



Datasheet

TOFFY - 4340 / Expanded Polypropylene

MANUFACTURER

CSP Chemical

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PRODCUT DESCRIPTION

Expanded Polypropylene – Black

SAFETY DATA SHEET

SDS-PLMR-EPP

DELIVERY FORM

- Big Bag
- Bulk

PARTICLE SIZE

Weight: 1 mg

Size: 2,5 – 4 mm

QUALITY SPECIFICATIONS

Bulk Density (g/L): 40 ± 3

Moulded Density (g/L): 50 – 60 – 65 – 70 (according to production method)

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| PREPRATION DATE: 03.09.2019 | REVISION DATE: - | REVISION NUMBER: 00 | CSP-EPP |
|-----------------------------|------------------|---------------------|---------|

Datasheet



PHYSICAL PROPERTIES

| ----- | Test Method | Unit | Test Result | | | |
|--|-------------------------------------|---|--------------|--------------|--------------|--------------|
| Moulded Density | ISO 845 : 2010 | g/L | 50 | 60 | 65 | 70 |
| Compressive Strength | ISO 844 : 2014 | kPa | | | | |
| 25% strain | | | 270 | 350 | 420 | 480 |
| 50% strain | | | 350 | 500 | 580 | 650 |
| 75% strain | | | 780 | 980 | 1200 | 1 400 |
| Tensile Strength | ISO 1798 : 2009 | kPa | 620 | 790 | 820 | 930 |
| Tensile Elongation | | % | 18 | 16 | 16 | 16 |
| Compression Set 25% Strain – 22 Hours – 23 °C | ISO 1856 : 2009 Method C | % | 11 | 10,5 | 10,5 | 10 |
| Thermal Conductivity | EN 12667:2001 | W/mK | 0,037 | 0,030 | 0,040 | 0,042 |
| Burning Rate (mm/min) | ISO 3795 : 1989 | mm/min | 55 | 45 | 45 | 40 |
| | UL94 | Material is in conformity area under HBF standart. | | | | |

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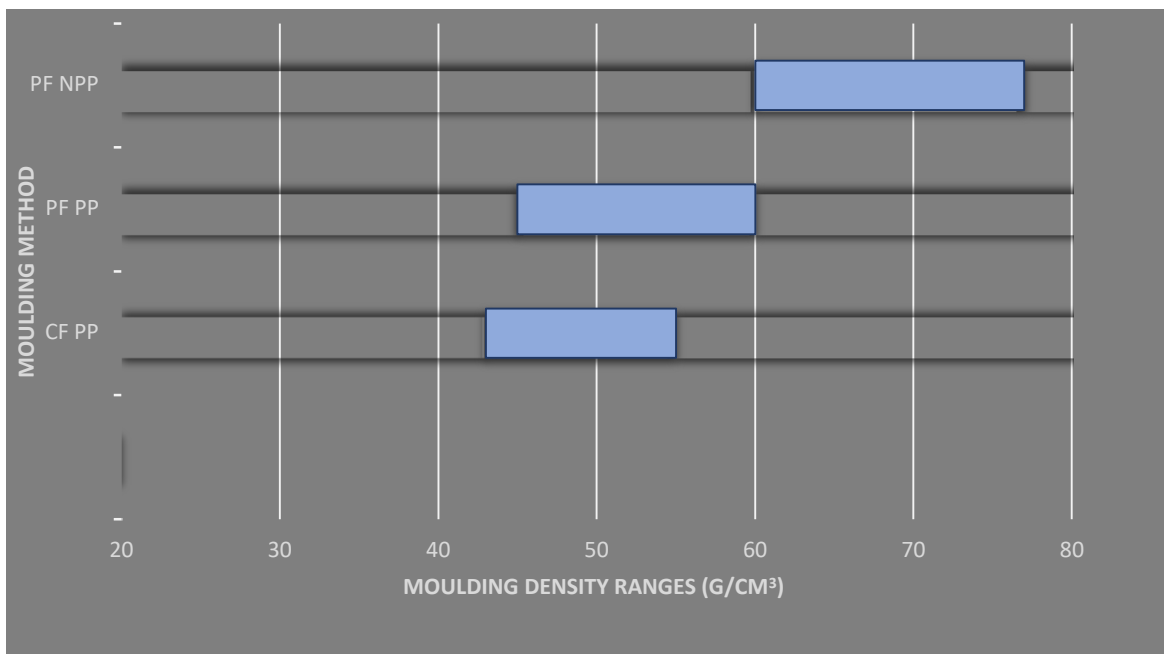
MOULDING PROCESS

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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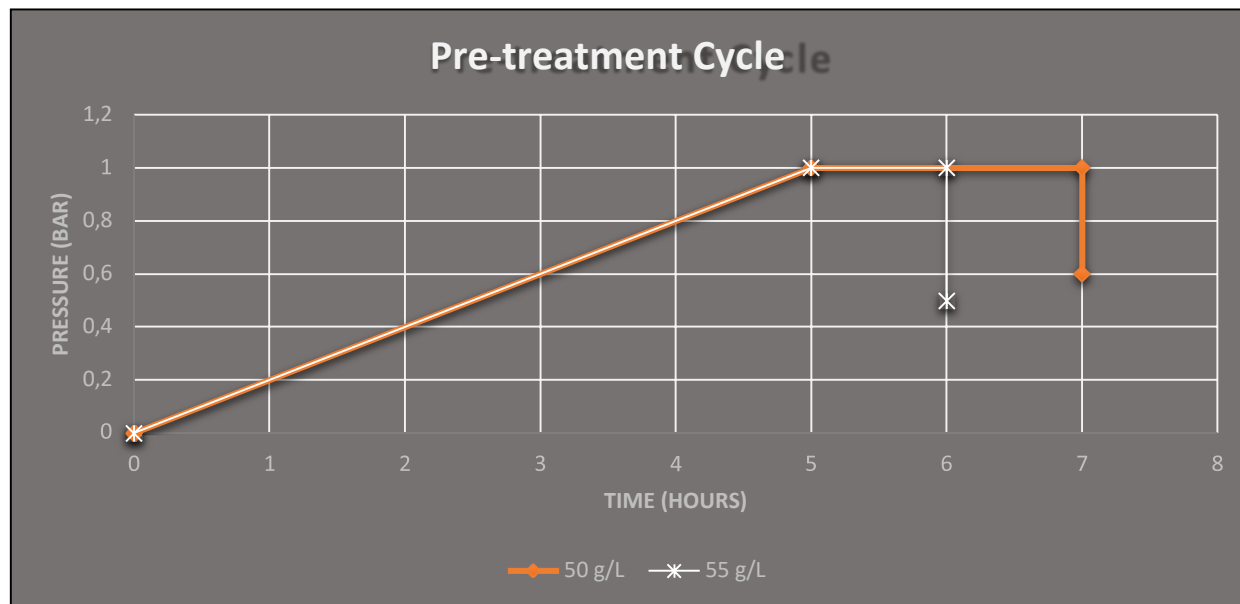
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Datasheet



Pre-Pressured:

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



For 55 g/l: PF 5 hours up to 1 bar, hold 1 hours at 1 bar, decrease and maintain at 0,5 bar throughout production

For 50g/l: CF 5 hours up to 1 bar, hold 2 hours at 1 bar, decrease and maintain at 0,6 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.

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|------------------------------|------------------|---------------------|---------|
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|------------------------------|------------------|---------------------|---------|

Datasheet



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.

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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