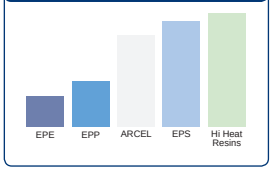
Material Selection Matrix

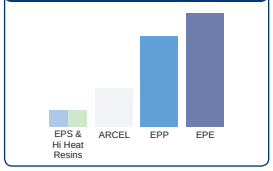
Family of Foams-Performance Characteristics and Application Areas

	SupraCell™	EPP Resins Expanded Polypropylene	EPS Resins Expanded Polystyrene	ARCEL® Resins Polyethylene/Polystyrene Copolymers	Hi Heat Resins Expanded Copolymers
Product					
Performance Features	**Regular:** balance of flexibility and strength **Light:** high energy absorption. Excellent cushioning	High energy absorption Excellent cushioning over broad loading range High service temperature	Good strength Good first drop cushioning performance Excellent insulation value	A balance of flexibility and strength Tough-puncture resistant Very good solvent resistance	High Strength characteristics Mouldable in very high densities, up to 10pcf/ 160.2kg/m³ High service temperature, up to 250° F/121°C
Application Areas	**Regular:** Reusable packaging bulk pack trays **Light:** Protective packaging of highly fragile products	Protective packaging of high-value, highly fragile electronics Heat resistant packaging Energy-absorbing automotive-bumpers and components	Packaging for consumer electronics appliances, toys Food service cups, coolers Insulation-roof insulation, sheathing board	Reusable packaging and packaging of heavyweight items Bulk pack trays and tote bins Water sports equipment	Lightweight automotive interior components Building panels and solar panels Cabinetry
Trade Names*	SupraCell™ Regular SupraCell™ Light	ARPRO® EPERAN PP® NEOPOLEN P®	STYROPOR® NOVA RIGIPORE®	ARCEL®	NORYL® GECET™

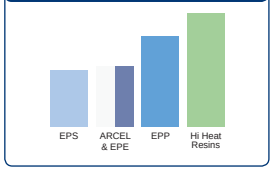
Compressive Creep Resistance Comparison



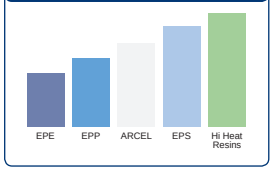
Resiliency Comparison



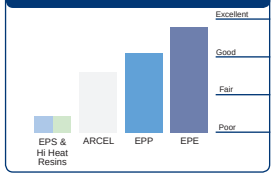
Service Temperature Comparison



Compressive Strength Comparison



Chemical Resistance Comparison to Gasoline-Type Solvents



Typical Physical Properties of Moulded Foams

Properties	Typical Density Range		Density of Foam Tested		Compressive Strength (at 25% compression)		Tensile Strength (at break)		Tensile Elongation	Tear Strength		Dynamic Set	Compressive Creep (% of after 1,000 hours)		Service Temperature		Thermal Resistance Per inch
	pcf	Kgs/m³	pcf	Kgs/m³	psi	kPa	psi	Kgs/cm²	%	lbs./in.	Kgs/cm	%	4 psi	.28 Kgs/cm²	˚F	˚C	2.54 cm (R)
ASTM Test	-	-	-	-	D3575		D3575		D3575	D3575		D1596	D3575		ARCO		C518
Products																	
SupraCell™	Light Regular	12-14 18-22		14.0 22.0	UTP UTP	UTP UTP	UTP UTP	UTP UTP	UTP UTP	UTP UTP	UTP UTP	UTP UTP	UTP UTP	UTP UTP	175	79	3.9
EPP Resins	1.0-5.0 1.0-5.0	16.2-80.1 16.2-80.1	1.3 1.9	20.8 30.4	10 16	69.0 110.3	35 52	2.5 3.7	18 22	7.0 9.0	1.2 1.6	1.1 1.0	2.2@1 psi 3.4@1 psi	2.2@.07 kgs/cm² 3.4@.07 kgs/cm²	190 210	88 99	3.6 3.7
EPS Resins	0.8-5.0	12.8-80.1	1.25	20.0	21	144.8	45	3.2	<5	4.0	0.7	18	2.0	2.0	175	79	3.9
ARCEL® Resins	1.5-4.0	24.0-64.1	2.0	32.0	18	124.1	55	3.9	12	10.0	1.8	7.5	2.5	2.5	180	82	3.6
Hi Heat Resins	2.0-10.0	32.0-162.0	6.0	96.1	225	1551.0	200	14.1	<5	-	-	N.A.	<0.2	<0.2	250	121	4.0

UTP = undergoing testing at present

Polymer / Density (kg/m³)									Colours	Variants			
LD	HD	HL	EV	VA	EM	PPA	MP	(lbs/ft³)		CN	FR	SD	FM
15							15	(1.0)			•		•
18								(1.1)					
24							24⁰	(1.5)			•		•
				25				(1.6)					
					26			(1.6)					
29								(1.8)					
30▪	30⁰		30			30⁰		(1.9)				•	
32▪								(2.0)		•			
33							33†	(2.0)					•
		34						(2.1)					
				35				(2.2)					
45			45▪		45⁰		45	(2.8)		•	•		
		47						(2.9)					
50▪			50					(3.1)		•			
60	60⁰							(3.7)					
				65				(4.1)					
70			70▪					(4.4)		•			
		79						(4.9)					
	80			80				(5.0)					
	115							(7.2)					
			120▪					(7.5)		•			

Product Guide

(LD, HL, HD)	cross-linked polyethylene foam
(EV, VA, EM)	cross-linked eythylene copolymer
(PPA)	polypropylene

Key

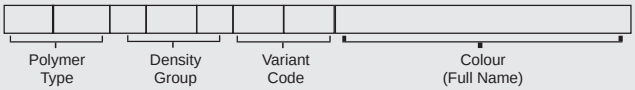
▪ This product Black only.
⁰ This product Black and White only.
† This product Black, White & blue only.

All products are thermoformable, do not contain volatile organic compounds (VOC's) and are totally CFC and HCFC free.

Density Group code

Nominal Density identified i.e. 24 = 24kg/m³

Ground rules for construction of codes are:-



Variants

Conductive	CN
Flame Retardant	FR
Static dissipative	SD
Flame retardant to meet FMVSS Specification	FM

Base Polymer Type

	Zotefoams plc
LDPE	LD
HDPE	HD
Polypropylene	PPA
PE blend	HL
Ethylene copolymer	EV, VA EM
Metallocene catalysed polyethylene resin	MP

MATERIAL	PERFORMANCE
POLYETHYLENE	Extruded, closed cell polyethylene foam cushioning, insulating and barrier applications CFC & HCFC free Recyclable & reusable
STRATOCELL®	Non cross linked foam produced from low density polyethylene (LDPE) Recyclable CFC & HCFC free Withstands multiple drops Range of thicknesses from 13mm to 100mm Density 30kg/m³ Available in anti static grade Laminates easily with adhesive or bonds to itself by heat welding Water resistant, excellent insulation