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Celanese
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ECOMID® ARX H GF50 BK 9005

ECOMID®

Designed for Automotive industry, suitable for other technical applications that require mechanical performance and long term heat ageing resistance.

Product information

Resin Identification	(PA66+PA6)-GF50	ISO 1043
Part Marking Code	>(PA66+PA6)-GF50<	ISO 11469
Continuous Service Temperature	130 °C	IEC 60216-1

Rheological properties

	dry/cond.		
Viscosity number	140 / *	cm^3/g	ISO 307, 1628
Moulding shrinkage range, parallel	0.1 - 0.5	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.5 - 0.9	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	16300 / 12000[C]	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	200 / 140	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.3 / 3.3[C]	%	ISO 527-1/-2
Flexural modulus	14500 / -	MPa	ISO 178
Flexural strength	300 / -	MPa	ISO 178
Charpy impact strength, 23°C	75 / 80	kJ/m^2	ISO 179/1eU
Charpy impact strength, -30°C	45 / -	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	14 / 16	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	8.5 / -	kJ/m^2	ISO 179/1eA
Ball indentation hardness, H 961/30	230 / -	MPa	ISO 2039-1
Poisson's ratio	0.33 / 0.33[C]		

[C]: Calculated

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	260 / *	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	235 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	250 / *	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	20[1] / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	80[1] / *	E-6/K	ISO 11359-1/-2

[1]: Temperature range: -30°C to 70°C

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.2 / *	%	Sim. to ISO 62
Water absorption, 2mm	4.1 / *	%	Sim. to ISO 62
Density	1560 / -	kg/m^3	ISO 1183

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Injection

Drying Recommended	yes	
Drying Temperature	80	°C
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.15	%
Melt Temperature Optimum	285	°C
Min. melt temperature	275	°C
Max. melt temperature	295	°C
Screw tangential speed	≤0.2	m/s
Mold Temperature Optimum	100	°C
Min. mould temperature	70	°C
Max. mould temperature	120	°C
Ejection temperature	210	°C

Characteristics

Processing	Injection Moulding
Special characteristics	Heat stabilised or stable to heat

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
VW Group	VW 50127	*Best Fitting Grade To PA66-10, Not Officially Approved
VW Group	VW 50133	*Best Fitting Grade To PA66-8-A, Not Officially Approved

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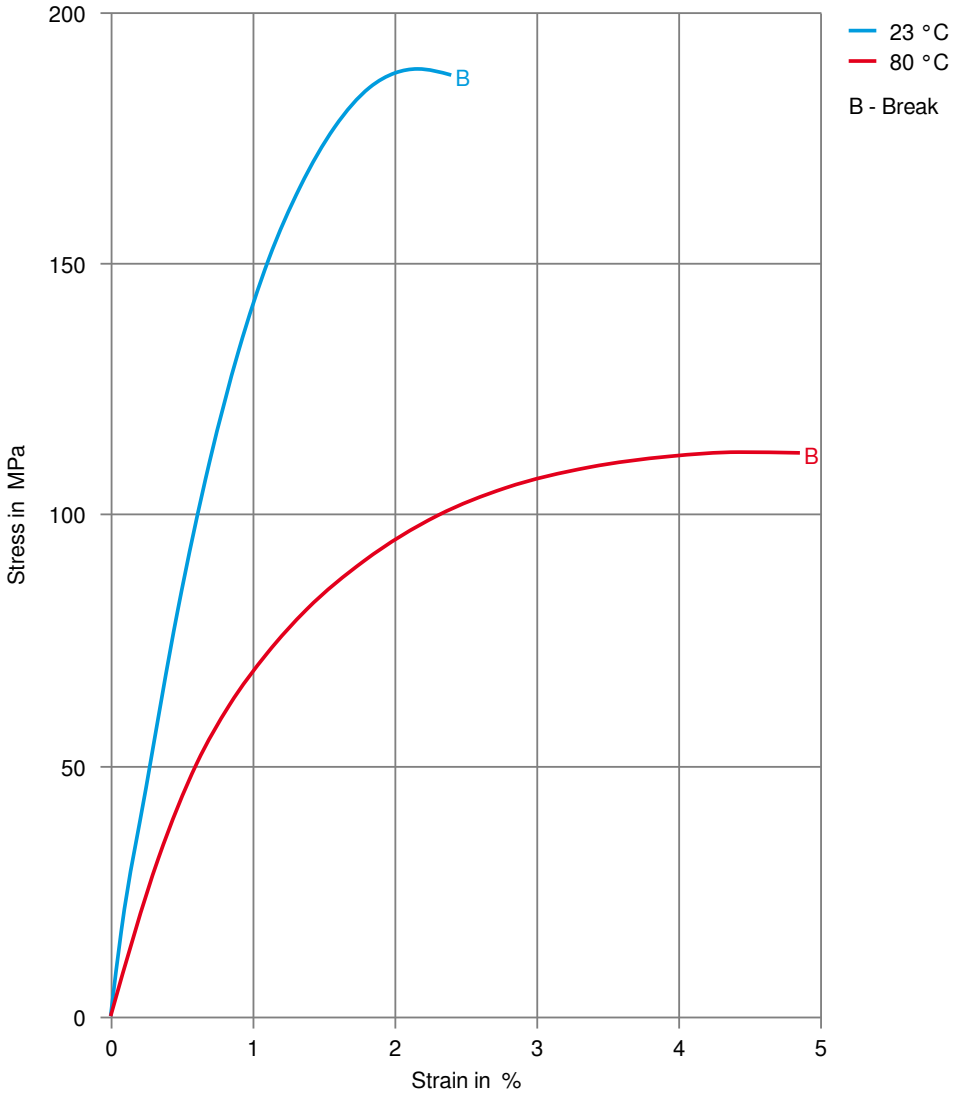
Stress-strain (dry)



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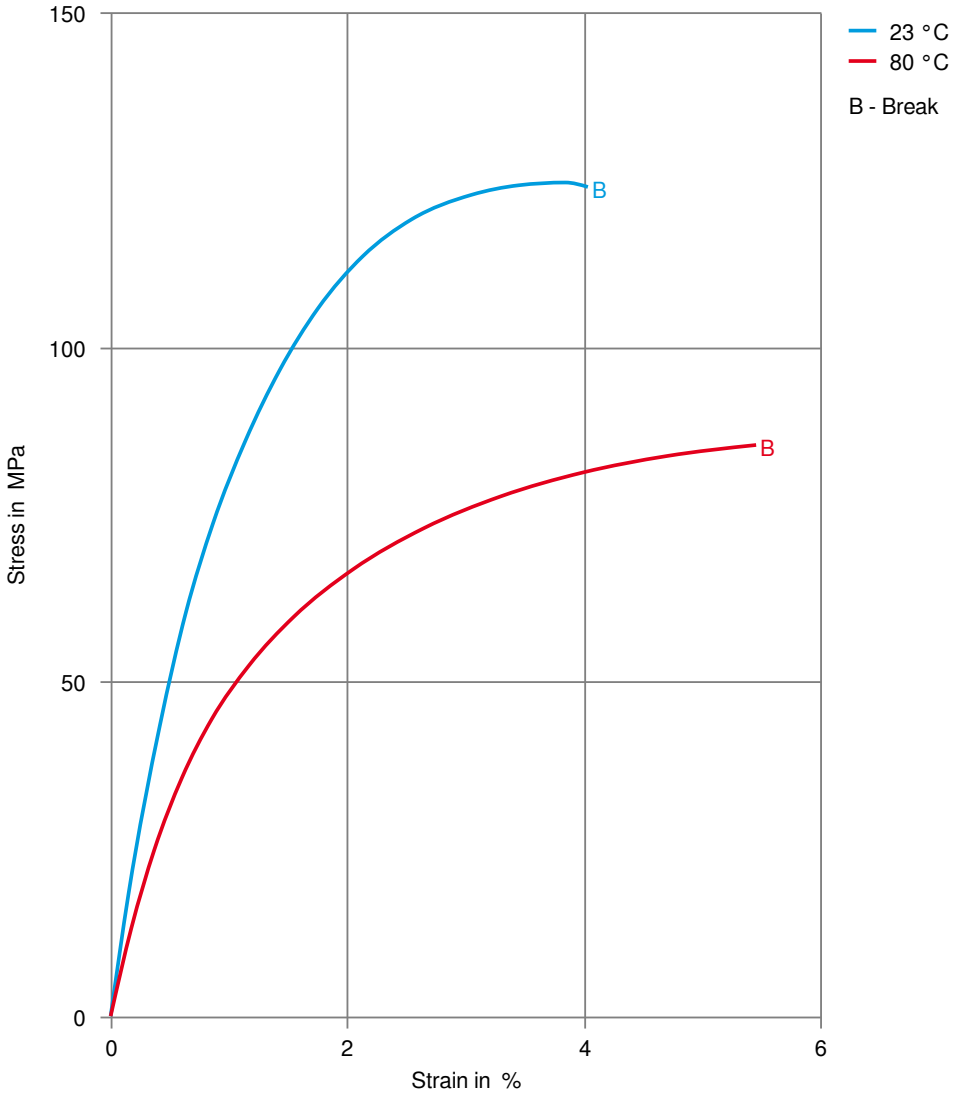
Stress-strain (cond.)



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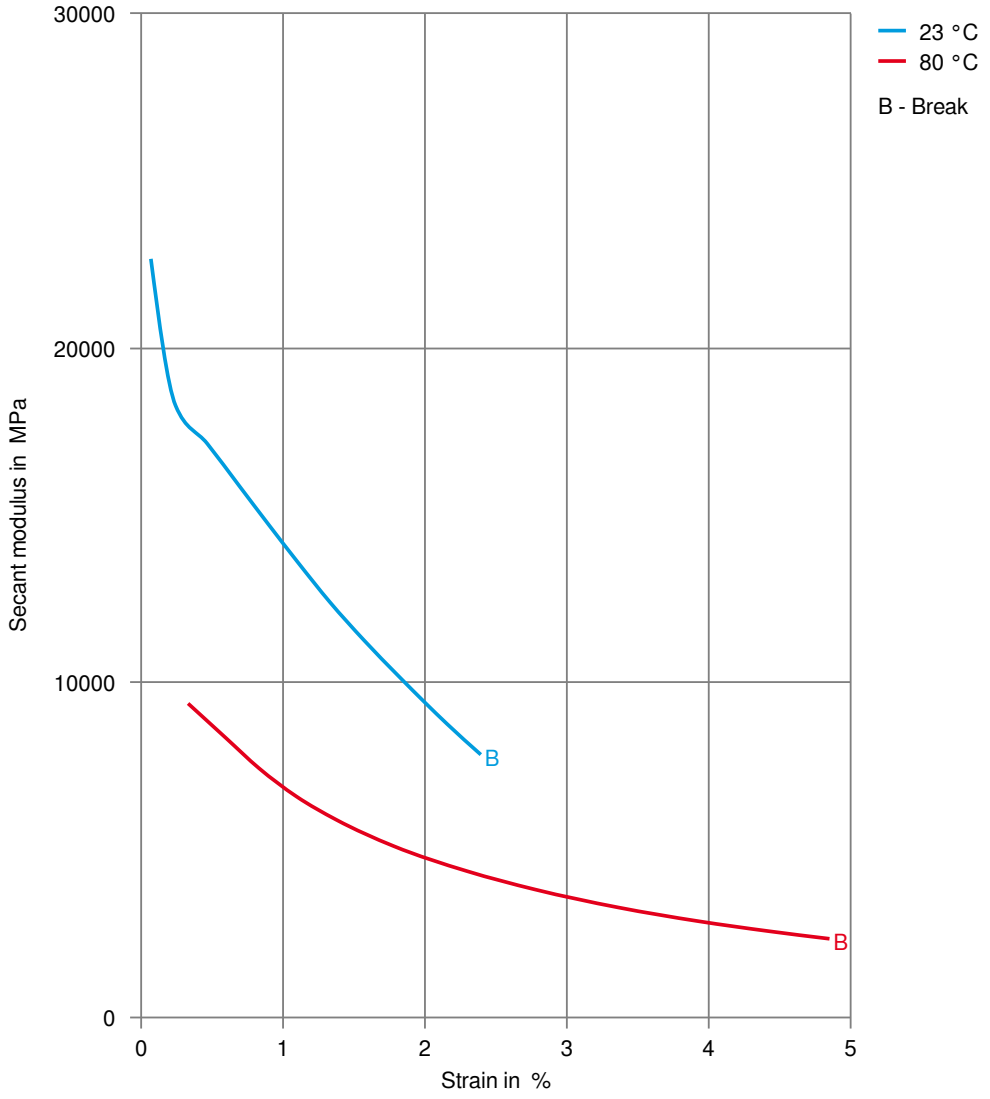
Secant modulus-strain (dry)



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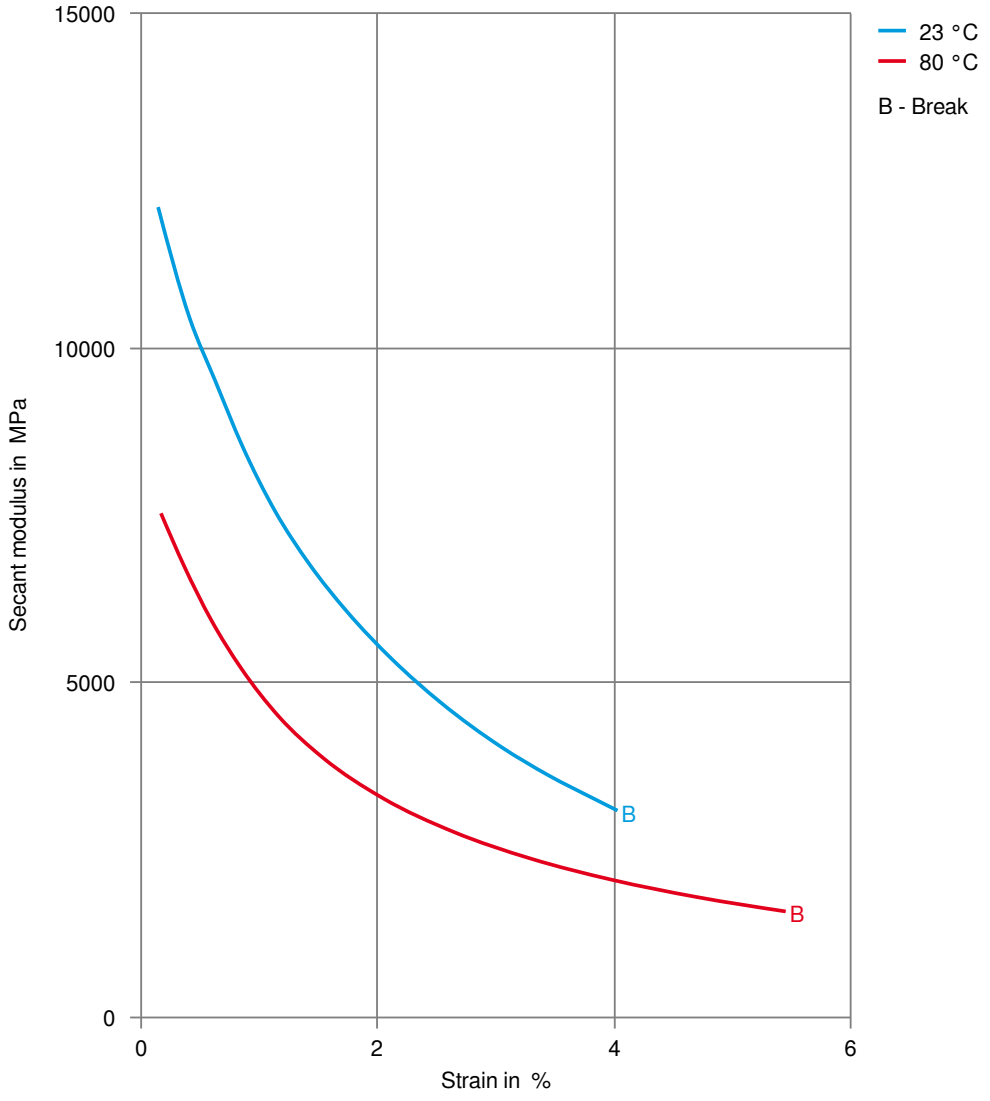
Secant modulus-strain (cond.)



Revised: 2024-11-26 Source: Celanese Materials Database

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colourants or other additives may cause significant variations in data values. Properties of moulded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.
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