ARCEL® Resin - 730
Styropek Expandable
Styrenics Product

TECHNICAL DATA SHEETS

RESIN COMPOSITION
Polyethylene/styrenic interpolymer, Expandable

PARTICLE DIAMETER
98% between 0.84 – 1.68 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 Beaver Valley Technology Center for more information on recycling and disposal.

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ARCEL® Resin - 730
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
		g/l	20	24	28	32	40	48
Compressive Strength at 10% Strain	ASTM-D3575	psi	15	19	23	27	35	43
Compressive Strength at 25% Strain	ASTM-D3575	psi	19	23	28	32	41	50
Compressive Strength at 50% Strain	ASTM-D3575	psi	27	32	37	42	52	62
Compressive Strength at 75% Strain	ASTM-D3575	psi	62	70	79	87	103	120
Tensile Strength at Break	ASTM-D3575	psi	42	46	53	59	71	83
Tear Strength at Max Load	ASTM-D3575	lb/in	8.7	10.5	12.2	13.9	17.4	20.9
Flexural Strength at 5% Strain	ASTM-C203	psi	27	34	41	47	61	75
Flexural Stress at Max Load	ASTM-C203	psi	34	41	48	55	69	83
Flexural Strain at Max Load	ASTM-C203	%	13.1	12.7	12.2	11.7	10.8	9.9
Puncture, Max Load	ASTM-D3763	Lbf	39	46	53	61	75	89
Burn Rate	FMVSS302	mm/min	136	112	96	83	66	55

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