Apec DP1-9354/1

Flame retardant grades / Non reinforced

Developmental product, flame retardant: V-0/3,2mm (UL 94), V-2/1,5mm (UL 94),softening temperature (VST/B 120)=185 °C, also available in transparent colours

ISO Shortname

	Property	Test Condition	Unit	Standard	Value
Rheological properties					
C	Melt volume-flow rate	330 °C; 2.16 kg	cm³/(10 min)	ISO 1133	10
	Melt mass-flow rate	330 °C; 2.16 kg	g/(10 min)	ISO 1133	10
Mechanical properties (23 °C/50 % r. h.)					
C	Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2400
C	Yield stress	50 mm/min	MPa	ISO 527-1,-2	72
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/m²	ISO 179/1eU	N
C	Charpy impact strength	-30 °C	kJ/m²	ISO 179/1eU	N
	Flexural modulus	2 mm/min	MPa	ISO 178	2400
	Flexural strength	2 mm/min	MPa	ISO 178	105
	Ball indentation hardness		N/mm²	ISO 2039-1	120
Thermal properties					
C	Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	159
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^{-4}/K	ISO 11359-1,-2	0.7
C	Coefficient of linear thermal expansion, transverse	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.7
C	Burning behavior UL 94 [UL recognition]		Class	UL 94	V-2
C	Oxygen index	Method A	%	ISO 4589-2	35
	Glow wire test (GWFI)		°C	IEC 60695-2-12	960
Electrical properties (23 °C/50 % r. h.)					
C	Relative permittivity	100 Hz	-	IEC 60250	3
C	Relative permittivity	1 MHz	-	IEC 60250	3
C	Dissipation factor	100 Hz	10^{-4}	IEC 60250	7
C	Dissipation factor	1 MHz	10^{-4}	IEC 60250	80
C	Volume resistivity		Ohm·m	IEC 60093	1E14
C	Surface resistivity		Ohm	IEC 60093	4E15
C	Electrical strength	1 mm	kV/mm	IEC 60243-1	30
C	Comparative tracking index CTI	Solution A	Rating	IEC 60112	275
	Comparative tracking index CTI M	Solution B	Rating	IEC 60112	<100
	Electrolytic corrosion		Rating	IEC 60426	A1
Other properties (23 °C)					
C	Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	0.3
C	Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	0.12
C	Density		kg/m³	ISO 1183	1150
Material specific properties					
	Refractive index	Procedure A	-	ISO 489	1,572
	Luminous transmittance (clear transparent materials)	1 mm	%	ISO 13468-2	87

Apec DP1-9354/1

	Property	Test Condition	Unit	Standard	Value
Processing conditions for test specimens					
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 plastics according to ISO 10350.

Disclaimer

Disclaimer for Developmental products

* This is a developmental product. Further information, including amended or supplementary data on hazards associated with its use, may be compiled in the future. For this reason no assurances are given as to type conformity, processability, long-term performance characteristics or other production or application parameters. Therefore, the purchaser/user uses the product entirely at his own risk without having been given any warranty or guarantee and agrees that the supplier shall not be liable for any damages, of whatever nature, arising out of such use. Commercialization and continued supply of this material are not assured. Its supply may be discontinued at any time.

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.