

# Apec 1800

Standard grades / Base grade

Basic grade, softening temperature (VST/B 120)=185 °C

ISO Shortname

Property	Test Condition	Unit	Standard	Value
<b>Rheological properties</b>				
C Melt volume-flow rate	330 °C; 2.16 kg	cm <sup>3</sup> /(10 min)	ISO 1133	10
Melt mass-flow rate	330 °C; 2.16 kg	g/(10 min)	ISO 1133	10
C Molding shrinkage, parallel	60x60x2	%	ISO 294-4	0.85
C Molding shrinkage, normal	60x60x2	%	ISO 294-4	0.85
<b>Mechanical properties (23 °C/50 % r. h.)</b>				
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2300
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	65
C Yield strain	50 mm/min	%	ISO 527-1,-2	7.0
C Nominal strain at break	50 mm/min	%	ISO 527-1,-2	> 50
C Charpy impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eU	N
C Charpy impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eU	N
C Charpy notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eA	8.0
C Charpy notched impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eA	8.0
Flexural modulus	2 mm/min	MPa	ISO 178	2200
Flexural strength	2 mm/min	MPa	ISO 178	95
Ball indentation hardness		N/mm <sup>2</sup>	ISO 2039-1	115
<b>Thermal properties</b>				
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	162
Temperature of deflection under load, annealed	1.80 MPa	°C	ISO 75-1,-2	175
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	174
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	185
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	0.7
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	0.7
C Burning behavior UL 94 (1.6 mm) [UL recognition]	1.5 mm	Class	UL 94	HB
C Burning behavior UL 94 [UL recognition]	3.0 mm	Class	UL 94	HB
C Oxygen index	Method A	%	ISO 4589-2	24
<b>Electrical properties (23 °C/50 % r. h.)</b>				
C Relative permittivity	100 Hz	-	IEC 60250	2.9
C Relative permittivity	1 MHz	-	IEC 60250	2.9
C Dissipation factor	100 Hz	10 <sup>-4</sup>	IEC 60250	13
C Dissipation factor	1 MHz	10 <sup>-4</sup>	IEC 60250	100
C Volume resistivity		Ohm·m	IEC 60093	1E14
C Surface resistivity		Ohm	IEC 60093	1E16
C Electric strength	1 mm	kV/mm	IEC 60243-1	35
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	600
Comparative tracking index CTI M	Solution B	Rating	IEC 60112	<100 M
Electrolytic corrosion		Rating	IEC 60426	A1
<b>Other properties (23 °C)</b>				
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	0.4
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	0.2
C Density		kg/m <sup>3</sup>	ISO 1183	1150
<b>Material specific properties</b>				
Refractive index	Procedure A	-	ISO 489	1.572
Luminous transmittance (clear transparent materials)	1 mm	%	ISO 13468-2	90
<b>Processing conditions for test specimens</b>				
C Injection molding-Melt temperature		°C	ISO 294	330
C Injection molding-Mold temperature		°C	ISO 294	100
C Injection molding-Injection velocity		mm/s	ISO 294	200

C These property characteristics are taken from the CAMPUS plastics data bank and are based on the international catalogue of basic data for



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plastics according to ISO 10350.



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## Disclaimer

### Disclaimer for Sales 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 standardised 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 colouring.

### 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.

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