

The Recyclability of Type 6,6 Nylon

There is a misconception in the marketplace that Type 6 nylon is more recyclable than Type 6,6 nylon. This is inaccurate. Type 6 and Type 6,6 nylon are equally recyclable at any stage of production, as post-industrial waste or post-consumer waste, back into carpet fiber and other high-value products.

In fact, INVISTA recycles post-industrial Type 6,6 nylon back into fiber everyday. Our Antron[®] Legacy[™] and Antron Lumena[®] nylons with High Recycled Content contain a minimum of 90% post industrial recycled content. The recycled content of these products is verified by Scientific Certification Systems (SCS), an independent third party.

Typically, two processing methods can be used to recycle post-consumer fibers – either chemical or mechanical recycling. In the chemical process, the polymer is chemically de-polymerized and broken down into its monomer components in a multi-step process and then re-polymerized to be used again. In the mechanical process, the polymer is simply pelletized for further use. Due to its complexity and multitude of steps, chemical recycling tends to be more energy intensive than the mechanical recycling option. Mechanical recycling extends the useful service life of a polymer with only a modest input of energy, and the opportunity exists for repeat recovery of the material and further mechanical or chemical recycling. By extending the life of the polymer one also reduces the need for new polymer from virgin materials, hence, saving more energy, raw materials and reducing waste.

That's why we started the Antron Carpet Reclamation Programsm in 1991, the first nationwide industry program reclaiming and recycling carpet of all polymer types including Type 6 and Type 6,6 nylon. The recycled material goes into a variety of products, including automotive parts, carpet cushion and carpet backing. Our reclamation program is 3rd party certified and audited to confirm that no reclaimed material goes to the landfill and it is put back to use. We do send a small percentage of the carpets we collect that cannot be recycled to be converted into carpet derived fuel.

The key point to remember is that both polymer types, Type 6 nylon and Type 6,6 nylon, are equally recyclable. Manufacturers choose different methods of recycling for certain reasons, and it's up to the manufacturer to evaluate their method's respective environmental impact.

While both nylon types are equally recyclable, specifying professionals may choose to evaluate the environmental merits of different polymers using additional aspects. Selecting products that are durable and last longer ultimately lead to fewer replacements, less waste and reduce the need for recycling in the first place. For loop pile carpet in the same weight range, carpets of Antron® nylon with the four hole hollow filament fiber shape* are 20% better on average in texture retention** than carpets of Type 6 nylon after 1MM foot traffics in real-life floor tests measured using CRI Reference Scales. When a carpet retains its appearance longer, it will stay newer looking longer and its usable life will be extended.

Since June 2002, Antron® nylon manufactured in North America has been independently certified and repeatedly re-certified as an Environmentally Preferable Product. Environmentally Preferable Products, established by Executive Order 13101 (replaced by Executive Order 13423 on January 24, 2007), are certified by Scientific Certification Systems as having a lesser or reduced effect on health and the environment when compared with competing products that serve the same purpose.

INVISTA has 65 years of nylon manufacturing experience and proprietary technology in fiber formation. We continue to invest in new polymer and fiber technologies and have a long-term commitment to the carpet fiber business. Type 6, 6 nylon is a building block with which INVISTA continues to innovate, so carpets of Antron® nylon will have exceptional style and will perform even in the most punishing environments.

For more information about carpet of Antron® nylon and INVISTA environmental initiatives call 1-877-5-ANTRON (1-877-526-8766) or visit antron.net.

* Antron® Legacy nylon and Antron Lumena® nylon

**Result of statistical analysis

For more information about Antron® nylon, call 1-877-5-ANTRON or visit antron.net.

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The optimal performance of any INVISTA product is dependent upon how it is integrated into end-use form. Please contact INVISTA for application assistance.

Environmentally Preferable Products (EPP) are certified by Scientific Certification Systems (SCS) as having a lesser or reduced effect on health and the environment when compared to competing products that serve the same purpose.

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TB1003 (9/07)