ARCEL® Resin - 730
Styropek Expandable Styrenics Product

TECHNICAL DATA SHEETS

RESIN COMPOSITION
Polyethylene/styrenic interpolymer, Expandable

PARTICLE DIAMETER
98% between 0.70 – 1.20 mm

SHAPE
Spherical

COLOR
White/Natural

AVERAGE VOC CONTENT
Pentane 8.8 %
Plasticizer 0.25 %

SAFETY
Provide adequate exhaust ventilation during resin and pre-puff storage and processing as recommended in the *ARCEL resin Safe Handling and Storage Guide* to avoid the hazardous accumulation of the pentane blowing agent. Keep product away from ignition sources.

RAW BEAD STORAGE
Store unexpanded product at or below 4°C (40°F) until processed to avoid loss of expandability and potential hazardous accumulation of pentane vapor.

EXPANSION
ARCEL 730 resin can be continuously or batch expanded using conventional EPS expansion equipment. Some minor material handling modifications may be required. For molded part densities below 21 g/L (1.30 pcf), double-pass pre-expansion is required.

Freshly expanded ARCEL resin is sensitive to the thermal/mechanical shock of an airveyor. Improper conveyance may significantly increase density.

Minimum achievable density is expected to be:

Expansion Method	Pre-puff Density, pcf (g/l)	Foam Density, pcf (g/l)
Continuous-Single Pass	1.15 (18.4)	1.30 (20.8)
Continuous - Double Pass	0.85 (13.6)	1.00 (16.0)
Batch - Single Pass	1.10 (17.6)	1.25 (20.0)

MOLDING
Molding ARCEL 730 resin is relatively easy. Expanded particles have been molded after several months. Conventional EPS fill guns can be used with a diameter of 15 mm to 20 mm depending on density. Successful fill is always contingent upon part/tooling design, fill gun placement as well as mold geometry. The minimum recommended wall thickness is 15 mm, depending on design complexity and fill gun placement.

Refer to the *ARCEL Resin Tooling and Part Design Guide* for more detailed information.

ENVIRONMENTAL
STYROPEK' ARCEL resins are biologically and chemically inert. ARCEL resins are typically able to be recycled where EPS recycling facilities exist. Where recycling of STYROPEK' ARCEL resins is not possible, disposal to landfill or incineration in accordance with all applicable government laws and regulations is recommended. Please contact STYROPEK Styrenics Technology Center for more information on recycling and disposal.

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Foam Physical Properties

Property	Test Method	Units	ARCEL 730 Resin									
Density	ASTM-D3575	pcf	1.25	1.50	1.75	2.00	2.50	3.00	3.50	4.00	5.00	6.00
		g/l	20	24	28	32	40	48	56	64	80	88
Compressive Strength at 10% Strain	ASTM-D3575	psi	15	19	23	27	36	45	54	64	83	105
Compressive Strength at 25% Strain	ASTM-D3575	psi	19	24	28	33	42	52	63	75	100	129
Compressive Strength at 50% Strain	ASTM-D3575	psi	27	32	37	42	54	67	81	96	131	170
Compressive Strength at 75% Strain	ASTM-D3575	psi	64	71	79	89	110	135	164	196	273	364
Tensile Strength at Break	ASTM-D3575	psi	36.6	45.9	54.8	63.4	79.7	94.7	108.4	120.9	142.0	158.0
Tear Strength at Max Load	ASTM-D3575	lb/in	9.3	12.0	14.4	16.4	19.7	22.5	24.8	26.8	30.1	32.9
Flexural Strength at 5% Strain	ASTM-C203	psi	25.4	33.4	41.3	49.2	64.9	80.7	96.5	112.3	143.8	175.4
Flexural Stress at Max Load	ASTM-C203	psi	30.7	38.6	46.4	54.3	70.0	85.7	101.4	117.1	148.5	179.9
Flexural Strain at Max Load	ASTM-C203	%	11.3	11.1	10.8	10.6	10.1	9.6	9.2	8.7	7.8	6.8
Puncture, Max Load	ASTM-D3763	Lbf	39.6	49.2	58.7	68.2	87.3	106.3	125.4	144.4	182.5	220.6
Burn Rate	FMVSS302	mm/min	135.9	113.5	97.4	83.3	68.5	57.2	49.1	43.1	34.5	28.8
Thermal Resistivity	ASTMC518	Fft^2hr/ BTU in	3.64	3.72	3.78	3.82	3.87	3.87	3.83	3.76	3.58	3.42

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