ZOTEK® N

HIGH PERFORMANCE POLYAMIDE FOAMS

ZOTEK® N

ZOTEK® N B50 is closed cell, cross-linked polyamide-6 foam manufactured using Zotefoams unique production process. Available in sheet form, it can be fabricated by a variety of techniques and thermoformed into shapes.
This guidance data[b] is for material conditioned for 6 days at 23 °C, 50%RH.

Property	Test Method	Units	Typical Value
Density	ISO 7214	kg m^{-3}	52
Maximum operating temperature[a]	Internal	°C	+205 max
Compression stress-strain characteristics			
10% compression	ISO 7214	kPa	170
25% compression	(1st compression)	kPa	190
40% compression		kPa	225
50% compression		kPa	280
Tensile strength	ISO 7214	kPa	1300
Elongation		%	70
Tear strength	ISO 8067	N m^{-1}	3000
Compression set			
	ISO 7214		
(22 hrs @ 25% compression, 23 °C, 1/2 hr recovery)	25 mm cell-cell	% set	14
(22 hrs @ 25% compression, 23 °C, 24 hrs recovery)	25 mm cell-cell	% set	12
	ASTM D3575		
(22 hrs @ 50% compression, 23 °C, 1/2 hr recovery)	25 mm cell-cell	% set	29
(22 hrs @ 50% compression, 23 °C, 24 hrs recovery)	25 mm cell-cell	% set	24
Shore Hardness	ISO 868	OO	79
Cell Size	Internal	mm	0.25
Thermal Conductivity			
Mean temperature of 0 °C	ISO 8301	W m^{-1} K^{-1}	0.0360
Mean temperature of 25 °C		W m^{-1} K^{-1}	0.0381
Mean temperature of 50 °C		W m^{-1} K^{-1}	0.0405
Mean temperature of 80 °C		W m^{-1} K^{-1}	0.0420
Mean temperature of 130 °C		W m^{-1} K^{-1}	0.0463
Mean temperature of 170 °C		W m^{-1} K^{-1}	0.0512
Flammability			
Automotive	FMVSS.302		Pass at 4 mm
	Burn rate <100 mm/min		and thicker
Equilibrium moisture content	ISO 760	Weight %	2.4

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NOTES

MATERIAL CONDITION

The data presented above is the result of testing carried out on material conditioned for 6 days at 23 ºC, 50%RH. Results for samples conditioned at other temperatures and relative humidity would be expected to show some variation.

[b]GUIDANCE DATA

The most current guidance data is published on our website www.zotefoams.com

[a]MAXIMUM OPERATING TEMPERATURE

The Maximum Operating Temperature is defined as that temperature which will typically cause a linear shrinkage of 5% after a 24 hr exposure period, using a sample of 100 x 100 x 25mm.

The degree of shrinkage varies with material type and density, temperature, exposure period, sample dimensions and cell size. Other temperatures may prove to be limiting depending on the particular application requirements.

ZOTEFOAMS

ZOTEFOAMS plc, 675 Mitcham Road, Croydon CR9 3AL, UK.
Telephone: +44 (0) 20 8664 1600 Fax: +44 (0) 20 8664 1616
email: info@zotefoams.com

ZOTEFOAMS Inc, 55 Precision Drive, Walton, Kentucky, 41094, USA.
Telephone: +1 859 371 4046 Freephone: (800) 362-8358 (US only) Fax: +1 859 371 4734
email: customerserv@zotefoams.com

www.zotefoams.com

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