ARCEL™
ADVANCED FOAM RESIN

This Sustainability Topic is one in a series demonstrating how ARCEL® advanced foam resin helps manufacturers address concerns for sustainability. ARCEL resin is a high-performance foam resin for carton cushioning that provides superb protection and reduced cube sizes.

Sustainability Topics

The ARCEL® Resin Difference

By choosing ARCEL resin for package cushioning, manufacturers of valuable, damage-sensitive goods can not only reduce costs but also achieve more sustainable packaging. This ***Sustainability Topics*** *explores how ARCEL resin meets the challenge of sustainability, and what specific gains can be expected in a typical case.*

The sustainability challenge

Brand owners are searching for new ways to meet new and demanding sustainability requirements from retailers. ARCEL advanced foam resin gives you a solid way to respond. By letting you reduce package sizes dramatically, ARCEL resin increases efficiency throughout the supply chain. When items are packaged with ARCEL resin, boxes are smaller, leading to less packaging waste and more capacity on every truck, container, and pallet. More capacity means fewer shipments, less fuel consumption, and reduced transportation emissions. As a result, you enjoy lower costs while delivering environmental benefits. At the same time, ARCEL resin provides the same degree of protection you expect from traditional foam packaging.

By reducing the volume of product packaging, ARCEL resin reduces the costs and energy expenditures of transportation throughout the supply chain.

A dramatic difference

What kind of real savings and benefits can you expect from using ARCEL resin for package cushioning? "Our cube-reduction research indicates that ARCEL resin can reduce truckload shipments by 50% or more versus traditional foam—cutting fuel consumption and emissions in half," says Bob Snyder, Vice President, Performance Styrenics. Not only that, ARCEL resin can also reduce the waste stream significantly by decreasing cushioning volume, and in many cases by eliminating other packaging materials.

A measurable step toward meeting requirements

Using ARCEL resin for package cushioning represents a big step toward meeting the new sustainability requirements being established by big-box retailers such as Wal-Mart Stores, Inc. It's a specific improvement that you can measure and demonstrate. For one example of the specific improvements ARCEL resin can provide, see the design study comparison on the other side. To find out how much ARCEL resin can benefit your packaging, call the ARCEL resin Global Team at 412.490.4979.

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What real sustainability benefits can ARCEL resin provide?

Here's a comparison focusing on fuel and emissions used in motor freight, and demonstrating how ARCEL resin makes a significant contribution to sustainability by reducing cube sizes. This example is based on a flat-panel television packaged in a typical corrugated carton with conventional foam cushioning, versus the same product with ARCEL resin cushioning. In both cases, 100,000 units are shipped 1,000 miles by conventional motor freight.

Of course, ARCEL resin contributes to sustainable packaging other ways as well, including efficiencies throughout the supply chain and a reduced waste stream.

	Conventional foam	ARCEL resin	Change
Efficiency Comparison			
Units per 48 ft. truck	112	336	**224**
Truckloads per 100K units	893	298	**595**
Fuel and Emissions Comparison			
Gasoline fuel			
Gallons of fuel consumed (182.62 per truck)	163,054	54,351	**108,702 gal**
Barrels of Oil (8.40 per truck)	7,500	2,500	**5,000**
Hydrocarbon emissions (1.83 kg per truck)	1,634 kg	545 kg	**1,089 kg**
CO_2 emissions (1.6 tons per truck)	1,465 kg	488 kg	**977 kg**
Diesel fuel			
Gallons of fuel consumed (164.59 per truck)	146,956	48,985	**97,971 gal**
Barrels of Oil (26.08 per truck)	23,286	7,762	**15,524**
Hydrocarbon emissions (1.72 kg per truck)	1,536 kg	512 kg	**1,024 kg**
CO_2 emissions (1.9 tons per truck)	1,677 kg	559 kg	**1,118 kg**

The packing efficiency, fuel consumption, and emissions data shown here are the result of a model, and are provided for purposes of illustration only. Actual packing efficiencies, fuel consumption, and emissions may vary.

Call the ARCEL Resin Global Team at 412.490.4979

Call the ARCEL Resin Global Team number any time 24/7 and leave a message telling us about your product, your objective, and how we can best contact you. Your message will be forwarded to the right specialist on the ARCEL Resin Global Team.

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This document is printed on 30% post-consumer recycled paper.

Revised July 2008