



Datasheet

TOFFY - 4322 / Expanded Polypropylene

MANUFACTURER

CSP Chemical

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PRODUCT DESCRIPTION

Expanded Polypropylene – Black

SAFETY DATA SHEET

SDS-PLMR-EPP

DELIVERY FORM

- Big Bag
- Bulk

PARTICLE SIZE

Weight: 1 mg

Size: 3,0 – 5,0 mm

QUALITY SPECIFICATIONS

Bulk Density (g/L): 22 ± 3

Moulded Density (g/L): 25 – 30 – 35 - 45

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PHYSICAL PROPERTIES

-----	Test Method	Unit	Test Result			
Moulded Density	ISO 845 : 2010	g/L	25	30	35	45
Compressive Strength	ISO 844 : 2014	kPa				
25% strain			110	135	160	225
50% strain			195	220	260	330
75% strain			400	450	520	620
Tensile Strength	ISO 1798 : 2009	kPa	350	480	530	570
Tensile Elongation		%	20	20	19	18
Compression Set 25% Strain – 22 Hours – 23 °C	ISO 1856 : 2009 Method C	%	12	11,5	11,5	11
Thermal Conductivity	EN 12667:2001	W/mK	0,037	0,037	0,038	0,040
Burning Rate (mm/min)	ISO 3795 : 1989	mm/min	100	75	70	60
	UL94	Material is in conformity area under HBF standart.				

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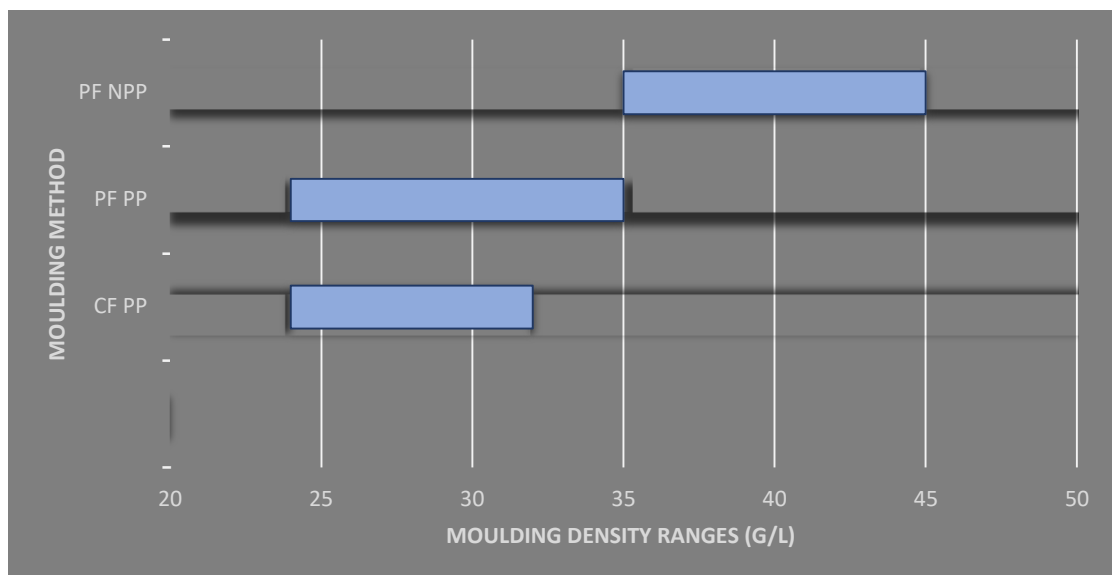
MOULDING PROCESS

Toffy EPP beads can be moulded using the processes written below;

- Crack Filling (CF) and Pressure Filling (PF) processes.

Note that:

- With Pressure Filling, Pre-Pressured (PP) or Non-Pre-Pressured (NPP) material can be used to achieve desired moulded densities.
- Crack Filling is recommended for Pre-Pressured material.
- Using different moulding methods, three different moulding ranges can be achieved.



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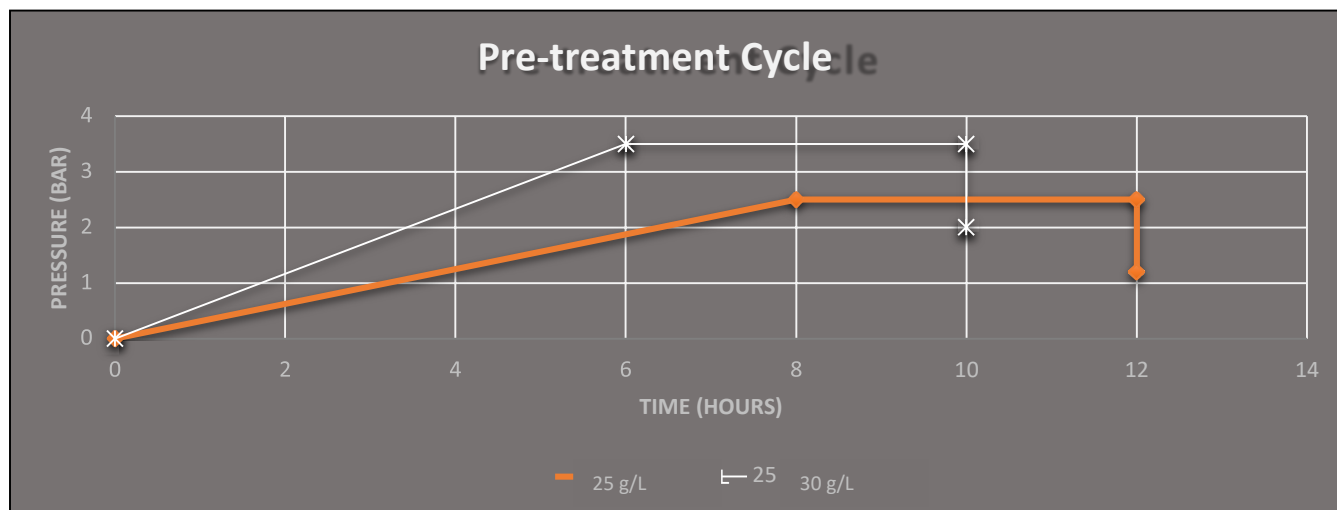
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Pre-Pressured:

Suggested PP cycle (recommended compressed air at 23 °C):



For 30g/l: 6 hours up to 2,5 bar, hold 4 hours at 2.5 bar, decrease and maintain at 1,2 bar throughout production

For 25 g/l: 8 hours up to 2.5 bar, hold 4 hours at 3.5 bar, decrease and maintain at 1,5 bar throughout production.

The pre-pressured cycle will be altered based on the moulding process, density and geometry:

- Increase Pre-Pressuring time, pressure or temperature in order to improve surface appearance and filling quality in PF. As a result moulded density will be reduced.
- Reduce Pre-Pressuring time, pressure or temperature in order to improve fusion or filling quality in CF.

Increasing the temperature of pressure tanks by 20 °C with ambient temperature will reduce the pre-pressure time significantly, without changing the internal cell pressure. This can be very pragmatic.

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Processing:

Cycle can be adjusted based on the moulding process, density and part geometry:

- High Internal Cell Pressure (ICP) can cause a fusion issue. In this case decrease time, pressure or temperature during moulding in order to improve fusion of moulded part.
- Increase time, pressure or temperature to reduce moulded density and improve surface quality.
- Operating the pressure tank up to 50°C above the environmental temperature will significantly reduce Pre-Pressuring time.

Post-Treatment:

Parts with moulded densities below 50g/l (depending on the part dimensions), are recommended to be post-treated at 80°C for 3 to 8 hours. This helps to remove water content, as well as ensuring dimensional stability and a geometric shape.

Shrinkage:

Typical shrinkage values are between 2% -2,6%. Increasing the moulded density tends to reduce shrinkage.

Storage:

- Storing temperature must be 15°C minimum.
- Indoor storage is recommended.
- Keeping the material in an indoor silo for 24 hours before moulding is recommended. This would also disable condensation.

Disclaimer

All data in this document are for general information purposes only. They are based upon tests performed to our best knowledge and experience, using typical EPP moulding equipment under CSP's standard conditions. As many properties will depend largely on part shape and size as well as on moulding parameters, these data can only be considered as indicative. Any data herein may change without prior notice. While we endeavour to keep the information up to date and correct according to the state of the art, we make no representations or warranties of any kind, express or implied, about the completeness, accuracy, reliability or suitability with respect to these data. Any reliance you place on this information is therefore strictly at your own risk. The user itself is responsible for testing the products in order to find out and to determine whether these are suitable for the application as well as to observe any industrial property rights and existing laws and regulations. In no event will we be liable for any loss or damage (including, without limitation, indirect or consequential loss or damage, or any loss or damage whatsoever arising from loss of profits) arising out of, or in connection with, the use of this information and/or the use, handling, processing or storage of this product

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