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The Chemical Company



# STYROLUX®

## Product line and product features

### Product line

Styrolux® is a styrene-butadiene block copolymer. The Styrolux® product line includes four grades with versatile processing properties for injection molding or extrusion (Figure 1). The most important feature differentiating these products is their toughness – associated with their efficiency in blends with general-purpose polystyrene (GPPS). Products mainly for injection molding applications feature excellent transparency with low toughness, whereas in products for extrusion applications the emphasis is mostly on blends with GPPS. As toughness increases, stiffness and heat resistance are reduced.

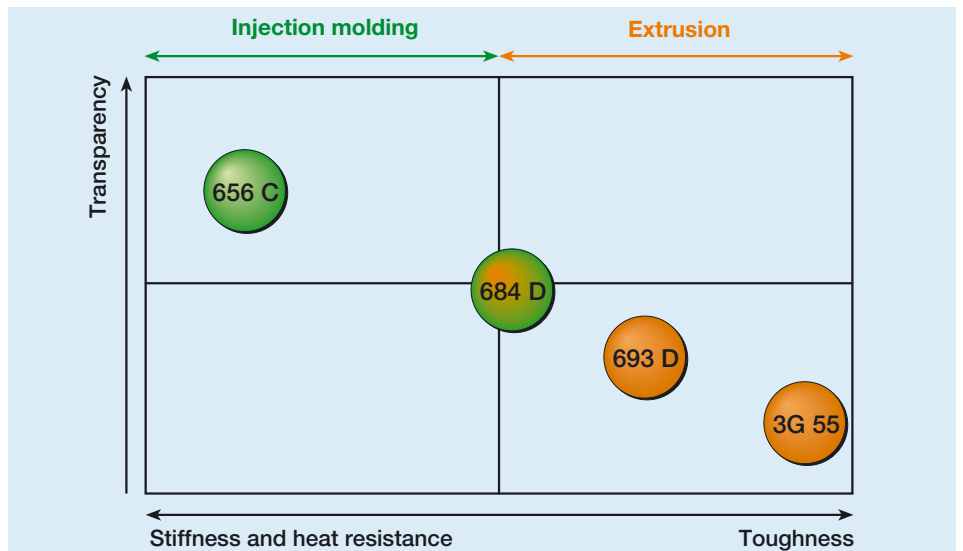


Fig. 1: Diagram of transparency and toughness in the Styrolux® product line

### Styrolux® Description of product and applications

<b>656 C</b>	Injection molding of tough, stiff and transparent moldings with short cycle times
<b>684 D</b>	Extrusion of sheeting in blends with GPPS for thermoforming; blow molding; blown film extrusion; injection molding of high-toughness moldings; grade with good printability
<b>693 D</b>	Extrusion of sheeting in blends with GPPS for thermoforming; blown film extrusion and chill roll extrusion; Styrolux® 693 D includes an antiblocking additive (wax)
<b>3G 55</b>	Extrusion of sheeting in blends with GPPS for thermoforming; preferred for in-line thermoforming; production of shrink films and label films Styrolux® 3G 55 tolerates particularly high GPPS contents in blends

### Styrolux® Masterbatches

<b>NB</b>	Improvement in antiblocking properties of sheeting and films (addition rate: 1-4%)
<b>ASE</b>	Improvement in release properties of thermoformed parts; improvement in scratch resistance; demolding aid for injection molding; lubricant for extruded sheeting (addition rate: 2-4%)
<b>BX</b>	Development products are indicated by BX followed by a 4-figure number

# STYROLUX®

## Commercial product range

Properties Guideline values	ISO test standard	656 C	684 D	693 D	3G 55
Melt volume rate MVR 200/5 [cm <sup>3</sup> /10 min]	1133	16	11	14	16
Tensile modulus of elasticity [MPa]	527-2	1800	1500	1300	900
Yield stress [MPa]	527-2	35	26	22	15
Tensile strain at break [%]	527-2	20	160	260	> 300
Charpy impact strength at +23 °C [kJ/mm <sup>2</sup> ]	179/1eU	25	nf	nf	nf
Izod notched impact strength at +23 °C [J/m]	ASTM D 256 A	21	23	35	nf
Shore D hardness	868	72	68	64	58
Deflection temperature under load of 1.8 MPa/HDT A [°C]	75-2	67	65	59	51
Vicat softening point A 50 [°C]	306	90	83	81	67
Density at +23 °C [g/cm <sup>3</sup> ]	1183	1.02	1.01	1.01	1.01
Luminous transmittance [%]	ASTM D 1003	90	90	89	89

nf: no fracture

### Styrolux® grades comply with the following requirements:

- EC and FDA conformity for use in food packaging
- Biocompatibility to USP class VI-50/ISO 10993
- UL combustibility: class UL 94 HB



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[www.styrolux.de](http://www.styrolux.de)

#### Please note:

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