



FOUNDATIONS™ 875 Latex

Improve Performance

Demand for higher performance carpet backings continues to grow, especially in the area of moisture barrier properties for the finished carpet. At Dow Carpet Latex, we've been working with carpet manufacturers to improve backing performance where moisture barrier is the key property. And, we have an answer – FOUNDATIONS™ 875 High Performance acrylic latex offers significantly improved moisture barrier properties compared to other latexes. In addition, FOUNDATIONS latex features a unique polymer design that allows formulators to incorporate post-industrial and/or post-consumer (recycled) fillers in the backing compound. In addition, FOUNDATIONS latex can be easily run on existing carpet coaters with little or no modification.

FOUNDATIONS 875 High Performance latex is designed to be used in the pre-coat compound for commercial carpet backing applications. This latex offers a number of important benefits for manufacturers including:

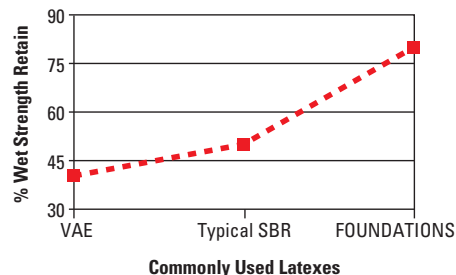
- Moisture resistance
- Delamination resistance
- Soft hand
- Good tuft bind and edge ravel values
- High solids content
- Exceptional wet strength

Extreme Moisture Performance

Wet strength is essential for commercial applications where moisture is of concern. The latex forms a moisture barrier throughout the fiber matrix, preventing spills and other contaminants from infiltrating into the hard-to-clean carpet backing and sub-floor. In installations that may experience moisture penetration or wet extraction cleanings with limited drying times, it is important to have latex that remains strong. In addition, FOUNDATIONS latex features exceptional moisture barrier properties that are advantageous for applications where moisture penetration and wick back stains can be a cause for concern.

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Figure 1 – Typical Wet Strength Retention



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For more information about the topics covered in this edition, please visit www.dowcarpetlatex.com

Dow Latex



Dow has earned a reputation of excellence in the carpet latex industry due to the deep industry knowledge and expertise of its employees. In the Dow Latex for Carpet Ask the Expert column we share this experience to help customers overcome their carpet manufacturing challenges and grow their business.

In this issue, **Nick Hanlon**, senior industry specialist, Dow Latex for Carpet, discusses how high solids latex and HPL™ latex carpet backing can lower manufacturing costs.

Q: What is Dow doing to help customers contain rising energy and production costs?

A: Dow recognizes the impact of high energy costs on carpet manufacturers. To combat these rising costs, Dow has created a full line of high solids latexes for carpet

backing which requires less flash drying time in ovens. This drying time reduction produces significant energy cost savings.

Dow tests, based on a 60-foot-per-minute line speed, show that manufacturers who change to a high solids product can gain 5 percent to 10 percent in line speed, translating into savings of \$590 - \$700 savings per 100,000 square yards of carpet, depending on the fixed and variable costs per hour.

With a high solids latex in a low-load unitary formulation, a solids increase of 3 percent is typical. With natural gas between \$8 - \$15 per million BTU a manufacturer could save between \$5.98 to \$11.20 per hour with less water in the formulation.

Each of these savings examples comes without any capital investment. Each is an opportunity to reduce energy costs simply by changing to a high solids latex.

Carpet manufacturers can further save on production costs by using HPL latexes from Dow, which allow formulators to substantially reduce or eliminate the alumina trihydrate (ATH) fillers that are commonly used to make flame retardant backing. HPL latexes allow carpet backers to reduce ATH usage by 75 parts per 100 or more, replacing the flame retardant ATH additive with less expensive calcium carbonate filler. Given that ATH is 10 times more expensive than calcium carbonate, this substitution can lead to a significant cost savings without compromising carpet performance or quality. Dow is the only latex company in the industry that manufactures ignition resistant terpolymer latex.

In addition, because HPL latexes are high solids latexes, carpet manufacturers will receive similar energy cost savings to those outlined above.

Kids, carpet and smiling faces!

It's no secret that kids and Mother's Day go together – you can't have one without the other! So, when we had a chance to help put smiles on the faces of kids and mothers alike, we jumped at the chance.



A first-grade class at the Douglas Creative Arts and Science Magnet School in Raleigh, North Carolina had a great idea – custom doormats made by each child for his or her mother. They had the idea, energy and all the materials except for one important part. They needed some carpet to use as the base for the custom doormat artwork.

That's when the folks at our Dalton Floor Covering Industry Center got involved. They prepared the carpet mats for the kids. Rick Copeland, director of sales for Dow Latex, delivered the carpet and had a chance to explain how carpet is made and help the kids begin to understand the role chemistry plays in their lives.

According to Rick Copeland, everyone ended up smiling – the kids, the moms and the people at Dow who had a chance to help.

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Executive Q&A:

Providing Insight into an Ever-Changing Carpet Industry

Horacio Percossi, vice president for Dow Latex, offers his thoughts on the present state – and future – of latex in the carpet industry and describes how Dow will continue to provide customers with new and innovative carpet backing technology.



Editor. Please tell us about your history with Dow.

Percossi: I first started working for Dow in 1973 in Buenos Aires, Argentina. Since then, I have held positions in several businesses, including Dow Agrosociences, DowBrands, STYROFOAM™ products and Chemicals and Performance Chemicals, and have worked in locations across Europe and the Americas. Prior to my current position as head of the Dow Latex global business unit, which includes the Dow Latex and UCAR™ Emulsion Systems businesses, I was commercial director for Chemicals and Performance Chemicals in Europe.

Editor. How do you define your role as vice president of Dow Latex?

Percossi: I am responsible for the health and growth of the latex business, meaning that I work to keep all of our business operations safe, productive and profitable and focused on helping our customers succeed. It is also my responsibility to ensure that all key business assets – from our technology to our human resources – are in place and operating to their best advantage.

Editor. As the world leader in the manufacture of latexes used in the production of carpet and other floor covering materials, how does Dow view its role and responsibility to the global marketplace?

Percossi: Latexes for carpet manufacturing is a critical business for Dow, and the company is deeply committed to remain the supplier of choice for our customers. We have made substantial investments that support this commitment. Dow has a wide manufacturing grid – comprised of 19 facilities across the globe – which represents our long-term interest in the market. All of our plants utilize Dow proprietary technology ensuring the reliability, quality and consistency of our products around the world.

Dow has also made recent investments in our global supply grid in anticipation of future customer needs for latexes for many applications, including carpet. The opening of the new latex plant at St. Charles, Louisiana, attests to this market commitment. The facility is the first world-scale latex plant to be built in North America in the past 30 years.

Editor. How has Dow invested in staff development to complement its other technological and manufacturing investments?

Percossi: Dow has deep industry expertise in the latex business. Many of our TS&D engineers and sellers have more than 15 years of experience working in the carpet and floor covering industry, and we are constantly working to provide our customers with the experts and resources they need to make the best buying decisions.

Editor. What innovations in carpet latex can we look forward to in 2006 and beyond?

Percossi: Dow has developed some exciting new products and technologies over the past few years. Two of these, FOUNDATIONS™ 875 High Performance Acrylic latex and HPL™ terpolymer latexes used in carpet backing, offer our customers exceptional value.

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FOUNDATIONS 875 High Performance Acrylic latex allows our customers to use recycled fillers in carpet backing, offering them a competitive advantage with consumers who are increasingly interested in environmentally friendly products. It can also easily be run on existing carpet coaters with little or no modification.

Dow has also made significant advances in ignition resistant technology for the HPL™ terpolymer latexes line used in carpet backing. Dow has improved wet strength and other properties while also allowing formulators to cut back – and even eliminate – the more expensive alumina trihydrate fillers that are currently in use to make ignition resistant backing.

These advances are excellent examples of how Dow is helping customers reduce costs and continue to stay competitive in the market. They also represent a strong commitment to innovation.

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“Dow is deeply committed to the carpet market, and the company will continue to work actively with its customers to help solve their present challenges while building on our strengths to produce new and innovative carpet backing technologies.”

Editor. What trends are you presently following in the carpet industry and how will they affect North American carpet manufacturers?

Percossi: The most interesting trend to affect the global carpet industry has been the changing of home interior decorating trends. While carpet demand from the lower- and middle-income consumer market has remained strong, floor covering preferences in the affluent market have shifted

to include hardwood and other flooring materials. Styles are constantly changing; it is the nature of home decorating.

In the commercial segment, sustainability continues to be the driver in almost all product development. Whether we are talking about pre-coats for carpet tiles, which have apparent recycling advantages, or developing latex products that allow the addition of recycled content, Dow is engaged in the exploration and development of products to act as enablers for our customers and their customers. Sustainability provides a framework that directs all Dow activities to ensure that we continue on the course prescribed by our mission to “constantly improve what is essential to human progress by mastering science and technology.”

Again, Dow is deeply committed to the carpet market, and the company will continue to work actively with its customers to help solve their present challenges while building on our strengths to produce new and innovative carpet backing technologies.



Expertise Center Now Open

At Dow Latex for carpet, account representatives are focused on much more than just sales. Dow employs carpet latex experts who are educated and trained to provide the most thorough technical information and support available. In addition, customers can also have instant access to technical resources and assistance through the Dow Latex Carpet Expertise Center.

The Dow Latex Carpet Expertise Center, open Monday through Friday, from 8 am to 5 pm, EST, was created to offer customers with instant access to information. Customers can utilize this new resource to obtain product literature, material safety data sheets (MSDS) and environmental health and safety (EH&S) materials. Dow staff members will be available to provide guidance with product recommendations and samples, formulation assistance and, most importantly, general troubleshooting and problem solving.

The Dow Latex Carpet Expertise Center will not replace the special relationship customers have with account representatives. It is a resource that will enhance customers' interactions working with Dow. The Dow Latex Carpet Expertise Center can be reached at **1-800-420-4226** or by email at **carpetlatexec@dow.com**. Please contact the center or your account representative for more information.

Dow **Latex**
Carpet

Expertise Center

1-800-420-4226

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Enhanced Ignition Resistance and Cost Savings Now Available with HPL™ Latexes

Dow Latex for carpet is committed to providing latex solutions that enable manufacturers to fulfill the ever-changing needs of their customers while reducing manufacturing costs and meeting stringent federal and local building and fire codes. In order to better meet these demands, Dow has recently announced significant development milestones for its HPL™ terpolymer latexes for carpet backing applications. The new latexes offer improved wet strength properties, softer hand and higher solids for maximum manufacturing efficiency. Most importantly, formulators can now reduce or potentially eliminate the need for expensive alumina trihydrate fillers that are commonly used to achieve ignition resistance in carpet.

In the past, the use of HPL terpolymer latexes required a reduction in the line speeds at manufacturing facilities, reducing efficiency and plant output. These limitations led to HPL terpolymer latexes being used primarily in high filler load residential carpets and commercial carpets produced at low line speeds.

The new HPL terpolymer latex works by restricting the ignition of the flammable fiber carpet material. This enables manufacturers to replace some or all of the alumina trihydrate filler with more economical calcium carbonate. In addition, the higher solids content of the latex is designed to minimize blistering in lower filler load compounds that are commonly found in unitary style commercial carpets.

Please visit the Dow Latex for carpet web site or contact your local sales representative for more information on availability and obtaining samples of Dow HPL terpolymer latexes.

Bedri Erdem Joins Dow Latex Product Research

Bedri Erdem, Senior Research Specialist, recently joined the Dow Latex Product Research group in Midland.



Bedri comes to Dow Latex from Thermosets R&D. He joined Dow in Polyurethanes Research in 2000 and has worked in the area of polyurethane dispersions for a range of applications, including medical gloves, floor coverings, textile/leather coatings, adhesives and foams. His expertise is in the area of polyurethane chemistry, the mechanical dispersion process from Dow, emulsion polymerization and colloid science.

Bedri will begin his role in the Dow Latex Product Research group by working on a project to develop an understanding of the relationship between froth stability and latex characteristics for carpet backing. This will leverage his earlier work on foam characteristics for synthetic leather.

Bedri earned a Ph.D. degree in Polymer Science and Engineering from Lehigh University. His thesis work concentrated on dispersion and stabilization of inorganic particles in non-ionic media for encapsulation via mini-emulsion polymerization. Bedri has prior masters and bachelors of science degrees in chemistry from Karadeniz Technical University in Turkey.

Soft and Strong

Versatility for Residential and Commercial

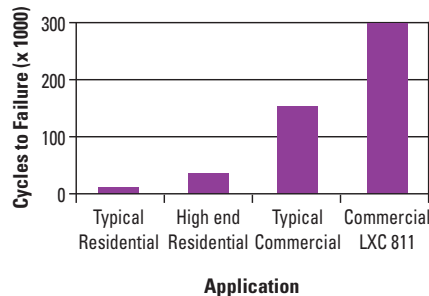
One latex that could be used for both residential and commercial grades would offer a production advantage to many mills. Just eliminating the need to take a coater off-line to switch out latexes would be a significant productivity boost. Dow Latex LXC 811NA, a carboxylated styrene-butadiene (S/B) latex, combines the strength of a commercial S/B with the softness and flexibility of a residential carpet latex, and may be the right choice for a manufacturer looking for one versatile product to cover both applications. LXC 811NA latex features a higher solids content, allowing for faster drying and production line speeds, a quality that makes it ideal for commercial carpets. Soft hand is important in the commercial market, where patterned carpets are becoming popular. A strong and soft latex is beneficial to the installer who is working to pattern-match the installed carpet, and can help reduce installation-based claims to the manufacturer.

In addition to the soft hand, LXC 811NA latex has excellent moisture resistance, blister resistance and wet strength properties compared to other S/B latexes. These properties all contribute to the exceptional wear performance of carpets that use LXC 811NA.

The Dow Latex LXC 811NA Difference

One of the ways manufacturers can predict the long-term wear performance of a carpet is through a chair test. There are many variants, but the primary test involves using a weighted roller chair testing device that is moved and rotated across a test carpet until delamination or edge raveling takes place. The more cycles a carpet can withstand, the longer it is expected to last in the field. Normal residential and commercial carpets usually experience failure at approximately 20,000 and 150,000 cycles, respectively. Dow Latex LXC 811NA withstands failure up to approximately 300,000 cycles.

Figure 2 – Sample Chair Test Results



Dow Latex LXC 811NA is an all-purpose latex that meets both residential and commercial needs. For more information on this and other Dow S/B latexes, please visit www.dowcarpetlatex.com or contact your local Dow sales representative.

FOUNDATIONS™ 875 Latex Reduce Cost and Improve Performance

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Recycled Materials

A significant amount of waste carpeting produced during the manufacturing process is typically shipped to a landfill, or burned; however, calcium carbonate and other mineral fillers used in the carpet backing can be mined and reclaimed, and, in some cases, reused as filler materials. The unique properties of the FOUNDATIONS latex allow for the incorporation of recycled mineral fillers in the backing compound. The inclusion of recycled content may also earn manufacturers points toward certification under the LEED (Leadership in Energy and Environmental Design) Green Building Rating System along with the newly created Carpet Sustainability Standard.

“FOUNDATIONS 875 latex represents the commitment of Dow Latex to offer our customers products that provide the highest level of value and performance,” states R. Todd Crook, senior marketing manager, North America Carpet, Dow Latex.

For more information or to receive a sample of FOUNDATIONS 875 High Performance S/B latex, please visit the Dow Latex web site at www.dowcarpetlatex.com or contact your local Dow Latex sales representative.

Carpet News & Notes is a publication for customers of the Dow Latex Carpet business. Your comments and suggestions are welcome. To provide story ideas, add a colleague to our mailing list, or if you have general questions or concerns, please contact:

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