NOVA Chemicals®

Expandable Styrenics

ARCEL® Resin versus EPP

Cushioning Data Comparisons
Packaged Items: Desktop Computers
Package Protection: Molded Foam Cushions
Tests performed by UPS Professional Services
Drop Height: 30 inches (76 cm)
Data recorded in peak G's filtered at 500 hz
Target G value: 40 ±10%

Computer #1, total package weight 27 pounds (12.3 kg)

Foam Density: ARCEL Resin - 1.25 pcf (20 g/l), EPP - 1.63 pcf (26 g/l)

Cushion Material	Drop	Top	Bottom	Right	Left	Front	Back
Molded EPP	1	23.7	31.7	47.7	39.8	36.7	51.4
Molded ARCEL resin	3	31.0	44.0	43.5	34.0	36.2	34.5
EPP	1	39.2	38.3	45.8	40.5	64.0	82.4

Computer #2, total package weight 30 pounds (13.6 kg)

Foam Density: ARCEL Resin - 1.25 pcf (20 g/l), EPP - 1.87 pcf (30 g/l)

Cushion Material	Drop	Top	Bottom	Right	Left	Front	Back
ARCEL resin	3	22.4	32.7	39.1	35.6	48.0	49.0
EPP	1	25.6	55.0	34.9	35.2	59.1	58.8

Conclusion: For this package design, ARCEL resin at 20 – 30% lighter density protects the item as well or better than EPP foam.