

## PORON<sup>®</sup> ReSource Performance Cushioning Customer FAQs

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Rogers Corporation is committed to supplying the global marketplace with innovative materials while continuously seeking to improve the environmental quality of its products, processes and services. The most recent development towards this commitment is PORON<sup>®</sup> Resource Performance Cushioning, now produced using over 45% less petroleum-based polyols. The first generation PORON ReSource Material (launched in 2008) contained 20% renewable/recycled content, and Rogers R&D team works continuously towards innovating future PORON ReSource generations with more sustainable content.

At Rogers, environmental stewardship is a cornerstone of global business operations. So have confidence that with each step you take with PORON ReSource Cushioning, Rogers is taking steps to help reduce your environmental footprint without sacrificing quality and performance.

### 1. How is PORON<sup>®</sup> ReSource Performance “greener” than other PORON<sup>®</sup> Materials?

PORON Resource Performance Cushioning is now developed using a renewable soy-based polyol that replaces over 45% of the petroleum-based polyols. All PORON Materials are still free of latex, PVCs, VOCs, heavy metals and have low out-gassing.

### 2. Will PORON<sup>®</sup> ReSource Cushioning perform like other PORON<sup>®</sup> Cushioning products?

Rogers is committed to offering customers innovative and dependable materials that exceed their expectations. The development of PORON ReSource Performance is no exception. PORON ReSource Cushioning is a durable and reliable green cushioning material that maintains comparable physical characteristics, performance and durability qualities as other PORON offerings. Have confidence that you are still using a PORON Material that provides long-lasting comfort for the life of your product.

### 3. How does PORON<sup>®</sup> ReSource Cushioning differ from other green content insole materials?

Compared to other green content insole materials, PORON ReSource Cushioning with soy-based polyol, not only eliminates more petro-based polyols from its raw materials, but also maintains all the superior cushioning and performance benefits that you have come to rely on with all PORON products.

### 4. Where are the soybeans used to produce the PORON ReSource renewable polyol sourced?

All of the soybeans used to produce the renewable polyol in Rogers PORON ReSource Cushioning are sourced in the United States. Rogers US base polyol supplier does source soybeans from outside the US, but these soybeans are sourced for customers manufacturing outside of the US.

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## 5. What steps is Rogers' soy polyol supplier taking towards a global sustainable future?

Although all of the soybeans sourced for PORON ReSource polyol are harvested from within the US, the supplier does source soybeans from around the world and mainly in North and South America. South American grown soybeans are used to support the supplier's non US customers with soy-based polyol.

To help manage their South American sourcing, the supplier has partnered with The Nature Conservancy (TNC) to ensure a balance of economic activities with conservation in the Amazon regions where the non US manufacturers' soybeans are harvested. Careful steps are taken to ensure that zero deforestation is occurring in the farming areas and Rogers' supplier is holding farmers to their strict guidelines. The supplier refuses to purchase soybeans from farmers who have deforested Amazon land after 2006, and by using the latest technology such as satellite imagery, they are able to immediately detect any deforestations among their South American farmers. In addition, farmers must show an 80-20 balance in favor of the forest – even if the land they purchase was cleared before purchasing.

## 6. What are some results from the supplier's sustainable efforts in South America?

In 2009, Brazil announced that Amazon deforestation had dropped 45 percent in the past year – the largest decrease in 20 years.

Finding symmetry between biodiversity and economic activity is also necessary for the Amazon region. For example, the satellite imagery used by Rogers' supplier is used not only to monitor any deforestation but also to promote a balance between production and ecology. By zoning the areas for forest, land use, geology and agricultural potential, TNC is able to create a model for linking conservation areas to create greater biodiversity and long term success for both the rainforests and its indigenous people.

## 7. What other steps are being taken by Rogers to help reduce their environment impact?

Rogers recognizes environmental stewardship and maintaining the highest health and safety standards as a cornerstone of its global business operations. Rogers' mission is to continuously develop global environmental, health, and safety systems that foster employee involvement and ownership at all levels and by making Environmental, Health and Safety (EH&S) an integral part of the overall Rogers' business plan.

### Environmental Management System

Rogers has adopted ISO 14001:2004, an internationally recognized Environmental Management System, to many of Rogers' manufacturing sites. Rogers' ISO 14001:2004 manufacturing sites maintain a comprehensive environmental management system that clearly defines and tracks global performance to environmental goals and initiatives. It specifies requirements for establishing an environmental policy, determining environmental impacts of products/processes, establishing environmental objectives and measurable goals, implementation of programs to meet goals, benchmarking and management review.

### Safety Management System

Rogers manufacturing facilities in the United States are following the Occupational Safety and Health Administration's (OSHA) Voluntary Protection Program (VPP) to achieve safety excellence. The PORON Manufacturing facility in Woodstock, CT has achieved OSHA's 'Star' VPP certification and the Carol Stream, IL facility is awaiting final certification following a successful site audit. The 'Star' designation is



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OSHA's highest recognition of safety and is awarded to facilities that meet the strictest standards in employee and workplace safety.

Rogers is actively working to achieve VPP certification for the remaining domestic manufacturing operations. As Rogers continues to expand manufacturing operations into new global markets, there is a commitment to hold all of the international business units to the same high standards. The international business units are seeking certification under OHSAS 18001 to demonstrate internationally recognized commitment to world-class safety.

#### **Rogers Strategic Plan Includes:**

- Implementing the Safety Management System (VPP) at all U.S. manufacturing sites and OHSAS 18001 at all Rogers' global manufacturing operations.
- Implementing Environmental Management System (ISO 14001:2004) to achieve environmental excellence at all Rogers' manufacturing operations worldwide.
- Embracing a robust Industrial Hygiene monitoring program at all Rogers' manufacturing operations globally.
- Performing environmental, health, and safety audits biennially at all manufacturing operations globally.
- Reviewing all incoming raw materials used in manufacturing operations for environmental compliance, industrial hygiene monitoring, workplace safety, and sustainability.
- Proactive management of Rogers' international operations to ensure uniform applicability of all EH&S policies and procedures globally.

#### **8. How does Rogers handle any scrap material from manufacturing?**

Rogers takes great care to ensure all manufacturing materials are recycled, reused or disposed of appropriately with the environment in mind. For example, finished PORON Materials which can not be sold to customers are ground and reused in other products such as carpet backing.

#### **9. Will Rogers accept and/or reuse customers' PORON® material scrap?**

Due to additional processes that occur to PORON Materials during finished goods manufacturing, such as bonding to fabrics, Rogers can not accept PORON Materials from customer for recycling or reuse at this time.

Additional new product development projects are underway that focus on creating PORON Materials that will help to limit the amount of customer scrap which occurs during finished goods manufacturing. An example of one of these projects is the recent launch of the PORON® XRD™ M-Guard – the first PORON molded shape especially designed as a finished part to suit a variety of impact protection apparel and equipment designs.

#### **10. Is PORON® ReSource Performance Cushioning biodegradable?**

Foams made from renewable polyols are not more biodegradable than traditional petroleum-based foams. The differentiating factor between PORON ReSource Cushioning and traditional cushioning materials both with and without renewable polyols is its ability to maintain long-lasting, dependable performance and comfort throughout the product's life. In the case of products that contain PORON ReSource Cushioning, the comfort and usability of the cushioning element far outweighs that of traditional foams, ensuring product performance that can endure even the toughest wear.

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## 11. Is there truly a difference in lifecycle data between petroleum-based polyols and the soy-based polyol used to manufacture PORON® ReSource Cushioning?

Rogers' renewable polyol supplier uses no petroleum product in the manufacturing of their materials and the PORON ReSource polyol is 98% renewable. The remainder 2% is catalysts that contain no petroleum-based materials.

Additionally a third party lifecycle analysis on the soy-based polyol has been conducted by a leading consulting firm who specializes in sustainable business practices. The lifecycle analysis compared the raw material and manufacturing process of traditional petroleum-based polyols to the renewable polyol used in PORON ReSource Cushioning. The data indicated the renewable polyol resulted in:

- 36% less global warming emissions than traditional petroleum-based polyols.
- 61% less non-renewable energy use and 23% less total energy demand than traditional petroleum-based polyols.
- For every million pounds of the renewable soy-based polyol used in PORON ReSource Materials, 2,200 barrels (92,400 gallons) of oil are saved.

## 12. How does the use of a soy-based polyol in manufacturing affect food production?

The most important edible products from soybeans are soy protein products (for human consumption) and soy meal (for animal feeds). The soy oil used for soy-based polyol manufacturing is first removed from soybeans as part of the food processing for these products. Soy oil has traditionally been considered a waste by-product of soy crushing. Only a fraction of soy oil is actually used for edible consumption. Examples of food products that contain soy oil include margarine, mayonnaise, cooking oils, and shortenings.

In addition, the vast majority of soybeans grown are still solely grown and used for food production. Today the Rogers' supplier of soy-based polyols use less than 1/1000<sup>th</sup> of the world's soybean crop.

Vegetable oils (such as soybean oil) have also been used for industrial and chemical applications for decades. Linseed oil in coatings and epoxidized soybean oil in PVC applications are two examples.

Rogers will continue to work with their supplier to help ensure current materials are simply one step along the journey and additional evaluations and technologies are used to pursue raw materials from non food sources.

## 13. Are soy-based polyols pushing up food prices?

Rising food prices over the past couple years have been driven by many factors including biofuels, drought related shortages of wheat, barley and other commodities, rising petroleum costs, increased financial investment in commodity markets and growing prosperity in the developing world.

With changes in government policies in many parts of the world, biofuels have emerged as a significant user of vegetable oils. There are two primary differences between biofuels and biopolyols market:

- Biofuels are driven largely by government mandates while the growth of biopolyols is driven by market-based economics.
- There is a significant difference in scale between biofuels and biopolyols. The fuel market is considerably larger than the industrial market and therefore can have a significant impact on the food chain. Even in the unlikely event that all the petroleum-based polyols were replaced with vegetable oil polyols, this demand would represent less than 4% of current vegetable oil supply.

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#### 14. Are the soybeans used in the renewable polyol genetically modified organisms (GMOs)?

The renewable polyol used to produce PORON ReSource Materail is made from soybean oil and the majority of soy grown around the world is GMO soy. Rogers' supplier has decided to use soybean oil for this generation of renewable polyol contained in PORON ReSource Material for a number of reasons:

- **Supply:** The polyurethane market is a large global market (over 10 billion pounds of polyols are used in polyurethane annually). To replace even a small fraction of the market and make a noticeable and positive impact in reducing petroleum in the industry, it is necessary to have access to a large supply source. Rogers' supplier is able to successfully use soybean oil from this supply base without significantly impacting supply/availability of the soybean crop.
- **Cost Competitiveness:** The renewable polyols are replacing a petroleum-based ingredient that has been used in manufacturing for many years. While other options may exist, price remains a significant barrier for widespread availability and adoption. In order for the renewable polyol to compete and make a positive difference in reducing petro-chemical use in polyurethane foams, the supplier must use a raw material that's accessible and cost competitive. As additional manufacturers and industries begin to adopt these new materials, Rogers will continue to focus on sourcing alternative technologies as they develop.

#### 15. Will people with soy allergies react from the soy-based materials in PORON ReSource Cushioning?

Allergic reactions to soy are generally caused by an immune reaction of individual who are sensitive to protein found in soybeans. The soy-based polyol Rogers purchases are processed under conditions that would typically destroy protein. While information is limited on the specific question of dermal and inhalation allergenicity, Rogers' soy-based polyol believes that the very low level of protein potentially present in their raw materials make it unlikely that an individual sensitive to soy will experience an allergic reaction from coming into contact with PORON ReSource Cushioning.



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