DELRIN

- ## Material

Material No.	POM
EN Symbol (short)	-
AISI/SAE	-
UNS	1043-1
ASTM	-
B.S.	-
Alloy	-
Registered Works Label	-
Standards	-

- ## Physical and mechanical properties

Physical properties

	Value	Unit Test	Standard
Density	1410	kg/m³	ISO 1183
Melt volume rate (MVR)	12	cm³/10min	ISO 1133
MRW test temperature	190	°C	ISO 1133
MVR test load	2.16	kg	ISO 1133
Mold shrinkage - parallel	2	%	ISO 294-4
Mold shrinkage - normal	1.8	%	ISO 294-4
Water absorption (23°C-sat)	0.65	%	ISO 62
Humidity absorption (23°C/50%RH)	0.2	%	ISO 62

Mechanical properties

	Value	Unit Test	Standard
Tensile modulus (1mm/min)	2900	MPa	ISO 527-2/1A
Tensile stress at yield (50mm/min)	65	MPa	ISO 527-2/1A
Tensile strain at yield (50mm/min)	8.5	%	ISO 527-2/1A
Nominal strain at break (50mm/min)	25	%	ISO 527-2/1A
Tensile creep modulus (1h)	2500	MPa	ISO 899-1
Tensile creep modulus (1000h)	1300	MPa	ISO 899-1
Charpy impact strength @ 23°C	150	kJ/m²	ISO 179/1eU
Charpy impact strength @ -30°C	140	kJ/m²	ISO 179/1eU
Charpy notched impact strength @ 23°C	6.5	kJ/m²	ISO 179/1Ea
Charpy notched impact strength @ -30°C	6	kJ/m²	ISO 179/1eA

Thermal properties

	Value	Unit Test	Standard
Melting temperature (10°C/min)	166	°C	ISO 11357-1,-2,3
DTUL @ 1.8 MPa	106	°C	ISO 75-1/-2
Vicat softening temperature B50 (50°C/h 50N)	151	°C	ISO 306
Coeff.of linear therm. expansion (parallel)	1.1	E-4/°C	ISO 11359-2

Flammability @1.6mm nom. thickn.	HB	class		UL94
thickness tested (1.6)	1.5	mm		UL94
UL recognition (1.6)	UL	-		UL94
Flammability at thickness h	HB	class		UL94
thickness tested (h)	3	mm		UL94
UL recognition (h)	UL	-		UL94

Electrical properties

	Value	Unit	Test	Standard
Relative permittivity -100 Hz	4	-		IEC 60250
Relative permittivity - 1 MHz	4	-		IEC 60250
Dissipation factor - 100 Hz	20	E-4		IEC 60250
Dissipation factor - 1 MHz	50	E-4		IEC 60250
Volume resistivity	1E12	Ohm*m		IEC 60093
Surface resistivity	1E14	Ohm		IEC 60093
Electric strength	35	kV/mm		IEC 60243-1
Comparative tracking index CTI	600	-		IEC 60112

Test specimen production

	Value	Unit	Test	Standard
Processing conditions acc. ISO	9988	–		Internal
Injection molding melt temperature	195	°C		ISO 294
Injection molding mold temperature	85	°C		ISO 294
Injection molding flow front velocity	200	mm/s		ISO 294
Injection molding hold pressure	90	MPa		ISO 294

Rheological Calculation properties

	Value	Unit	Test	Standard
Density of melt	1200	kg/m³		Internal
Thermal conductivity of melt	0.155	W/(m K)		Internal
Specific heat capacity of melt	2210	J/(kg K)		Internal
Ejection temperature	165	°C		Internal

- **Description**

Easy flowing Injection molding type for precision molded parts and thin-walled molded parts with high rigidity, hardness and toughness; good chemical resistance to solvents, fuel and strong alkalis as well as good hydrolysis resistance; high resistance to thermal and oxidative degradation.
Fulfils EG-directive 2002/72/EU as well as the recommendation XXXIII for consumer goods of the BgVV, corresponding to FDA-regulation for food contact.
UL-registration for all colours and a thickness more than 1.5 mm as UL 94 HB, temperature index UL 746 B electrical 110 °C, mechanical 90 °C.
Burning rate ISO 3795 and FMVSS 302 < 75 mm/min for a thickness more than 1 mm. Ranges of applications: automotive engineering, precision engineering, electric and electronical industry, domestic appliances.
FDA = Food and Drug Administration (USA)
BgVV = Bundesinstitut f•r gesundheitlichen Verbraucherschutz und Veterin rmedizin
UL = Underwriters Laboratories (USA)
FMVSS = Federal Motor Vehicle Safety Standard (USA)

The figures in this datasheet are guide values. The values are affected by processing conditions, modifications, additives and environmental conditions and they do not release you from the obligation to check the validity and to undertake tests on your own. The information given is based on our state of knowledge. The material data is not to be construed as guaranteeing specific properties and the data can not be used to deduce the suitability for a particular application.