

## POLYSTYRENE IMPACT

### 4440

Technical data sheet  
High flow impact Polystyrene

#### Description >>

POLYSTYRENE IMPACT 4440 is a high impact polystyrene for the injection moulding of parts demanding good dimensional stability at high temperatures, particularly front and back covers for television sets. In addition, the flow properties of this grade make it particularly suitable for the moulding of large parts and for use with techniques such as gas injection.

#### Applications >>

- Television front and back covers, office equipment.

#### General Information >>

Standard properties : All tests carried out at 23°C unless otherwise stated. Mechanical properties are measured on injection moulded tests specimens.

- Bulk density : bulk density of all natural grades is approximately 0.6 g/cm<sup>3</sup>

POLYSTYRENE IMPACT 4440 should be kept in cool and dry place. Avoid direct exposure to sunlight.

Food contact : the composition of POLYSTYRENE IMPACT 4440 conforms with present regulations in the various European countries, as well as the USA for packaging destined for use in contact with foodstuffs. It remains the responsibility of the user to verify that the finished product also conforms with these regulations.

Please contact our technical office for more details.

---



Properties : >>

Rheological >>

Property	Method	Unit	Value
Melt flow index (200°C-5kg)	ISO 1133 H	g/10mn	10

Thermal >>

Property	Method	Unit	Value
Vicat softening point 10N (T° increase = 50°C/h)	ISO 306A50	°C	96
Vicat softening point 50N (T° increase = 50°C/h)	ISO 306B50	°C	88
HDT unannealed under 1.8 MPa	ISO 75-2A	°C	74
HDT annealed under 1.8 MPa	ISO 75-2A	°C	90
Coefficient of linear thermal expansion		mm/°C	9.10 E-5

Mechanical >>

Property	Method	Unit	Value
Notched Charpy impact strength	ISO 179/1eU	kJ/m <sup>2</sup>	8
Notched Izod impact strength	ISO 180/1A	kJ/m <sup>2</sup>	10
Tensile strength at yield	ISO 527-2	MPa	25
Tensile strength at break	ISO 527-2	MPa	20
Elongation at break	ISO 527-2	%	55
Tensile modulus	ISO 527-2	MPa	2050
Flexural modulus	ISO 178	MPa	2000
Rockwell hardness	ISO 2039-2		R 76

Electrical >>

Property	Method	Unit	Value
Dielectric strength		kV/mm	150
Surface resistivity	ISO IEC 93	Ohms	> 10 E+13

Miscellaneous >>

Property	Method	Unit	Value
Density	ISO 1183	g/cm <sup>3</sup>	1.04
Moulding shrinkage		%	0.4-0.7
Water absorption	ISO 62	%	< 0.1

## DISCLAIMER

Information contained in this publication is true and accurate at the time of publication and to the best of our knowledge. The nominal values stated herein are obtained using laboratory test specimens. Before using one of the products mentioned herein, customers and other users should take all care in determining the suitability of such product for the intended use, and particularly the conformity with current regulations. TOTAL PETROCHEMICALS do not recommend its polystyrene resins for use in any application in direct or indirect contact with human body fluids and tissues. The Companies within TOTAL PETROCHEMICALS do not accept any liability whatsoever arising from the use of this information or the use, application or processing of any product described herein. No information contained in this publication can be considered as a suggestion to infringe patents. The Companies disclaim any liability that may be claimed for infringement or alleged infringement of patents.



TOTAL PETROCHEMICALS FRANCE  
Pôle Recherche Développement Mont/Lacq  
BP 47  
64170 Lacq  
France

Technical data sheet - 4440 • Page 3

Last updated: 11/10/2004  
Contact: Polystyrene Technical Services  
Tel: +33 (0)5 59 65 52 61  
Fax: +33 (0)5 59 65 51 19  
Email: [polystyrene@total.com](mailto:polystyrene@total.com)  
Web: [www.polystyrene.totalpetrochemicals.biz](http://www.polystyrene.totalpetrochemicals.biz)