

**Product Description**

LUX ELEMENTS®-FOAM is a very high quality blue-coloured expanded polystyrene hard foam with a high bulk density.

FOAM is produced using an environmentally friendly process without CFC, HCFC, HFC or CO<sub>2</sub> propellants. FOAM is the crucial base product for all LUX ELEMENTS® hard foam support elements

**Physical characteristics**

Characteristics	Tested in accordance with	Unit	Result
Deformation at specified compressive load and temperature conditions	DIN EN 1605 (01.97)	Compression in %	1,1 (mean value)
Compression behaviour (at 10% compression)	DIN EN 826	kPa	180 + 50 % - 20 %
Apparent density	DIN EN 1602	kg/m <sup>3</sup>	28 ± 3
Flammability	DIN 4102 (05.98)		B1, hardly inflammable

**Biological durability**

LUX ELEMENTS®-FOAM does not provide a breeding ground for micro-organisms. It does not go rotten or mouldy. FOAM is neither harmful to the environment nor hazardous to water. The safety of FOAM for both indoor and outdoor applications is made most obvious by the fact that the same raw-material is used to make food packaging

**Emissions when involved in fires**

The health hazard due to thermal decomposition products arising from expanded foams made from grades of Styropor in the event of a fire were investigated as early as 1976 jointly by the laboratory for plastics engineering at the Technologisches Gewerbemuseum (Industrial technology museum) in Vienna in association with the toxicology laboratory of BASF Aktiengesellschaft. The results were published in Chapter 1 „Brandschutz“ (Fire precautions) in Professor E. Neufert's Styropor Handbuch (Styropor handbook).

In the investigations which were carried out in accordance with DIN 53 436 the concentrations of the individual components of the thermal decomposition products given in the table were found. Apart from rigid Styropor foam, cellulose-based building materials were also included for comparison. The extensive toxicological tests show that fumes from burning Styropor represent no greater toxic risk than fumes from natural materials, such as wood, cork or wool for example.

Specimen	Constituents of fire fumes	Composition of fumes in ppm at a test temperature of:			
		300 °C	400 °C	500 °C	600 °C
Expanded Styropor P	Carbon monoxide	50*	200*	400*	1 000**
	Styrene monomer	200	300	500	50
	Other aromatics	traces	10	30	10
	Hydrogen bromide	0	0	0	0
Expanded Styropor F	Carbon monoxide	10*	50*	500*	1 000*
	Styrene monomer	50	100	500	50
	Other aromatics	traces	20	20	10
	Hydrogen bromide	10	15	13	11
Pine	Carbon monoxide	400*	6 000**	12 000**	15 000**
	Aromatics	—	—	—	300
Insulating wood fiberboard	Carbon monoxide	14 000**	24 000**	59 000**	69 000**
	Aromatics	traces	300	300	1 000
Expanded cork	Carbon monoxide	1 000*	3 000**	15 000**	29 000**
	Aromatics	traces	200	1 000	1 000

\* slow-burning/smoldering    \*\* burning with flames    — not measured

**Note:** Test conditions as laid down in DIN 53 436; air admission rate: 100 l/h; specimen size: 300 x 15 x 10 mm

**Ref.:** BASF Plastics, Technical Information Styropor, CD-ROM Edition 1998

The relevant recommendations and guidelines, as well as DIN regulations, European standards and safety datasheets are to be observed. The recognised architectural and technical rules apply. We accept liability for the perfect quality of our products. Our processing recommendations are based upon trials and practical experience; they can, however, be no more than general instructions without assurance as to their quality, since we have no influence on the site conditions, on the execution of the work and the processing. With the issuing of this product datasheet previous versions cease to be valid.

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