

## HOSTAFORM® LGC90-QX | POM | Glass Reinforced

### Description

#### Preliminary Data Sheet

Hostaform® LGC90-QX acetal copolymer is a specialty long fiber glass coupled grade formulated to provide exceptional mechanical properties while retaining other properties typical of acetal copolymers such as inherent lubricity and chemical resistance.

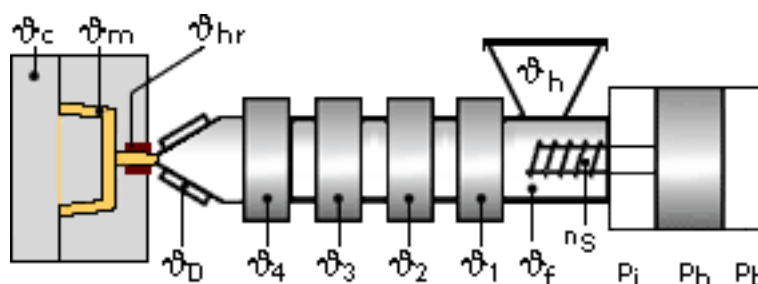
LGC90-QX is supplied in pellet form and is suitable for injection, injection-compression, extrusion, and extrusion-compression processes. For important additional process or equipment recommendations, please reference [www.ticona.com/tech/processing](http://www.ticona.com/tech/processing) under Celstran LFRT and Compel LFRT, or call the Ticona product hotline to request further information.

Physical properties	Value	Unit	Test Standard
Density	1600	kg/m <sup>3</sup>	ISO 1183

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	9500	MPa	ISO 527-2/1A
Tensile stress at break (5mm/min)	160	MPa	ISO 527-2/1A
Tensile strain at break (5mm/min)	2.6	%	ISO 527-2/1A
Flexural modulus (23°C)	9500	MPa	ISO 178
Charpy impact strength @ 23°C	60.0	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength @ 23°C	26.0	kJ/m <sup>2</sup>	ISO 179/1eA

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	167	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	166	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	0.35	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	1.1	E-4/°C	ISO 11359-2

### Typical injection moulding processing conditions



#### Pre Drying:

#### Necessary low maximum residual moisture content: 0.15%

It is normally not necessary to dry HOSTAFORM. However, should there be surface moisture (condensate) on the molding compound as a result of incorrect storage, drying is required. A circulating air drying cabinet can be used for this purpose.

#### Drying time: 3 - 4 h

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**Drying temperature: 80 - 100 °C**

**Temperature:**

	ϕ <sup>1</sup> Manifold	ϕ <sup>2</sup> Mold	ϕ <sup>3</sup> Melt	ϕ <sup>4</sup> Nozzle	ϕ <sup>5</sup> Zone4	ϕ <sup>6</sup> Zone3	ϕ <sup>7</sup> Zone2	ϕ <sup>8</sup> Zone1	ϕ <sup>9</sup> Feed	ϕ <sup>10</sup> Hopper
min (°C)	200	70	200	200	200	195	190	180	60	20
max (°C)	210	120	210	210	210	205	200	190	80	30

**Pressure:**

	Inj press	Hold press	Back pressure
min (bar)	600	600	0
max (bar)	1300	1300	5

**Speed:**

**Injection speed: slow**

### Injection Molding

Long Fiber Reinforced Thermoplastic products may be processed using current standard injection molding machines having screw diameters greater than 40mm (1.6 inches).

A three-zone screw should be used, having a feed zone of approximately ten diameters, a compression zone of six, and a metering zone of four diameters. It should have an L/D ratio of 20:1 with a compression ratio of about 2:1. Screw flight depth should be at least 4.5mm (0.18 inches).

Wear and corrosion protective measures are recommended. Use interior armoring or a bimetallic coating on the cylinder and arm parts of the non-return valve with powdered metal steels. Additional corrosion protection of the melt carrying components in the plastication unit is recommended when working with Celstran LFRT nylon or PPS products.

Due to the short residence time, suitable shot volumes are from 30% to 70 % of the maximum metering capacity of the machine.

LFRT is usually processed using a free flow nozzle, but it requires an orifice diameter greater than 0.16 inches (4 mm) and preferably larger than 0.125 inches (6 mm). A shut-off nozzle may be advisable if a large orifice is used. An easy flowing, three-part, check-ring type of non-return valve with a large cross section is recommended.

### Contact Information

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### General Disclaimer

**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. Colorants or other additives may cause significant variations in data values.

Properties of molded 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. 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.

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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 (+49 (0) 69 30516299 for Europe and +1 859-372-3244 for the Americas) for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.

The products mentioned herein are not intended for use in medical or dental implants.

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