

## ENVIRONMENTAL IMPACT QUESTIONNAIRE (EIQ)

### I. DIRECTIONS

A. Complete the following questionnaire and submit for review to:

Professor Jackson

B. Relate information concerning only one product per questionnaire.

C. All questions may not apply to every product or manufacturer. It is not expected the manufacturer will have addressed all of the environmental concerns expressed in the EIQ.

1. Respond to every question even if response is “not available”, “not applicable”, or “no”.
2. Attach additional sheets as required. Reference additional sheets to correspond with the question number.

### II. IDENTIFICATION

A. Material/Product: Eco Solution Q carpeting fiber and Ecoworx backing

Brand Name: Shaw Industries, Inc.

Manufacturer: Berkshire Hathaway

What is the primary use or application for this product?

This product is used for floor coverings, like traditional carpeting. It

is as tough as traditional nylon carpeting, so it is durable enough to withstand heavy use in educational spaces.

B. Contact for EIQ: N/A

### III. RESOURCE MANAGEMENT

A. Renewable Resources:

1. List renewable resources used as product raw materials. Provide percentage amounts in relation to complete (100 percent) product.

| <u>Renewable Resource</u> | <u>Percentage</u> |
|---------------------------|-------------------|
|---------------------------|-------------------|

|            |  |
|------------|--|
| <u>N/A</u> |  |
|------------|--|

2. Does manufacturer obtain raw materials or fabricate this product outside of the United States:     Y     N? N/A

a. If yes, are United States environmental standards or more strict standards followed in these countries:     Y     N?

N/A

b. List countries involved.

    N/A

B. Managed Resources:

1. Does extraction of product raw materials or fabrication of this product affect endangered specie(s):     Y     N? N/A

a. If yes, list species and describe effect, including methods for negative effects.

| <u>Endangered Species</u> | <u>Effect</u> |
|---------------------------|---------------|
|---------------------------|---------------|

|                 |  |
|-----------------|--|
| <u>    </u> N/A |  |
|-----------------|--|

2. Products Containing Wood: Are wood materials obtained from certified sustainable forestry operations:     Y     N? N/A

a. If yes, provide name of certification organization for each wood species being used in this project.

| <u>Species</u>  | <u>Certification Organization</u> |
|-----------------|-----------------------------------|
| _____ N/A _____ |                                   |

b. If no, state where the product resources are produced and describe forestry operations.

| <u>Product Resources</u> | <u>Forestry Operations</u> |
|--------------------------|----------------------------|
| _____ N/A _____          |                            |

C. Recycled Content:

1. List recycled materials used as product raw materials; distinguish pre-consumer and post-consumer materials. Provide percentage amounts in relation to complete (100 percent) product.

| <u>Recycled Material</u>              | <u>% Pre-Consumer</u> | <u>% Post-Consumer</u> |
|---------------------------------------|-----------------------|------------------------|
| <u>Class C Coal Fly Ash (Ecoworx)</u> | _____ 40% _____       | _____                  |
| <u>Nylon 6 (Eco Solution Q)</u>       | _____ 21% _____       | _____ 4% _____         |

D. Embodied Energy:

1. Product Transport:

a. Where are raw materials acquired? Identify state and country.

| <u>Raw Material</u>          | <u>Source (State and Country)</u> |
|------------------------------|-----------------------------------|
| <u>Class C Coal Fly Ash</u>  | _____ Macon, GA _____             |
| <u>Post Consumer Nylon 6</u> | _____ Europe _____                |





office or home and then returns it to their plant to be broken down into the separate pieces, Eco Solution Q and Ecoworx and made directly back into those products.

d. If yes, list current markets using recycled materials from the product. They are recycled and then used by Shaw to make the same product.

e. If yes, estimate the practical number of times this item can be recycled. Theoretically, infinitely

3. Describe the manufacturer's policy and program to facilitate the recycling or reuse of its product by accepting product returns at the end of their "useful life".

The manufacturer takes back the product and recycles it back into its original use.

#### IV. TOXICITY/HAZARDOUS MATERIALS

A. Toxic/Hazardous By-Products:

1. List the production wastes involved with the manufacture of this item. Distinguish the production wastes between toxic and non-toxic. Provide percentage amounts in relation to complete (100 percent) product.

| <u>Toxic</u> | <u>Non-Toxic</u> | <u>Percentage</u> |
|--------------|------------------|-------------------|
| <u>N/A</u>   |                  |                   |

2. Estimate the quantity of production waste produced per unit of finished product. N/A There is not much waste, as all during processing waste is reintegrated back into the production line.

3. Is reclamation of production waste done on site:  X  Y   N?

With outside services:

Y   N? N/A

a. If outside services are used, list companies involved.

N/A

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4. Is waste water reclaimed by manufacturer:  X  Y   N?

a. If yes, describe the process of recycling/reuse of waste water.  The water is continually cycled through the plant to cool things that need cooling.

5. Describe the manufacturer's active steps to minimize or eliminate production wastes; include process of liquid and solid waste material treatment or reclamation if performed at manufacturing site.

The solid waste is reclaimed during the process and reintegrated into the plant for use in production.

6. Describe the manufacturing procedures and chemicals involved that would be considered better than industry standard.

The lack of PVC usage makes everything have fewer wastes.

B. Toxic/Hazardous Contents (carcinogens and other hazards inherent in product/material):

1. Provide a complete chemical profile of the item; include all chemical components and provide percentage amounts in relation to complete (100 percent) product; identify biocides (mildewcides or in-can preservatives) and carcinogens listed by any of the following:

- a. United States Environmental Protection Agency (EPA)

Carcinogen Assessment Group (CAG) list of carcinogens.

- b. Clean Air Act Sections 109, 111, and 112.

c. The National Toxicology Program’s latest published “Annual Report on Carcinogens”.

- d. IARC Human Carcinogens (Group 1, 2A, and 2B).

- e. California Proposition 65.

| <u>Chemical</u>            | <u>Carcinogen</u>                       | <u>Percentage</u> |
|----------------------------|---|-------------------|
| <u>Nylon 6</u>             | Y <input checked="" type="checkbox"/> N | <u>N/A</u>        |
| <u>LDPE</u>                | Y <input checked="" type="checkbox"/> N | <u>N/A</u>        |
| <u>Aluminum trihydrate</u> | Y <input checked="" type="checkbox"/> N | <u>N/A</u>        |
| <u>ethylene</u>            | Y <input checked="" type="checkbox"/> N | <u>N/A</u>        |
| <u>1-octene</u>            | Y <input checked="" type="checkbox"/> N | <u>n/a</u>        |

C. Material Safety Data Sheet (MSDS):

- 1. Provide Material Safety Data Sheet (MSDS).

a. Articles: Finished products which are manufactured off-site and shipped to the project for installation while conforming to Title 29 of the Code of Federal Regulations, OSHA Hazard Communication Regulation 29CFR 1910.1200, Section (b)5 and Section (c) are defined as articles. If by being defined as an article, a MSDS has not been developed for a particular product, then provide MSDS on raw materials, goods, and items used in the fabrication of that article.

D. Outgassing/Reactivity:

- 1. Chlorofluorocarbon (CFC):

a. Are CFC's or HCFC's used in the manufacture and/or content of the item specified:     Y     N? N/A

b. If CFC's or HCFC's were previously used in the product and/or its manufacture, describe measures taken by manufacturer to eliminate their use.     N/A    

2. Indoor Air Quality:

a. Does the product outgas (emit) carcinogens or other hazardous substances into the air after installation, including final curing/drying:   Y   X   N?

b. If yes, submit IAQ test report.

E. Electromagnetic Radiation:

1. Does the product emit electromagnetic radiation:     Y   X   N?

2. If yes, at what rate per hour?   n/a  

3. If yes, describe methods for installation, use, and maintenance of product to minimize generation of and occupant exposure to electromagnetic radiation.

  n/a  

F. Compliance with Regulations (Environmental Statutory Compliance):

1. Does the manufacturer meet all federal, state, and local environmental laws, including laws governing air emissions, waste water treatment, and solid waste disposal/treatment:   X   Y     N?

2. Has the manufacturer met the above criteria for the previous five years:     Y     N? n/a

3. List the applicable standard.

  FTC standards

4. Does the product meet applicable industry standards, such as ASTM, Green Seal, manufacturing standards, LA or NY research report numbers, and UL approvals: \_\_\_Y \_\_\_N? List these standards. n/a

## V. PERFORMANCE - INSTALLATION

### A. Environmental Procedures/Precautions:

1. Describe special procedures and precautions to be used while handling and installing the product:

There are no special handling instructions and especially no special installation directions, other than the tiles should be installed using the low VOC reusable adhesive tabs.

2. Identify accessories, such as fasteners, sealers, and adhesives that are non-toxic (or less toxic than industry standard), energy efficient, or recycled or recyclable products?

Low VOC adhesive tabs.

### B. Installation Energy:

1. Product Transport: List the means to transport the finished product to the construction site.

It will be transported in a truck, like the transportation from the manufacturer to the store.

2. Installation: List energy means and describe energy requirements for installation of the product.

It just requires manpower for installation, there are no heat or energy requirements.

C. Construction Waste:

1. List the recommended method(s) for proper products disposal; stipulate preferred method and restrictions which might apply.

One should call the company and have them remove it back to their plant for recycling.

2. Comment on the environmental impact of the product as a waste material.

If everyone recycles the product properly, there will be no waste apart from some waste created during manufacturing.  
It can all be reused.

3. Packaging:

a. Describe packaging for the product.

The product comes in a cardboard box that has very little trapped air, so there is little extra packing materials.  
Shaw is working on developing an even smaller package so that it is less weight for shipping and less waste for transport.

b. Does manufacturer accept return of used packaging for reuse: \_\_\_Y \_\_\_N? n/a

c. If yes, state limitations and procedures for packaging return.

n/a

**VI. PERFORMANCE - OPERATIONS**

A. Maintenance

1. Describe the recommended cleaning and maintenance for the product using products which have minimal VOC emission.

n/a

2. Estimate the "useful life" expectancy for this product.

10-15 years

3. Are replacement parts available:  Y  N?

a. If yes, can replacement parts be installed in the field:  Y  
 N?

4. Provide a copy of the life cycle analysis for this product. n/a

5. Provide a copy of the manufacturer's warranty for this product.

This warranty begins when the carpet product is installed in accordance with Shaw's then current installation specifications, and is maintained in accordance with the then current carpet care recommendations, and such maintenance continues for so long as the original end-user purchaser owns the carpet. The warranty is further limited to the period of time the carpet is owned and maintained by the original end-use purchaser. Shaw will only honor this warranty if presented with the original Shaw invoice from the original end-user purchaser. Installation specifications and carpet care recommendations can be obtained from your dealer or from Shaw Inforum at 1- 877-502-7429, or on the Shaw Contract web site at [www.shawtile.com](http://www.shawtile.com).

**TUFT BIND**

Shaw warrants that its high performance Shaw products will provide superior tuft bind capabilities in high traffic environments. Any failure to perform with respect to acceptable tuft bind will be evaluated if a product defect is responsible for substandard performance. Specific products and performance criteria may be noted and registered below as part of this warranty.

**EDGE RAVEL**

Shaw warrants that under normal use, Shaw high performance products will not edge ravel.

**ABRASIVE WEAR**

Shaw warrants its high performance Shaw products will lose no more than 10% of the pile face fiber, by weight, during the Lifetime warranty period. This warranty does not cover appearance retention, matting and crushing and normal appearance changes in high traffic areas.

**BACKING INTEGRITY / DELAMINATION**

Shaw warrants that the secondary backing on its high performance products will not delaminate. Shaw

carpet tiles will not shrink or stretch under normal conditions during the lifetime of the product as specified above. This also warrants against “cupping,” “doming,” “curling” or “dishing” of carpet tiles.

**STATIC PROPENSITY**

Shaw warrants that its high performance products will prevent static buildup in excess of 3.5 KV when tested using AATCC Test Method 134 at 70o F and 20% R.H.

**NOTIFICATION OF CLAIMS AGAINST WARRANTY**

All claims under this warranty must be submitted in writing to: Shaw, P.O. Drawer 2128, Dalton, GA, 30722-2128, ATTN.: Financial Services.

B. Energy Efficiency (energy required to operate/maintain):

1. Estimate BTU’s required to operate the product when new?

n/a ; after five years?  n/a ; after ten years?  n/a

C. Compliance with Regulations (Environmental Statutory Compliance):

1. Does the product meet all federal, state, and local environmental laws, including laws governing energy efficiency and air emissions:  x Y  N?

2. Has the product met the above criteria for the previous five years:  Y  N?  n/a

3. List the applicable standards.

It has been awarded many awards with regards to eco-friendly standards, including: the Presidential Green Chemistry Challenge Award, the 1999 Governor’s Award for Pollution Prevention in the State of Georgia (large industry category), and NeoCon 1999 Best of Show “Most Innovative” award.

**VII. CORPORATE COMMITMENT**

A. Corporate Environmental Policy:

1. Provide copy of manufacturer's stated environmental policies.

### ***Shaw Environmental Policy***

*Shaw Industries, Inc. recognizes that merely preserving and conserving the natural bounty of the earth will not make us a sustainable corporation. A truly sustainable carpet industry must mimic nature's organic cycle of life, death, and rebirth. The answer does not lie in limiting growth, but in encouraging the kind of growth that is cradle-to-cradle, returning carpet to carpet endlessly. Toward that end, Shaw has adopted these productive policies and practices.*

- Environmental sustainability is our destination and cradle-to-cradle is our path. Our entire corporation and all stakeholders will value and share this vision.*
- Through eco-effective technology we will continuously redesign our products, our processes, and our corporation.*
- We will take responsibility for all that we do and strive to return our products to technical nutrient cycles that virtually eliminate the concept of waste.*
- We will plan for generations, while accepting the urgency of the present. We are committed to the communities where we live and work. Our resources, health, and diversity will not be compromised.*
- We look forward to a solar-powered future utilizing the current solar income of the earth, anticipating declining solar costs and rising fossil fuel costs as technology and resource depletion accelerate.*
- We will lead our industry in developing and delivering profitable cradle-to-cradle solutions to our free-market economy. Economy, equity, and ecology will be continually optimized.*
- Honesty, integrity, and hard work remain our core values. We will continue to deliver unsurpassed safety, quality, beauty, performance, and value to our customers.*

*Our previous statements of environmental policy described our efforts toward sustainability as a journey. But a journey must have a well-defined destination, a clear path ahead, and a purposeful stride. As we learn and grow, this document will be refined by generations of Shaw leaders who won't think about sustainability. They'll see it as an essential business practice, perhaps without realizing that previous generations consciously changed for the better the world in which they lived. Sustainability is our gift to you ... and to the future.*

R. E. Shaw  
Chairman and CEO

Shaw Industries, Inc.

**END OF ENVIRONMENTAL IMPACT QUESTIONNAIRE**