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CELCON® CF802

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Celcon® acetal copolymer grade CF802 is a conductive, fuel compatible acetal copolymer. Celcon® CF802 has been developed to dissipate static electricity from fuel handling systems. Please note Celcon® CF802 has special processing considerations to ensure static dissipation properties. Use minimum back pressure and slowest screw speed possible in retracting screw during cooling portion of cycle. Large gate size (>2 mm) recommended. Pneumatic conveying of material long distances is not recommended.

Product information

Resin Identification	POM-MEF(x)7	ISO 1043
Part Marking Code	>POM-MEF(x)7<	ISO 11469

Rheological properties

Moulding shrinkage, parallel	1.6	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.8	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	3000	MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	62	MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	10	%	ISO 527-1/-2
Flexural modulus	3100	MPa	ISO 178
Flexural stress at 3.5%	70	MPa	ISO 178
Tensile creep modulus, 1h	2130	MPa	ISO 899-1
Tensile creep modulus, 1000h	1050	MPa	ISO 899-1
Charpy impact strength, 23°C	70	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	70	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	4	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	4	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	4.8	kJ/m²	ISO 180/1A
Izod notched impact strength, -30°C	4.7	kJ/m²	ISO 180/1A
Poisson's ratio	0.42		

Thermal properties

Melting temperature, 10°C/min	167	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	100	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	100	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	120	E-6/K	ISO 11359-1/-2

Electrical properties

Volume resistivity	3	Ohm.m	IEC 62631-3-1
Surface resistivity	2000	Ohm	IEC 62631-3-2

Physical/Other properties

Density	1490	kg/m³	ISO 1183

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Injection

Drying Recommended	no	
Drying Temperature	100	°C
Drying Time, Dehumidified Dryer	3 - 4	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	200	°C
Min. melt temperature	190	°C
Max. melt temperature	210	°C
Screw tangential speed	≤0.3	m/s
Mold Temperature Optimum	100	°C
Min. mould temperature	80	°C
Max. mould temperature	120	°C
Hold pressure range	60 - 120	MPa
Back pressure	2	MPa
Ejection temperature	125	°C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Special characteristics	Increased electrical conductivity, Static dissipative

Additional information

Injection molding

Preprocessing

Drying is generally not required because Celcon® and Hostaform® acetal copolymers are not hydroscopic nor are they degraded by moisture during processing. Excessive moisture can lead to splay (silver streaking) in molded parts. For better uniformity in molding especially when using regrind or material that has been stored in containers open to the atmosphere, recommended drying conditions are 80 C (180 F) for 3hours. Desiccant hopper dryers are not required. Maximum water content = 0.35%

Processing

Standard reciprocating screw injection molding machines with a high compression screw (minimum 3:1 and preferably 4:1) and low back pressure (0.35 Mpa/50 PSI) are favored. Using a low compression screw (I.E. general purpose 2:1 compression ratio) can result in unmelted particles and poor melt homogeneity. Using a high back pressure to make up for a low compression ratio may lead to excessive shear heating and deterioration of the material.

Melt Temperature: Preferred range 182-199 C (360-390 F). Melt temperature should never exceed 230 C (450 F).

Mold Surface Temperature: Preferred range 82-93 C (180-200 F) especially with wall thickness less than 1.5 mm (0.060 in.). May require mold temperature as high as 120 C (250 F) to reproduce mold surface or to assure minimal molded in

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Processing Notes

stress. Wall thickness greater than 3mm (1/8 in.) may use a cooler (65 C/150 F) mold surface temperature and wall thickness over 6mm (1/4 in.) may use a cold mold surface down to 25 C (80 F). In general, mold surface temperatures lower than 82 C (180 F) may hinder weld line formation and produce a hazy surface or a surface with flow lines, pits and other included defects that can hinder part performance.

Postprocessing

Postprocessing conditioning and moisturizing are not required. It may be necessary to fixture large or complicated parts with varying wall thickness to prevent warpage while cooling to ambient temperature.

Pre-Drying

Drying is not normally required. If material has come in contact with moisture through improper storage or handling or through regrind use, drying may be necessary to prevent splay and odor problems.

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Bosch	N28 BN22-X003	Gray, Made in Florence
Stellantis - Chrysler	MS.50095 / CPN-5289	Black

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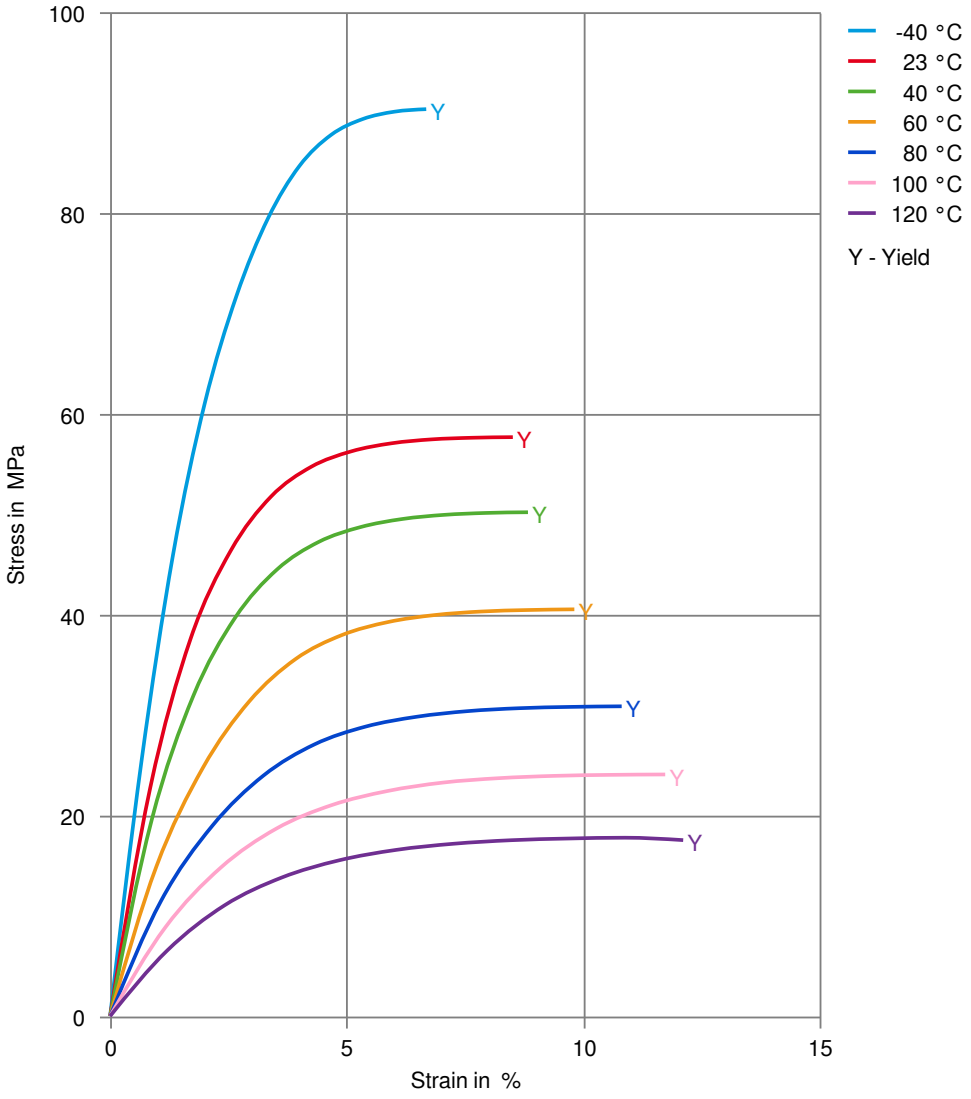
Stress-strain



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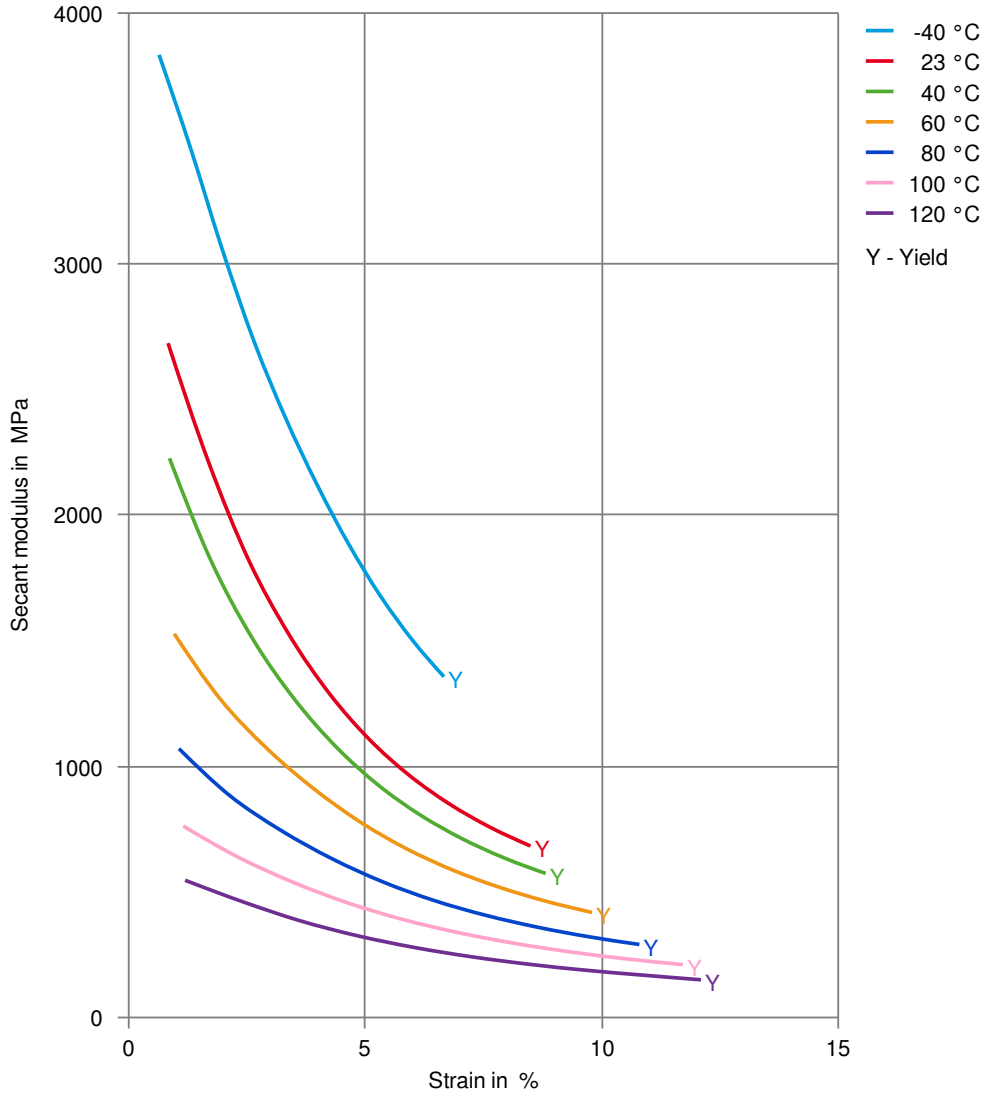
Secant modulus-strain



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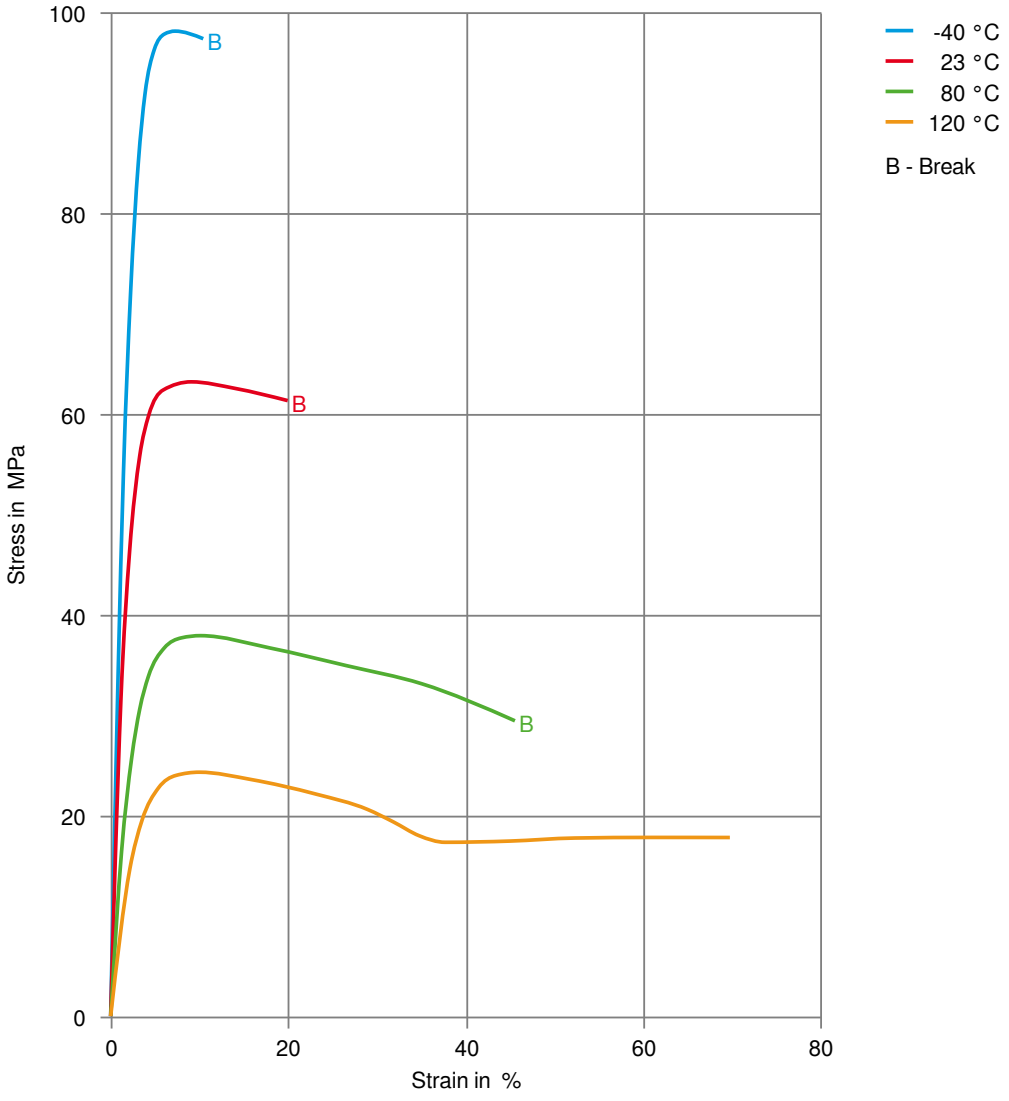
Stress-strain, 50mm/min



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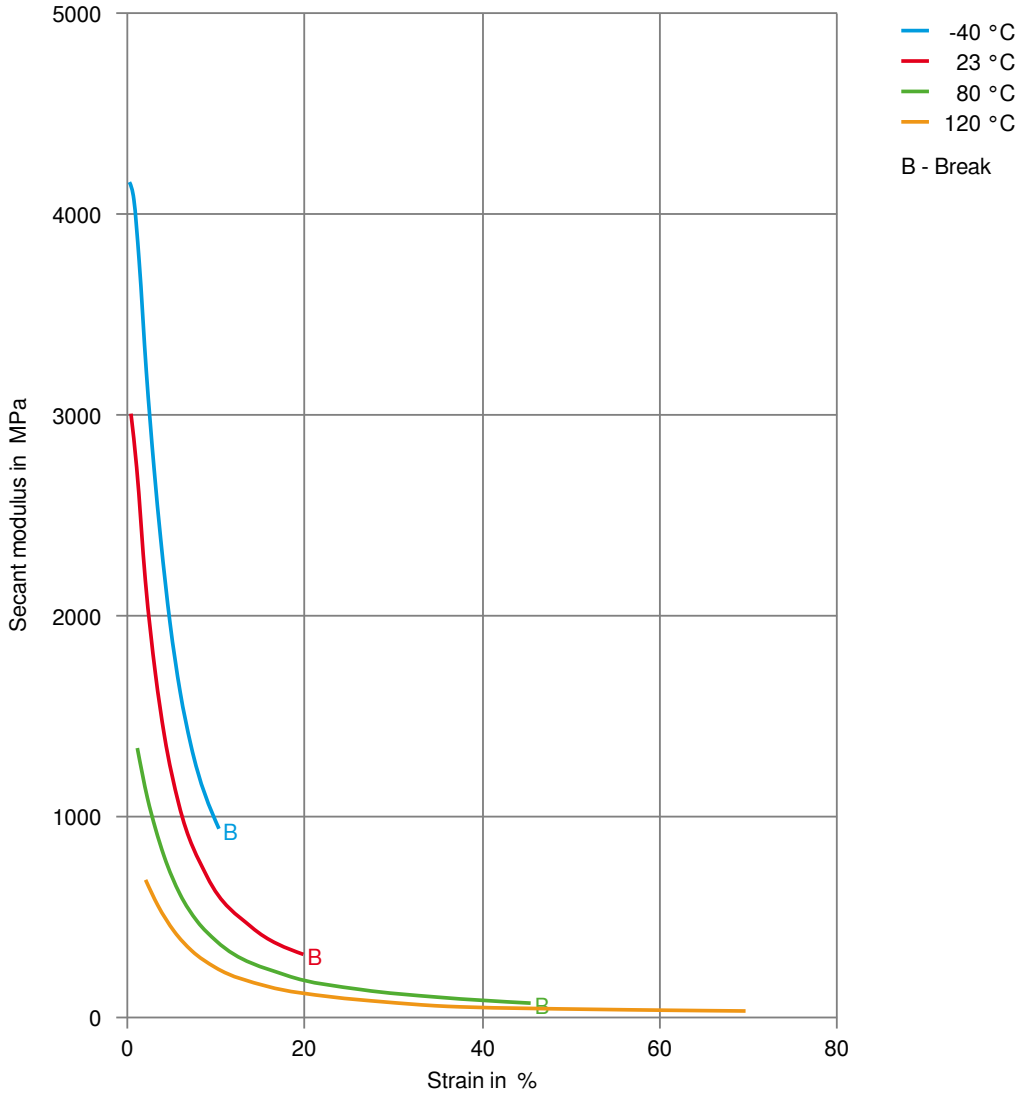
Secant modulus-strain, 50mm/min



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Chemical Media Resistance

Standard Fuels

- ✔ ISO 1817 Liquid 1 - E5, 60°C
- ✔ ISO 1817 Liquid 2 - M15E4, 60°C
- ✔ ISO 1817 Liquid 3 - M3E7, 60°C
- ✔ ISO 1817 Liquid 4 - M15, 60°C
- ✔ Standard fuel without alcohol (pref. ISO 1817 Liquid C), 23°C
- ✔ Standard fuel with alcohol (pref. ISO 1817 Liquid 4), 23°C

Symbols used:

✔ possibly resistant
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

✘ not recommended - see explanation
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

Revised: 2024-07-08 Source: Celanese Materials Database