Let's mix it up.

Discover the answer to improving your rotational molding applications.

DOW®

Fresh perspectives. Robust capabilities. **Purposeful collaboration.**

Together, we can put a new spin on rotational molding.

Rotational molders are being pushed and pulled in a lot of directions. Faster, easier processing from tougher, yet more sustainable solutions. Bright whites and vibrant colors that last through decades of use. Greater consistency with more diverse, differentiated options.

By teaming up with Dow, you can create the best mix to meet these challenges, and more.

Uncovering new ideas

We understand and appreciate your wealth of rotomolding knowledge. But we also understand that bringing your experts together with our experts can help create a new dynamic. It shakes up the status quo, starting the type of discussions and thinking that can spur innovation.

Selecting the right materials

Like we said, there are some serious demands placed on rotomolders – and their products. **RESILITY™ Innovative Rotomolding Resins** are a robust portfolio of polyethylene- (PE-) based solutions developed specifically to meet and exceed those demands.

These exciting materials are designed to offer long-lasting performance, improved processing, and great opportunities for differentiation through:

- Improved UV & weathering protection
- Bright white & vibrant colored parts
- Fast cycle times & wide processing windows
- Exceptional resin stability
- Increased regrind incorporation capacity
- Reduced plate out
- Downgauging/lightweighting
- Alternative, proven material options

Working side-by-side, we'll determine the best materials to meet your specific needs.

Excellent performance[1]

RESILITY™ resins offer the powerful performance required by today's rotomolding applications, including UV stability[2] ratings of UV20 and higher. Their increased resistance to thermal abuse allows colors to remain vibrant and stable with virtually no color change over extended periods. In addition, improved gas fade resistance supports the resiliency of white during pulverization, rotomolding, and storage.

Easier, faster processing[1]

These next-generation solutions offer up to 30 percent wider processing windows with the flexibility to optimize temperatures and cycle times. Along with exceptional stability, this creates the potential for increased productivity, reduced scrap rates, and lower overall production costs. Other advantages include faster bubble removal (which also contributes to improved low-temperature impact performance) and reduced plate out to help minimize downtime.

More than "just polyethylene"

You may know we're the world's leading polyethylene producer, but did you realize Dow offers many other polymers that are extremely well suited for use as rotomolding additives, supplements, or even substrates?

Options include polyolefin plastomers, ethylene- and propylene-based elastomers, functional polymers, olefin block copolymers, polyurethanes, and more. Combined with our lineup of next-gen medium and high density polyethylene (MDPE and HDPE) resins, they create exciting opportunities for product differentiation.

[1] Data per tests conducted by Dow. Additional information available upon request. Properties shown are typical, not to be construed as specifications. Users should confirm results by their own tests.

[2] The addition of a UV stabilization package to a resin does not completely eliminate the effects of UV exposure. The sole intent is to slow down the rate at which these effects occur. Actual results may vary depending on application and other factors such as resin color, transparency, and additives. Therefore, actual end-use testing is recommended.

Resility™
innovative rotomolding resins by DOW

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Soft touch. **Strong possibilities.**

This is not "your father's" rotomolding resin. XUS 58441.00 Experimental Soft Touch Copolymer[1] is an innovative, elastomeric material that combines soft touch and feel with a UV20+ rating[2] and exceptional impact, slip, and abrasion resistance. These attributes – along with easy processing, ambient pulverization capabilities, and outstanding color stability – make this 2017 R&D 100 Finalist an ideal choice for grips, non-slip surfaces, toys, furniture, and any other application that can benefit from enhanced tactility and durability.

Table 1 lists key benefits XUS 58441.00 offers in comparison to a typical, commercially available MDPE.

Figure 1 takes a closer look at impact resistance, showing how parts molded with XUS 58441.00 can absorb more energy and displace further before failing than the MDPE tested. And while our unique, soft touch offering works great as a standalone substrate, it can also help increase softness and impact resistance in blends with MDPE (Figure 2).

We'd love to talk with you about this and other innovative opportunities only available from Dow.

Table 1: Comparison of XUS 58441.00 and Typical MDPE[1,3]

Key Properties	Typical MDPE	XUS 58441.00[1] Experimental Soft Touch Copolymer	XUS 58441.00[1] Implication
Melt Index (g/10 min)	5.0	5.0	Familiar processing reduces learning curve for molders
Density (g/cc)	0.938	0.887	Significantly softer than PE
Melting Temperature (°F)	256	246	Similar, lower melt temperature allows blending with PE
Coefficient of Friction Static Kinetic	 0.23 0.20	 1.01 0.83	Enhanced grip and slip resistance
Shore D Hardness	55.9	30.2	Significantly softer than PE
Flexural Modulus at 1% Secant (psi)	195,000	6,800	Significantly more flexible than PE
ARM Impact Mean Failure Energy (ft.-lbs.)[4]	180	>230	Exceptional impact resistance

Figure 1: Instrumented Dart Impact Performance Comparison of XUS 58441.00 and Typical MDPE[1,3]

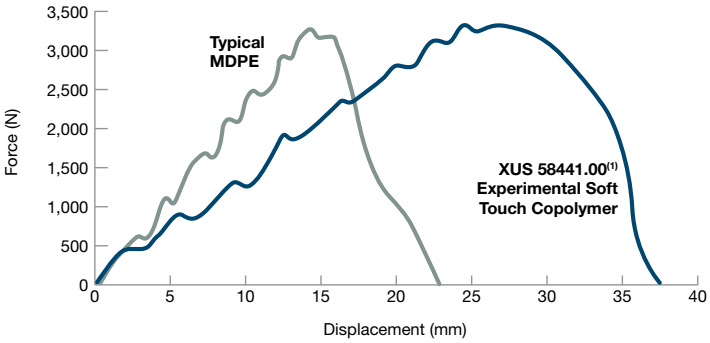
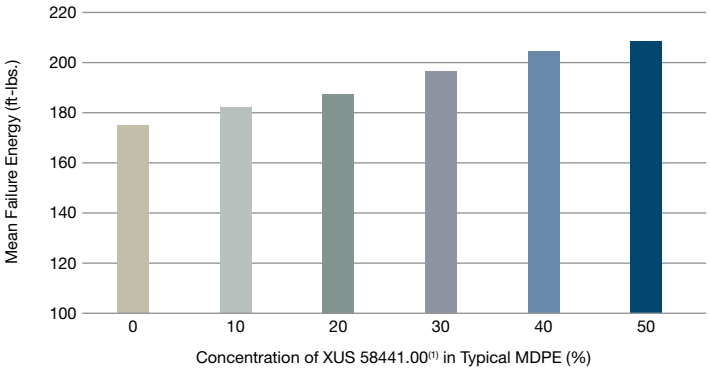


Figure 2: Impact Modification of XUS 58441.00 in Blends with Typical MDPE[1,3,4]



[1] If products are described as "experimental" or "developmental": (1) product specifications may not be fully determined; (2) analysis of hazards and caution in handling and use are required; (3) there is greater potential for Dow to change specifications and/or discontinue production; and (4) although Dow may from time to time provide samples of such products, Dow is not obligated to supply or otherwise commercialize such products for any use or application whatsoever.

[2] The addition of a UV stabilization package to a resin does not completely eliminate the effects of UV exposure. The sole intent is to slow down the rate at which these effects occur. Actual results may vary depending on application and other factors such as resin color, transparency, and additives. Therefore, actual end-use testing is recommended.

[3] Data per tests conducted by Dow. Additional information available upon request. Properties shown represent typical values; not to be construed as specifications. Users should confirm results by their own tests.

[4] Plaques rotomolded to 0.25 inch and tested via ARM standard method at -40°C.

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Quality materials. **Robust options.**

Focused on sustainability

Because working toward a more sustainable, circular economy is extremely important to us, we work closely with customers to help achieve their sustainability goals.

Long-term durability and color fastness help products made with RESILITY™ resins last for generations – and stay out of landfills. The inherent strength and toughness of these PE-based materials also create opportunities for downgauging, which can help reduce material usage, part weight, and transportation costs/emissions.

Our polymer quality and consistency also allow increased incorporation of regrind, with the potential to enhance sustainability and lower total costs. And, when they do finally reach the end of their useful life, products molded with RESILITY™ resins can be included in PE recycle streams.

Table 2: Rotational Molding Product Offering[1]

Product	Melt Index (g/10 min)	Density (g/cc)	Typical Applications
RESILITY™ 3235 NT7 MDPE	3.5	0.938	Agricultural and chemical storage tanks, potable water tanks, recreation/toys, industrial packaging
RESILITY™ 3152 NT7 MDPE	5.2	0.935	Housewares, recreation/toys, industrial packaging
RESILITY™ 3162 NT7 MDPE	6.2	0.940	Playground equipment, recreation/toys
RESILITY™ 3170 NT7 MDPE	7.0	0.935	Recreation/toys, industrial equipment, consumer goods
RESILITY™ 3220 NT7 HDPE	2.0	0.942	Recreation/toys, industrial equipment, agricultural and chemical storage tanks, potable water tanks, consumer goods
XUS 58441.00 Experimental Soft Touch Copolymer[2]	5.0	0.887	Soft-touch playground equipment, recreation/toys, marine, furniture

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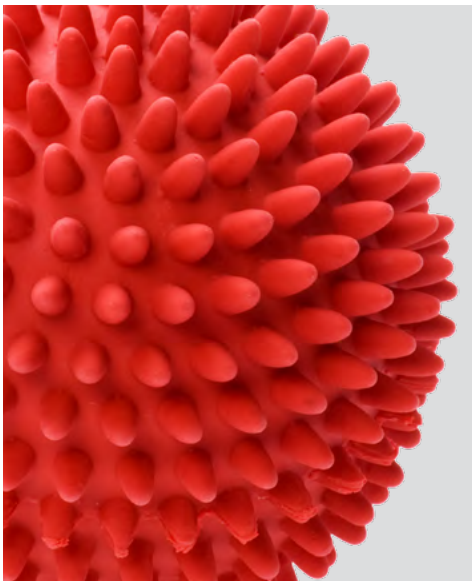
[2] If products are described as "experimental" or "developmental": (1) product specifications may not be fully determined; (2) analysis of hazards and caution in handling and use are required; (3) there is greater potential for Dow to change specifications and/or discontinue production; and (4) although Dow may from time to time provide samples of such products, Dow is not obligated to supply or otherwise commercialize such products for any use or application whatsoever.

Refer to individual technical data sheets (TDSs) for additional information regarding property performance, regulatory compliance, and handling considerations.



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Faster to market.

Collaborate. Innovate. Accelerate. These three words sum up Pack Studios, our one-of-a-kind network of technical experts, equipment, and testing capabilities. This exclusive resource unites your expertise, our material science capabilities, and other key members throughout the value chain for a single purpose: bringing innovative technologies and applications to market faster.

pack STUDIOS
COLLABORATE • INNOVATE • ACCELERATE
F • R • E • E • P • O • R • T

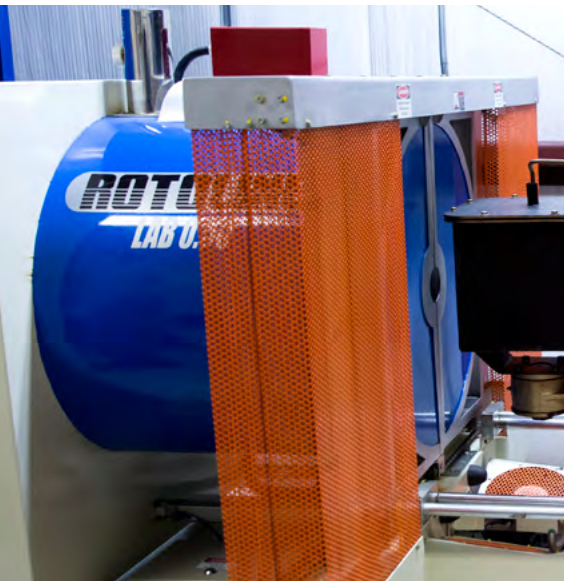
The Pack Studios facility in Freeport, Texas – one of nine strategic locations around the world – features a full suite of developmental rotomolding capabilities:

- Physical & thermal characterization
- Light & electronic microscopy
- Compounding & dry blending
- Pulverization
- Rotational molding with internal air-based process control
- ARM, Gardner, Izod, Charpy & instrumented dart impact testing
- Fabricated part testing
- UV & weathering testing
- Regrinding

Let's give it a whirl.

We're excited about the possibilities of collaborating with you. Combining your rotomolding prowess…our advanced materials and global resources…and the rich knowledge of the rotomolding value chain. **We can't wait to see the results!**

Please contact your Dow representative, call the nearest location on the following page, or visit www.dow.com for more information.



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North America	+ 800-258-2436
Latin America	
Argentina	+ 0800-266-0569
Brazil	+ 0800-047-4714
Chile	+ 1230-020-1124
Colombia	+ 01800-518-2475
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Europe, Africa	+ 00800-369-4636-7
Italy	+ 800-783-825
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