



Product description

Polycarbonate; MVR (300 °C/1.2 kg) 14 cm³/10 min; medium viscosity; suitable for ETO and steam sterilization at 121 °C; biocompatible according to many ISO 10993 test requirements for up to 30 days patient contact; easy release; available in transparent and opaque colors

Applications

Injection molding; Medical devices

Typical Values

Rheological properties

Property	Test Condition	Value	Unit	Standard
Melt Volume-flow Rate (MVR)	300 °C/1.2 kg	14	cm³/10 min	ISO 1133-1
Melt Mass-flow Rate (MFR)	300 °C/1.2 kg	15.5	g/10 min	ISO 1133-1
Molding Shrinkage, parallel	60×60×2 mm; 500 bar	0.65	%	ISO 294-4
Molding Shrinkage, normal	60×60×2 mm; 500 bar	0.70	%	ISO 294-4

Mechanical properties (23 °C; 50 % r. h.)

Property	Test Condition	Value	Unit	Standard
Tensile Modulus	1 mm/min	2,400	MPa	ISO 527-1,-2
Yield Stress	50 mm/min	66	MPa	ISO 527-1,-2
Yield Strain	50 mm/min	6.1	%	ISO 527-1,-2
Stress at Break	50 mm/min	70	MPa	ISO 527-1,-2
Strain at Break	50 mm/min	130	%	ISO 527-1,-2
Nominal Strain at Break	50 mm/min	> 50	%	ISO 527-1,-2
Flexural Modulus	2 mm/min	2,400	MPa	ISO 178
Flexural Strength	2 mm/min	97	MPa	ISO 178
Flexural Stress at 3.5 % Flexural Strain	2 mm/min	73	MPa	ISO 178
Flexural Strain at Flexural Strength	2 mm/min	7.1	%	ISO 178
Izod Notched Impact Strength	23 °C; 3 mm	65P	kJ/m²	ISO 21305/b. o. ISO 180/A
Izod Notched Impact Strength	-30 °C; 3 mm	15C	kJ/m²	ISO 21305/b. o. ISO 180/A
Charpy Impact Strength	23 °C	N	kJ/m²	ISO 179-1/1eU
Charpy Impact Strength	-30 °C	N	kJ/m²	ISO 179-1/1eU
Charpy Impact Strength	-60 °C	N	kJ/m²	ISO 179-1/1eU



Property	Test Condition	Value	Unit	Standard
Charpy Notched Impact Strength	23 °C; 3 mm	70P	kJ/m ²	ISO 21305/b. o. ISO 179-1/1eA
Charpy Notched Impact Strength	-30 °C; 3 mm	16C	kJ/m ²	ISO 21305/b. o. ISO 179-1/1eA
Puncture Impact Behavior - Maximum Force	23 °C	5,400	N	ISO 6603-2
Puncture Impact Behavior - Maximum Force	-30 °C	6,300	N	ISO 6603-2
Puncture Impact Behavior - Puncture Energy	23 °C	60	J	ISO 6603-2
Puncture Impact Behavior - Puncture Energy	-30 °C	65	J	ISO 6603-2
Ball Indentation Hardness	358 N	115	N/mm ²	ISO 2039-1
Tensile Creep Modulus	1 h	2,200	MPa	ISO 899-1
Tensile Creep Modulus	1,000 h	1,900	MPa	ISO 899-1

Impact properties: N = non-break, P = partial break, C = complete break

Thermal properties

Property	Test Condition	Value	Unit	Standard
Temperature of Deflection under Load (HDT)	1.80 MPa	124	°C	ISO 75-1,-2
Temperature of Deflection under Load (HDT)	0.45 MPa	136	°C	ISO 75-1,-2
Vicat Softening Temperature	50 N; 50 °C/h	144	°C	ISO 306
Vicat Softening Temperature	50 N; 120 °C/h	145	°C	ISO 306
Glass Transition Temperature	10 °C/min	144	°C	ISO 11357-1,-2
Coefficient of Linear Thermal Expansion (CLTE), parallel	23 to 55 °C	0.65	10 ⁻⁴ /K	ISO 11359-1,-2
Coefficient of Linear Thermal Expansion (CLTE), normal	23 to 55 °C	0.65	10 ⁻⁴ /K	ISO 11359-1,-2
Oxygen Index	Method A	28	%	ISO 4589-2
Thermal Conductivity, through-plane	23 °C; 50 % r. h.	0.2	W/(m·K)	ISO 8302
Resistance to Heat (Ball Pressure Test)		138	°C	IEC 60695-10-2
Flash-ignition Temperature		480	°C	ASTM D1929
Spontaneous-Ignition Temperature		550	°C	ASTM D1929

Electrical properties (23 °C; 50 % r. h.)

Property	Test Condition	Value	Unit	Standard
Relative Permittivity	100 Hz	3.1		IEC 60250
Relative Permittivity	1 MHz	3.0		IEC 60250



Property	Test Condition	Value	Unit	Standard
Dielectric Dissipation Factor	100 Hz	5	10 ⁻⁴	IEC 60250
Dielectric Dissipation Factor	1 MHz	90	10 ⁻⁴	IEC 60250
Volume Resistivity		1E14	Ω·m	IEC 62631-3-1
Surface Resistivity		1E16	Ω	IEC 62631-3-2
Electric Strength	1 mm	34	kV/mm	IEC 60243-1
Comparative Tracking Index (CTI)	Solution A	250	V	IEC 60112

Other properties (23 °C)

Property	Test Condition	Value	Unit	Standard
Water Absorption (Saturation Value)	Water at 23 °C	0.3	%	ISO 62
Water Absorption (Equilibrium Value)	23 °C; 50 % r. h.	0.12	%	ISO 62
Density		1,200	kg/m ³	ISO 1183-1
Bulk Density	Pellets	660	kg/m ³	ISO 60

Material specific properties

Property	Test Condition	Value	Unit	Standard
Luminous Transmittance (Clear Transparent Materials)	SCI; D65/10°; 1 mm	89	%	ISO/CIE 11664
Luminous Transmittance (Clear Transparent Materials)	SCI; D65/10°; 2 mm	89	%	ISO/CIE 11664
Luminous Transmittance (Clear Transparent Materials)	SCI; D65/10°; 3 mm	88	%	ISO/CIE 11664
Luminous Transmittance (Clear Transparent Materials)	SCI; D65/10°; 4 mm	87	%	ISO/CIE 11664
Haze (Clear Transparent Materials)	C/2°; 3 mm	< 0.8	%	ASTM D1003
Refractive Index	Procedure A	1.586		ISO 489

Processing conditions for test specimens

Property	Test Condition	Value	Unit	Standard
Injection Molding - Melt Temperature		290	°C	ISO 294-1
Injection Molding - Mold Temperature		80	°C	ISO 294-1
Injection Molding - Injection Velocity		200	mm/s	ISO 294-1

Recommended processing and drying conditions

Property	Test Condition	Value	Unit	Standard
Dry Air Drying Temperature		120	°C	
Dry Air Drying Time		2 - 3	h	
Moisture Content max. (%)		≤ 0.02	%	
Melt Temperatures		280 - 320	°C	
Standard Melt Temperature		300	°C	



Property	Test Condition	Value	Unit	Standard
Barrel Temperatures	Rear	250 - 260	°C	
Barrel Temperatures	Middle	270 - 280	°C	
Barrel Temperatures	Front	280 - 290	°C	
Barrel Temperatures	Nozzle	290 - 300	°C	
Mold Temperatures		80 - 120	°C	
Hold Pressure (% of Injection Pressure)		50 - 75	%	
Plastic Back Pressure (specific)		50 - 150	bar	
Peripheral Screw Speed		0.05 - 0.2	m/s	
Shot-to-Cylinder Size		30 - 70	%	
Vent Depth		0.025 - 0.075	mm	

Health and Safety Information

Before working with this product, you must read and become familiar with the available information regarding its risks, proper use, and safe handling. This information is provided in various formats, including the current Safety Data Sheet (SDS) and product label. SDS can be accessed via the following link:

[Safety Data Sheets \(SDS\) for Covestro products | Covestro](#)

For further questions, please use the contact information provided on this technical data sheet.

Please note that for products manufactured in different colors, safety data may vary depending on the color variant.

Disclaimer

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<https://order.covestro.com/covestrostorefront/saleConditions>

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Conditional Use for Medical Applications

This product may be suitable for certain medical application (e.g., medical devices). Use of this product in any medical application is subject to the requirements in Covestro's guidance document 'Guidance on Use of Covestro Products in a Medical Application'. As discussed in the document, limited applications require prior written approval from Covestro. Covestro disclaims all liability for medical uses not in compliance with this guidance.

[Guidance on Use of Covestro Products in a Medical Application](#)

Typical Value

These values are provided as typical data only and do not constitute binding specifications or warranted performance, unless explicitly agreed by Covestro in writing. Performance may vary depending on factors including, but not limited to, mold/die, processing conditions and coloring/pigmentation. Unless otherwise stated, values are based on standardized test specimens at room temperature.

Sample

Samples provided by Covestro are intended solely for evaluation and testing purposes by the customer and may not be used in commercial applications, resold, transferred to third parties (except qualified testing service providers acting on behalf of the customer), reverse engineered, modified, or used in any manner not explicitly authorized in writing by Covestro. Samples are provided 'as-is' without any warranties, express or implied, including fitness for a particular purpose. Customers are solely responsible for ensuring safe handling, regulatory compliance, and suitability of the material for their intended evaluations. Covestro disclaims all liability for damages or losses arising from the use of samples.

Shrinkage

Shrinkage data is provided for reference only and is based on plaques molded under specific, controlled processing conditions. Actual shrinkage values in production parts may vary due to numerous factors, including but not limited to part design (e.g., size, thickness, geometry), mold design (e.g., gate type and location, runner design, mold materials, cooling system), and molding conditions (e.g., processing temperature, mold temperature, packing time and pressure, injection speed).

The determination and application of shrinkage values are the sole responsibility of the customer and must be based on their own testing and experience under actual production conditions. To the maximum extent permitted by law, Covestro shall not be liable for any damages, losses, or claims arising from the use of, or reliance on, the shrinkage data provided.

Recommended Processing and Drying Conditions

The recommended processing and drying conditions are provided for reference only and do not constitute binding specifications or warranted values. Barrel temperatures are based on a standard 3-zone barrel; other configurations may require different settings. Values for hold pressure as a percentage of injection pressure may vary depending on part geometry, injection molding machine, and injection mold. Drying conditions are specified for dry air dryers only; drying times and temperatures may differ depending on the dryer type.

Processors are solely responsible for validating and optimizing processing parameters for their specific equipment and applications. To the maximum extent permitted by law, Covestro disclaims all liability for performance outcomes or damages resulting from reliance on these recommended conditions.

Makrolon® 2558

Designation according to ISO 1043: PC



Contact Information

Please use our [contact form](#) or contact us directly by sending an e-mail to technical-datasheets@cx.covestro.com.
