

Processing advice

Product name: Biograde® C 5508
Date of issue: 28 July 2014

Version: 2.0

Designation of product, preparation and manufacturer

Trade name: Biograde® C 5508
Use of product: Biodegradable compound, partly based on renewable resources, suitable for injection moulding and cast film extrusion.
Manufacturer: FKUR Kunststoff GmbH
 Siemensring 79
 D - 47 877 Willich
 Phone.: + 49 (0) 2154 / 92 51-0
 Fax: + 49 (0) 2154 / 92 51-51
 Mail: info@fkur.com
 Web: www.fkur.com

Processing conditions for injection moulding

Machine equipment: Standard screw, open nozzle.

Machine settings:

Feeding Zone	60	[°C]
Zone 1	190	[°C]
Zone 2	190	[°C]
Zone 3	200	[°C]
Machine nozzle	200 - 220	[°C]
Mould temperature	30 - 65	[°C]
Holding pressure level	40 - 80	[%]
Melt cushion (of volume)	< 10	[%]
Cooling time	~ 10	[s]
Max. dwell time	300	[s]
Density	1.29	[g/cm³]
Bulk density	not measured	[kg/m³]
MFR (230 °C/5 kg)	19 - 23	[g/10 min]
Shrinkage	0.4 / 0.85	[%]

Purging advice for injection moulding

Before production: Purge the plastification unit and, if existing, the hot runner with PP, PE or purging compound.

During production: Heat tools and plastificator unit to the recommended temperature. If tool is not filled, increase temperature stepwise. Material has a tendency to burn and therefore needs a constant melt flow

After production: Purge the plastification unit and, if existing, the hot runner with PP or purging compound.

General advice: Use high injection speed! Short holding pressure and cooling times can be used. To avoid burning (diesel effect) at high injection speeds venting at the flow path is recommended. The flow front should continuously move forward to avoid freezing effects. Regrind sprues and runners can be reused at 20%. We recommend to use cold runner systems.

Important information: The dwell time of the material inside the machine shall be reduced to a minimum in order to lower the risk of pyrolysis.

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Processing conditions for cast film extrusion

Machine equipment:	Standard castfilm line, PVC screw of advantage.		
Machine settings:	Feeding Zone	60	[°C]
	Zone 1	175	[°C]
	Zone 2	180	[°C]
	Zone 3	180	[°C]
	Zone 4	185	[°C]
	Wide slot nozzle	190 - 200	[°C]
	Calender roll temperature	20 - 65	[°C]

Purging advice for cast film extrusion

Before production:	Ensure that all temperature zones work correctly! Purge the extruder with PP, PE or purging compound. Purging time: approximately 10 - 20 minutes.
During production:	Heat extruder and nozzle to the recommended temperature. If melt is too viscous, increase temperature stepwise. Material has a tendency to degradate and therefore should not remain into the machine for too long.
After production:	Purge out the extruder with PP, PE or purging compound.
General advice:	We recommend avoiding both undercuts / dead ends as well as too long adapter pieces to prevent burning. Basically, temperature or thermal energy fluctuations should be avoided in the flow path. The dwell time of the material should not increase 5 minutes. Please note, in any case, the recommendations for the residual moisture of the material (0.1 - 0.2 %).

Drying conditions and storage

General:	Biograde® is a biodegradable plastic based on cellulose. Residual moisture content of more than 0.2% can result in hydrolysis and evaporation in the injection unit or in condensed moisture on the mould.
Drying:	Drying is recommended at 60 °C for a period of 2 - 4 hours. Do not overheat the material and do not dry it longer than recommended.
Storage conditions:	If not specified otherwise product life is 6 months after shipment from Sellers warehouse if product is in its original packaging and stored under dry conditions (max. 70 % relative humidity) and normal room temperature or, if necessary, using air conditioning. It is important to observe that a major drop in external air temperature (e.g. during transportation) can result in the development of water condensate. Prior to the processing of the material, it should be ensured that there is no condensate on the packaged product.
Storage conditions for finished products:	Finished products made from Biograde® should be stored dry and cold. Storage time depends on processing parameters and on climate conditions in the respective area. FKUR Kunststoff GmbH cannot give any shelf life guarantees for finished goods. Please notice that the conditions mentioned above depend on experiences of our customers. We recommend that each customer executes individual storage tests according to his product specifications and storage requirements.

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General:

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