



**RRI** ROUGH RIDER  
INDUSTRIES

# **AIRSTRING MATTRESS**

## **FEATURES & BENEFITS**





# Features & Physical Properties

AirString technology provides consumers with an innovative cushioning material that has enhanced capacity for:

- Breathability and temperature control
- Shock absorption and surface pressure reduction
- Hygienic surfaces and cleaning simplicity
- Specialized uses



## Features & Physical Properties:

- AirString provides the absolute lowest level of toxicity available in a sleep product made from linear low-density polyethylene (LLDPE) non-toxic material, giving off no toxic fumes or gases, and remains that way for the life of the product
- Product will last twice as long as any polyurethane foam
- 100% breathable, which means no heat buildup
- 100% washable mattress core; eliminates dust mites, allergens, and bed bug infestations, keeping the mattress internally sanitary
- Covered with a 210 denier nylon ticking that has a polyurethane coating that helps meet liquid resistance, fire retardant, and antimicrobial requirements
- The solid foam core is a highly modified fiber spring that will not ignite when subjected to open flame
- AirString meets all fire retardant and antimicrobial requirements of the U.S. Government and also meets FR requirements of CFR 1633, CAL 129, and additional stringent requirements
- Can be recycled up to five additional times

## Benefits:

- Durable, Breathable, Washable, Flexible, Rebounding, Immersion, Recyclable - discover more information on these benefits on the following pages
- Can be used in a wide variety of settings: Dormitory, Healthcare, Correctional, Military, Residential, Hospitality, plus more!

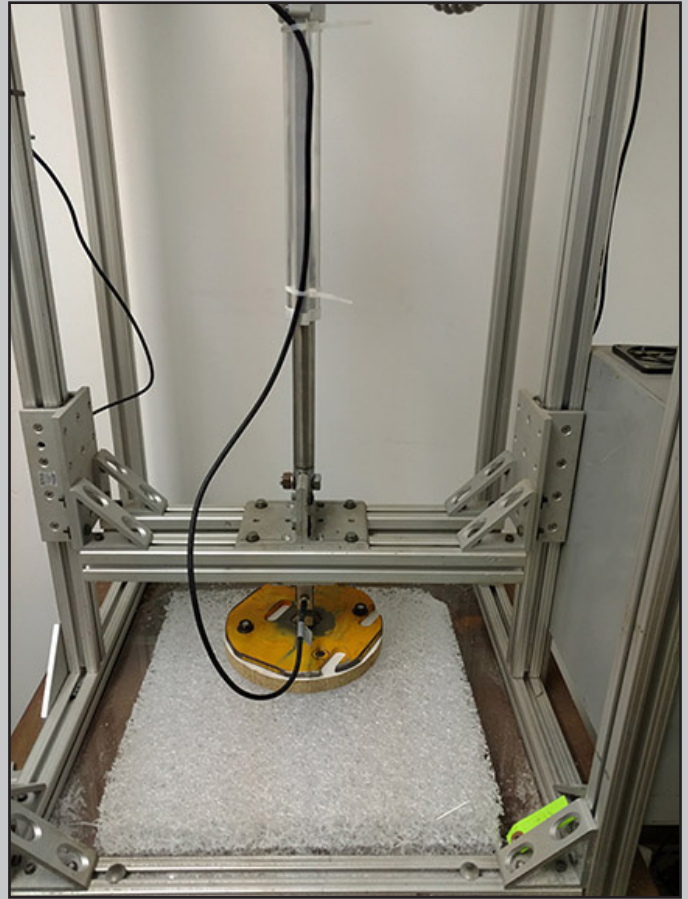
# Durability

**Choose a product that lasts years longer.** For users in various industries and at home, product durability is a major factor. It affects their:

- Overall satisfaction
- Comfort
- Return on investment

Users know that when they purchase any product, **durability = long term value.**

The ultimate test of durability is functionality in use, over time. AirString is a uniquely durable technology for the cushioning market. Lab tests show that it can be used over an extended period of time without losing its ability to support any amount of body weight. AirString's compression has been tested in labs to 300,000 impressions. This equates to 30 years of sitting and sleeping on a mattress which contains the AirString product.



## **Two properties of the technology produce this capacity.**

*Unlike traditional foam cushioning, AirString technology will not crack, even over a number of years.*

Its unique, nest-like construction evenly distributes any weight placed on it, so no spot becomes overstressed and prone to cracking.

*Another unique feature that lends itself to the durability of the product is its washability.*

Just through regular use, many cushions become soiled, and, contaminated by bed bugs, dust mites, or allergens. Once bacteria colonies begin to accumulate, the cushion must be disposed of.

AirString Technology, on the other hand, overcomes this crucial issue in two ways. Not only does the support surface resist absorption of fluids and gases; but, both its surface and its core can be easily cleaned. The light-weight cushioning can simply be washed with water in a tub or shower; and, reinserted into its cover, allowing for a completely brand new feel.

# Breathability

## **Circulating air keeps you cool and comfortable.**

AirString was designed with cleanliness and user comfort in mind. The open-cell nature of AirString technology allows air to flow freely through the core of its material: a revolutionary development in the cushioning market.



**Concerns about foam mattresses:** We automatically create a warm, humid sleep environment every time we climb into a traditional foam mattress. That humidity is trapped. Moisture makes body temperatures rise, which causes continual sweating and an increase in our heart rate. Instead of waking up feeling fresh and restored, we wake up feeling sluggish and tired. Moisture also leads to long term problems including the development of mold, allergens, bed bugs and dust mites...a very unfriendly sleeping environment which results in throwing out the mattress.

**The AirString product development process captures air in a nest-like structure so that the final product 'breathes' as the user moves. This constant exchange of air, along with the makeup of the product itself, promotes significant benefits:**

**Moisture does not stay in the mattress. As a result:**

- The temperature remains constant and the user gets a deep restful sleep.
- The mattress stays clean and dry so no molds form to cause illness.

**Allergens and unpleasant bugs either do not form or are eliminated from the mattress.**

**As a result:**

- The mattress remains a comfortable refuge from the cares of the day.
- The longevity of the mattress is significantly enhanced.

**In the healthcare industry, AirString's breathability promotes a healthy micro-climate that is a major assistance in the prevention and treatment of pressure ulcers.**



# Washability

**AirString is 100% washable.** Washing removes 100% of allergens, dust mites, bed bugs, and all the other soil and contaminants which mattresses and cushions are exposed to. Further, a mattress or cushion can be manufactured in blocks which allow the production of an easily removable, entirely washable end product. This ability to thoroughly and easily wash material is a significant benefit to any application where the accumulation of bacteria and germs can lead to unsanitary conditions.



The ability to wash the AirString cushion core allows for the elimination of allergens, bed bugs, and dust mites. AirString's washability provides a simple and effective first line defense. AirString can be cleaned using any shower or hose. A 1/10th solution of bleach can also be used for unsanitary messes. For deeply soiled materials, we recommend a 1/10th solution of bleach be used, conforming to Center for Disease Control standards. Not only is our product permeable to water, AirString can easily dry in just minutes.

**From market to market, all cushions have the same problems. AirString's washable cushions are specifically designed to solve those problems.**

# Flexibility

## **Flexibe to adjust to user comfort.**

When cushioning is required, our flexibility allows users the ability to use our technology in many different applications. Two forms of flexibility make AirString technology ideal to use in many different applications. The properties of our material allow for great immersion and flexibility without the danger of cracking like other shock absorbing products that are more rigid.



## **Flexibility of the Material**

An inherent property of the AirString material is its ability to bend and stretch without losing any of its strength or rebounding capacity. For final users, this capacity, which displaces their weight evenly across the surface of a cushion, significantly enhances their comfort. This flexibility results from the combination of the original content of the product and from its formulation into a nest-like structure. By design, each string in the structure pulls against the others for ultimate support and flexibility across the entire application.

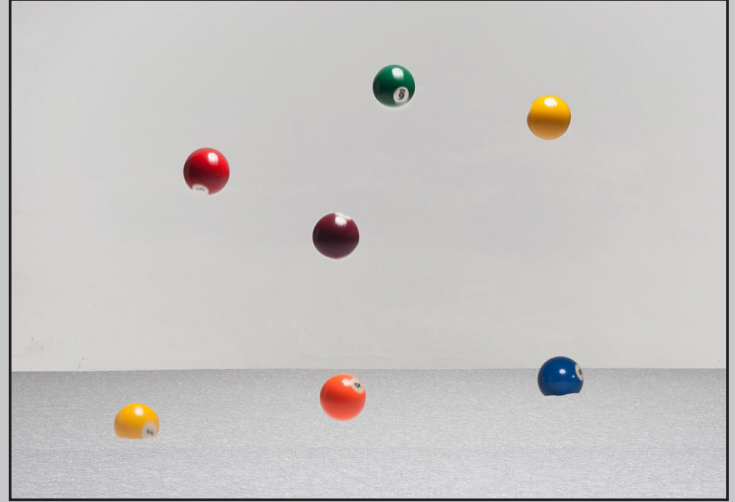
## **Flexibility in the Size and Shape of Material**

Furthermore, RRI will have immense design flexibility. The revolutionary properties of our technology can be molded and contoured into a variety of shapes and sizes to suit your process and your application. You get the distinct benefit of flexibility found in foam cushioning without foam's drawbacks.

***"With its superior qualities of flexibility, breathability and washability, AirString offers a longer lasting, temperature-controlled product with no compromises."***

# Rebounding Capacity

**Great inner strength, great outer appearance.** Consumers recognize the importance of a mattress' ability to bounce back from pressure on it. Consumers also believe it is easy to identify the rebounding qualities of a cushion - just one quick test drive is all it takes.



Many people have seen the classic memory foam image of a person pressing their hand into a mattress. The image certainly portrays part of the story. For people who understand the dynamics of rejuvenating a material to its original shape, the fact that a hand imprint is still visible after the pressure was removed is troubling to say the least. Imagine then, the pressure imprint left on a mattress after an individual has slept on it for 8 hours!

Why does this happen? The longer someone sits or lays on a memory foam mattress, the higher the internal temperature of the mattress rises. The accumulation of heat and pressure directly causes the foam to lose resilience and, ultimately, its ability to provide support. Over time, a standard memory foam mattress feels almost as if one is sinking into quicksand. This results in difficulty adjusting and turning throughout the night - a process that the body needs to relieve regular pressure buildup. When the mattress reaches that point, users often have to replace it in order to get a good night's sleep.

The true rebounding performance of a cushion is a vital metric of longevity. The problem is, so much of what is currently in the cushion market feels great upon initial contact, but flattens and densifies over time and use. AirString is the first technology of its kind in the cushion market to retain its rebounding performance indefinitely. The interconnections of each extruded strand retain shape and structure in just about every non-extreme environment.

AirString provides a dramatic improvement in the arena of long-term rebounding effects. It is a fundamentally different technology which distributes pressure throughout a three-dimensional structure. There are no imprint points. Our technology rebounds rapidly and displays exceptional resilience. It makes it easier to maneuver on the surface during the night and wake up fully refreshed.

# Immersion & Envelopment

**Soft, secure support.** Immersion and envelopment are two important benchmarks that determine the comfort and safety levels provided by cushions.



In the hospital and nursing home markets, patients who spend most of their time in bed are at risk for getting pressure ulcers. AirString technology utilizes its immersive and envelopment features to help prevent and treat pressure ulcers. In addition, as a person envelops deeper into our cushion, the density of the product increases, allowing for greater support. This great immersion capacity means there is no “bottoming out.” Even when the support surface is faced with greater weight, AirString technology will simply adapt via shared compression, once again allowing for optimal long term support.

Everyone appreciates a soft and supportive cushion. Over time, most cushions will inevitably compress and lose their ability to give the same immersive qualities they started with. Loss of the ability to sink into a cushion causes a dramatic reduction in both its feel and its function. Memory foam cushions, in particular, will continue to compress so that they lose supportive qualities shortly into the life of the product.

AirString is a unique technology with tremendous immersive and enveloping properties that last significantly longer than foam. AirString’s food-grade plastic polymer material is extruded into a bath of water where it gathers into a nest-like structure of interconnected strings surrounding pockets of air. This structure allows all the “strings” to remain interconnected and to work together. As one area buckles from impact, polymers in that area pull on unaffected strings in other areas to help absorb the force. This ‘team’ effort means no one section of the cushion takes all the stress of compression. **The result is longer life for the entire cushion.**



# Recyclable

**Do your part for the environment.** In our modern world, most products are produced for the benefit of the user while sacrificing the environment. We want to do better. Every AirString product is 100% recyclable and 100% reusable. Protecting our environment is an important mission, and we can change the world one cushion at a time.



## 100% Recyclable

AirString technology is fully comprised of a singular polymer known as linear low-density polyethylene (LLDPE). Linear low-density polyethylene differs structurally from conventional low-density polyethylene (LDPE) because of the absence of long chain branching. This difference allows LLDPE to be recycled with much greater ease. **While many of the virtues LLDPE possesses present major benefits for both the manufacturer and the end-user, they also present major benefits for the global community, including total recyclability.**

## 100% Reusable

The technology is even more eco-friendly because it can be completely reused. When customers are ready for an upgrade in design or use, they can return their AirString product which can be broken down to its original pellet form. This renders the LLDPE completely manufacturable once again for any end use or dimension, just as it was originally.