



# Datasheet

## TOFFY - 4375 / 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: 2,0 – 3,5 mm

### QUALITY SPECIFICATIONS

Bulk Density (g/L):  $75 \pm 3$

Moulded Density (g/L): 20 – 30 – 40 – 50 – 60 – 70 (according to production method)

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## PHYSICAL PROPERTIES

-----	Test Method	Unit	Test Result					
Moulded Density	<b>ISO 845 : 2010</b>	<b>g/L</b>	<b>20</b>	<b>30</b>	<b>40</b>	<b>50</b>	<b>60</b>	<b>70</b>
Compressive Strength	<b>ISO 844 : 2014</b>	<b>kPa</b>						
25% strain			<b>100</b>	<b>135</b>	<b>210</b>	<b>270</b>	<b>350</b>	<b>480</b>
50% strain			<b>195</b>	<b>220</b>	<b>300</b>	<b>350</b>	<b>500</b>	<b>650</b>
75% strain			<b>400</b>	<b>450</b>	<b>600</b>	<b>780</b>	<b>980</b>	<b>1400</b>
Tensile Strength	<b>ISO 1798 : 2009</b>	<b>kPa</b>	<b>350</b>	<b>480</b>	<b>550</b>	<b>620</b>	<b>790</b>	<b>930</b>
Tensile Elongation		<b>%</b>	<b>20</b>	<b>20</b>	<b>19</b>	<b>18</b>	<b>16</b>	<b>16</b>
Compression Set 25% Strain – 22 Hours – 23 °C	<b>ISO 1856 : 2009 Method C</b>	<b>%</b>	<b>12</b>	<b>11,5</b>	<b>11</b>	<b>11</b>	<b>10,5</b>	<b>10</b>
Burning Rate (mm/min)	<b>ISO 3795 : 1989</b>	<b>mm/min</b>	<b>100</b>	<b>75</b>	<b>60</b>	<b>55</b>	<b>45</b>	<b>40</b>
	<b>UL94</b>	<b>Material is in conformity area under HBF standart.</b>						

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## MOULDING PROCESS

Toffy 4375 is an On-Site Expansion degree. It can be expanded to 16 g/L and 42g/L bulk densities.

Toffy 4375 requires on-site expansion prior to moulding. The table below illustrates the bulk density range achievable through on-site expansion and the respective moulding process required to achieve the target moulded density.

TOFFY	Pre-Pressure		Non Pre-Pressure				Pre-Pressure			Non Pre-Pressure		
	Target Moulded Density (gr/lit)											
	20	25	30	35	40	45	50	55	60	65	70	75
K Density (gr/lit)	26											
	28											
	30											
	32											
	35											
	38											
	42											

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## Pre-Pressured:

The Pre-Pressuring Cycle would alter for the desired bulk density after On-Site Expansion. Based on the On-Site Expanded density, please check other Toffy Datasheets for Pre-Pressuring setup.

## 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.

For moulded densities above 50g/L, post-treatment is not required. Stabilisation to environmental conditions would be achieved in 4 hours. Dimensional quality testing is recommended after minimum 4 hours .

## Shrinkage:

Typical shrinkage values are between 1,8% -3,5%. Increasing the moulded density tends to reduce shrinkage.

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## Storage:

- The Temperature must be bigger than 15 °C.
- Indoor storage is recommended.
- Preferably keep the material in an indoor silo for 24 hours before moulding. This also avoids 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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