO 180-1U         10         10           Flexural modulus         2 mm/min         MPa         ISO 178-A         14200         6200           Flexural strength         2 mm/min         MPa         ISO 178-A         130         65           Flexural strength         2 mm/min         %         ISO 178-A         1.2         1.8           Thermal properties	C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	75	45
Izod impact strength         23 °C         kJ/m²         ISO 180-1U         10         10           Flexural modulus         2 mm/min         MPa         ISO 178-A         14200         6200           Flexural strength         2 mm/min         MPa         ISO 178-A         130         65           Flexural strength         2 mm/min         %         ISO 178-A         1.2         1.8           Thermal properties         C         ISO 178-A         1.2         1.8           Comparature of deflection under load         1.80 MPa         °C         ISO 75-1,-2         160           Vicat softening temperature         50 N; 120 °C/h         °C         ISO 306         212         Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.4           Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.5           Thermal conductivity, in-plane         W/(m-K)         ISO 22007-4         2.5         1           Thermal conductivity, through-plane         W/(m-K)         ISO 22007-4         1.3           CBurning behavior UL 94         0.75 mm         Class         UL 94         V-0           CBurning behavior UL 94-5V <t< td=""><td>C Tensile Strain at break</td><td>5 mm/min</td><td>%</td><td>ISO 527-1,-2</td><td>0.7</td><td>1.2</td></t<>	C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	0.7	1.2
Flexural modulus         2 mm/min         MPa         ISO 178-A         14200         6200           Flexural strength         2 mm/min         MPa         ISO 178-A         130         65           Flexural strain at flexural strength         2 mm/min         MPa         ISO 178-A         1.2         1.8           Thermal properties           10 °C/min         °C         ISO 178-A         1.2         1.8           Comperature of deflection under load         1.80 MPa         °C         ISO 306         212         Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 °/K         ISO 11359-12         0.4           C Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 °/K         ISO 22007-4         2.5           Thermal conductivity, in-plane         W/(m-K)         ISO 22007-4         2.5         Thermal conductivity, in-plane         W/(m-K)         ISO 22007-4         1.3           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0         Class         UL 94         V-0           C Burning behavior UL 94-SV         1.5 mm         Class         UL 94         SVA         COxygen index         Method A         %         ISO 4589-2         100         Glow wire t	C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	9	9
Flexural strength         2 mm/min         MPa         ISO 178-A         130         65           Flexural strain at flexural strength         2 mm/min         %         ISO 178-A         1.2         1.8           Thermal properties           10 °C/min         °C         ISO 178-A         1.2         1.8           C memperature of deflection under load         1.80 MPa         °C         ISO 1357-1,-2         160           Vicat softening temperature         50 N: 120 °C/h         °C         ISO 306         212           C Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.4           C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 °/K         ISO 22007-4         2.5           Thermal conductivity, in-plane         W/(m-K)         ISO 22007-4         2.5         Thermal behavior UL 94         V-0           C Burning behavior UL 94         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         0.75 mm         °C	Izod impact strength	23 °C	kJ/m²	ISO 180-1U	10	10
Flexural strain at flexural strength         2 mm/min         %         ISO 178-A         1.2         1.8           Thermal properties         C         ISO 11357-1,-3         220           CTemperature of deflection under load         1.80 MPa         °C         ISO 75-1,-2         160           Vicat softening temperature         50 N; 120 °C/h         °C         ISO 306         212           C Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 <sup>-1</sup> /K         ISO 11359-1,-2         0.4           C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 <sup>-1</sup> /K         ISO 22007-4         2.5           Thermal conductivity, in-plane         W/(m·K)         ISO 22007-4         2.5         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         1.5 mm	Flexural modulus	2 mm/min	MPa	ISO 178-A	14200	6200
Thermal properties           CMelting temperature         10 °C/min         °C         ISO 11357-1,-3         220           CTemperature of deflection under load         1.80 MPa         °C         ISO 306         212           Vicat softening temperature         50 N; 120 °C/h         °C         ISO 306         212           CCoefficient of linear thermal expansion, parallel         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.4           CCoefficient of linear thermal expansion, transverse         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.4           CCoefficient of linear thermal expansion, transverse         23 to 55 °C         10 °/K         ISO 22007-4         2.5           Thermal conductivity, in-plane         W/(m-K)         ISO 22007-4         2.5           Burning behavior UL 94         1.5 mm         Class         UL 94         V-0           CBurning behavior UL 94         0.75 mm         Class         UL 94         V-0           CBurning behavior UL 94         0.75 mm         Class         UL 94         V-0           CBurning behavior UL 94         0.75 mm         °C         IEC 60695-2:12         960           Glow wire test (GWFI)         0.75 mm         °C         IEC 60695-2:12         960	Flexural strength	2 mm/min	MPa	ISO 178-A	130	65
CMelting temperature         10 °C/min         °C         ISO 11357-1,-3         220           CTemperature of deflection under load         1.80 MPa         °C         ISO 75-1,-2         160           Vicat softening temperature         50 N; 120 °C/h         °C         ISO 306         212           C Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.4           C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.5           Thermal conductivity, in-plane         W/(m-K)         ISO 22007-4         2.5           Thermal conductivity, through-plane         W/(m-K)         ISO 22007-4         1.3           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           Glow wire test (GWFI)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         3.0 mm         °C         IE	Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	1.2	1.8
C Temperature of deflection under load         1.80 MPa         °C         ISO 75-1,-2         160           Vicat softening temperature         50 N; 120 °C/h         °C         ISO 306         212           C Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.4           C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.5           Thermal conductivity, in-plane         W/(m.K)         ISO 22007-4         2.5           Thermal conductivity, through-plane         W/(m.K)         ISO 22007-4         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         V-0           Glow wire test (GWFI)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         0.75 mm         °C <t< td=""><td>Thermal properties</td><td></td><td></td><td></td><td></td><td></td></t<>	Thermal properties					
Vicat softening temperature         50 N; 120 °C/h         °C         ISO 306         212           C Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 <sup>4</sup> /K         ISO 11359-1,-2         0.4           C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 <sup>4</sup> /K         ISO 11359-1,-2         0.5           Thermal conductivity, in-plane         W/(m-K)         ISO 22007-4         2.5           Thermal conductivity, through-plane         W/(m-K)         ISO 22007-4         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94.         0.75 mm         Class         UL 94         SVA           C Oxygen index         Method A         %         ISO 4589-2         100           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         3.0 mm         °C         IEC 60695-2-13		10 °C/min	°C	ISO 11357-1,-3	220	
C Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 <sup>4</sup> /K         ISO 11359-1,-2         0.4           C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 <sup>4</sup> /K         ISO 11359-1,-2         0.5           Thermal conductivity, in-plane         W/(m-K)         ISO 22007-4         2.5           Thermal conductivity, in-plane         W/(m-K)         ISO 22007-4         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         SVA           C Oxygen index         Method A         %         ISO 4589-2         100	C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	160	
C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 <sup>4</sup> /K         ISO 11359-1,-2         0.5           Thermal conductivity, in-plane         W/(m·K)         ISO 22007-4         2.5           Thermal conductivity, through-plane         W/(m·K)         ISO 22007-4         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         5VA           C Oxygen index         Method A         %         ISO 4589-2         100           Glow wire test (GWFI)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         3.0 mm         °C         IEC 60695-2-12         960           Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-13         750           G	Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	212	
Thermal conductivity, in-plane         W/(m-K)         ISO 22007-4         2.5           Thermal conductivity, through-plane         W/(m-K)         ISO 22007-4         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         5VA           C Oxygen index         Method A         %         ISO 4589-2         100           Glow wire test (GWFI)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         3.0 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         3.0	C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	0.4	
Thermal conductivity, through-plane         W/(m·K)         ISO 22007-4         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         5VA           C Oxygen index         Method A         %         ISO 4589-2         100           Glow wire test (GWFI)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         3.0 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         0.75 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         800           Electrical properties (23 °C/50 % r. h.)         C         IEC 60695-2-13         800           C Relative permittivity	C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	0.5	
C Burning behavior UL 94         1.5 mm         Class         UL 94         V-0           C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         5VA           C Oxygen index         Method A         %         ISO 4589-2         100           Glow wire test (GWFI)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         3.0 mm         °C         IEC 60695-2-12         960           Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWIT)         3.0 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         3.0 mm         °C         IEC 60695-2-13         800           Electrical properties (23 °C/50 % r. h.)         C         IEC 60695-2-13         800           C Relative permittivity         100 Hz         -         IEC 60250         4.8           C Relative permittivity	Thermal conductivity, in-plane		W/(m·K)	ISO 22007-4	2.5	
C Burning behavior UL 94         0.75 mm         Class         UL 94         V-0           C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         5VA           C Oxygen index         Method A         %         ISO 4589-2         100           Glow wire test (GWFI)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         3.0 mm         °C         IEC 60695-2-12         960           Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         3.0 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         3.0 mm         °C         IEC 60250         4.8           C Relative permittivity         100 Hz         -         IEC 60250         4.4           C Relative permittivity </td <td>Thermal conductivity, through-plane</td> <td></td> <td>W/(m·K)</td> <td>ISO 22007-4</td> <td>1.3</td> <td></td>	Thermal conductivity, through-plane		W/(m·K)	ISO 22007-4	1.3	
C Burning behavior UL 94-5V         1.5 mm         Class         UL 94         5VA           C Oxygen index         Method A         %         ISO 4589-2         100           Glow wire test (GWFI)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         3.0 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         3.0 mm         °C         IEC 60695-2-12         960           Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         3.0 mm         °C         IEC 60695-2-13         800           Electrical properties (23 °C/50 % r. h.)         C         IEC 60250         4.8           C Relative permittivity         100 Hz         -         IEC 60250         4.4           C Dissipation factor	C Burning behavior UL 94	1.5 mm	Class	UL 94	V-0	
C Oxygen index         Method A         %         ISO 4589-2         100           Glow wire test (GWFI)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         3.0 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         3.0 mm         °C         IEC 60695-2-12         960           Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         3.0 mm         °C         IEC 60695-2-13         800           Electrical properties (23 °C/50 % r. h.)         °C         IEC 60250         4.8           C Relative permittivity         100 Hz         -         IEC 60250         4.4           C Dissipation factor         100 Hz         10 <sup>4</sup> IEC 60250         170           C Dissipation factor         1 MHz         10 <sup>4</sup> IEC 60250         140	C Burning behavior UL 94	0.75 mm	Class	UL 94	V-0	
Glow wire test (GWFI)         0.75 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         3.0 mm         °C         IEC 60695-2-12         960           Glow wire test (GWIT)         3.0 mm         °C         IEC 60695-2-12         960           Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         3.0 mm         °C         IEC 60695-2-13         800           Electrical properties (23 °C/50 % r. h.)         3.0 mm         °C         IEC 60250         4.8           C Relative permittivity         100 Hz         -         IEC 60250         4.4           C Dissipation factor         100 Hz         10°4         IEC 60250         170           C Dissipation factor         1 MHz         10°4         IEC 60250         140	C Burning behavior UL 94-5V	1.5 mm	Class	UL 94	5VA	
Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         960           Glow wire test (GWFI)         3.0 mm         °C         IEC 60695-2-12         960           Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         3.0 mm         °C         IEC 60695-2-13         800           Electrical properties (23 °C/50 % r. h.)         3.0 mm         °C         IEC 60250         4.8           C Relative permittivity         100 Hz         -         IEC 60250         4.4           C Dissipation factor         100 Hz         10 <sup>4</sup> IEC 60250         140	C Oxygen index	Method A	%	ISO 4589-2	100	
Glow wire test (GWFI)         3.0 mm         °C         IEC 60695-2-12         960           Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         3.0 mm         °C         IEC 60695-2-13         800           Electrical properties (23 °C/50 % r. h.)         3.0 mm         °C         IEC 60250         4.8           C Relative permittivity         100 Hz         -         IEC 60250         4.4           C Relative permittivity         1 MHz         -         IEC 60250         4.4           C Dissipation factor         100 Hz         10 <sup>4</sup> IEC 60250         170           C Dissipation factor         1 MHz         10 <sup>4</sup> IEC 60250         140	Glow wire test (GWFI)	0.75 mm	°C	IEC 60695-2-12	960	
Glow wire test (GWIT)         0.75 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         3.0 mm         °C         IEC 60695-2-13         800           Electrical properties (23 °C/50 % r. h.)         3.0 mm         °C         IEC 60250         4.8           C Relative permittivity         100 Hz         -         IEC 60250         4.4           C Relative permittivity         1 MHz         -         IEC 60250         4.4           C Dissipation factor         100 Hz         10 <sup>4</sup> IEC 60250         140	Glow wire test (GWFI)	1.5 mm	°C	IEC 60695-2-12	960	
Glow wire test (GWIT)         1.5 mm         °C         IEC 60695-2-13         750           Glow wire test (GWIT)         3.0 mm         °C         IEC 60695-2-13         800           Electrical properties (23 °C/50 % r. h.)         200 Hz         -         IEC 60250         4.8           C Relative permittivity         100 Hz         -         IEC 60250         4.4           C Relative permittivity         100 Hz         -         IEC 60250         4.4           C Dissipation factor         100 Hz         10 <sup>4</sup> IEC 60250         170           C Dissipation factor         1 MHz         10 <sup>4</sup> IEC 60250         140	Glow wire test (GWFI)	3.0 mm	°C	IEC 60695-2-12	960	
Glow wire test (GWIT)         3.0 mm         °C         IEC 60695-2-13         800           Electrical properties (23 °C/50 % r. h.)         IEC 60250         4.8           C Relative permittivity         100 Hz         -         IEC 60250         4.8           C Relative permittivity         1 MHz         -         IEC 60250         4.4           C Dissipation factor         100 Hz         10 <sup>4</sup> IEC 60250         170           C Dissipation factor         1 MHz         10 <sup>4</sup> IEC 60250         140	Glow wire test (GWIT)	0.75 mm	°C	IEC 60695-2-13	750	
Electrical properties (23 °C/50 % r. h.)         100 Hz         -         IEC 60250         4.8           C Relative permittivity         1 MHz         -         IEC 60250         4.4           C Dissipation factor         100 Hz         10 <sup>4</sup> IEC 60250         170           C Dissipation factor         1 MHz         10 <sup>4</sup> IEC 60250         140	Glow wire test (GWIT)	1.5 mm	°C	IEC 60695-2-13	750	
C Relative permittivity         100 Hz         -         IEC 60250         4.8           C Relative permittivity         1 MHz         -         IEC 60250         4.4           C Dissipation factor         100 Hz         10 <sup>4</sup> IEC 60250         170           C Dissipation factor         1 MHz         10 <sup>4</sup> IEC 60250         170           C Dissipation factor         1 MHz         10 <sup>4</sup> IEC 60250         140	Glow wire test (GWIT)	3.0 mm	°C	IEC 60695-2-13	800	
C Relative permittivity         100 Hz         -         IEC 60250         4.8           C Relative permittivity         1 MHz         -         IEC 60250         4.4           C Dissipation factor         100 Hz         10 <sup>4</sup> IEC 60250         170           C Dissipation factor         1 MHz         10 <sup>4</sup> IEC 60250         170           C Dissipation factor         1 MHz         10 <sup>4</sup> IEC 60250         140	Electrical properties (23 °C/50 % r. h.)					
C Dissipation factor         100 Hz         10 <sup>-4</sup> IEC 60250         170           C Dissipation factor         1 MHz         10 <sup>-4</sup> IEC 60250         140	C Relative permittivity	100 Hz	-	IEC 60250	4.8	
C Dissipation factor         1 MHz         10 <sup>-4</sup> IEC 60250         140	C Relative permittivity	1 MHz	-	IEC 60250	4.4	
	C Dissipation factor	100 Hz	10 <sup>-4</sup>	IEC 60250	170	
C Volume resistivity Ohm-m IEC 60093 5.30E+13	C Dissipation factor	1 MHz	10-4	IEC 60250	140	
	C Volume resistivity		Ohm⋅m	IEC 60093	5.30E+13	





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Property	Test Condition	Unit	Standard	guide value d.a.m. cond.
C Surface resistivity		Ohm	IEC 60093	3.8E+15
C Electric strength	1 mm	kV/mm	IEC 60243-1	34
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	600
Comparative tracking index CTI	Solution A	PLC	UL 746A	0
Other properties (23 °C)				
CWater absorption (Saturation value)	Water at 23 °C	%	ISO 62	3.2
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	1
CDensity		kg/m³	ISO 1183	1730
Bulk density		kg/m³	ISO 60	800
Processing conditions for test specimens	·			
C Injection molding-Melt temperature		°C	ISO 294	280
C Injection molding-Mold temperature		°C	ISO 294	80
Processing recommendations				· ·
Drying temperature dry air dryer		°C	-	80
Drying time dry air dryer		h	-	2-6
Residual moisture content		%	Acc. to Karl Fischer	0.03-0.12
Melt temperature (Tmin - Tmax)		°C	-	260-290
Mold temperature		°C	-	80-100

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.



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### Disclaimer

### Disclaimer for commercial products

This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery.

#### Test values

Unless specified to the contrary, the values given have been established on standardized test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mould/die, the processing conditions and the coloring.

#### Processing note

Under the recommended processing conditions small quantities of decomposition product may be given off during processing. To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded. Since excessively high temperatures are generally the result of operator error or defects in the heating system, special care and controls are essential in these areas.

Conditioning

Conditioning in accordance with ISO 1110 (70 °C; 62 % r.h.)

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