



## Sustainability Backgrounder

April 2023



### We take sustainability seriously

In a circular economy, plastics made will be recycled again and again, to eliminate waste and the continual use of resources. In general, ‘plastics’ are the perceived enemy with so much negative press surrounding the large quantities of un-recycled post-consumer resin (PCR) in the world. Broadly, in the user’s mind, there is no distinction between single-use and performance plastics. This backgrounder will review the challenges of recycling, discuss the ways that performance plastics contribute to a sustainable environment, and present the current programs and plans that Vycom and all affiliates of The AZEK Company (NYSE: AZEK) are undertaking to address the issue.



## Overview

Plastics make very efficient use of resources, especially during the utilization phase. Due to their inherent longevity and durability, they reduce replacement waste and costs of traditional materials such as wood and metal. Performance plastics enable fuel efficiency and energy savings; provide materials that protect humans and health, and can be reused or recycled.

Plastic waste is a global crisis. An overwhelming amount of plastic is not being properly recovered and recycled, and overseas entities are limiting their acceptance of plastics waste for reprocessing. There are identified challenges to recycling that can be met with a concerted effort between consumers, recyclers, and manufacturers. Performance plastics offerings made from recycled materials can take on new lives in everyday products and components.

At Vycom, we are focused on sustainability. From saving trees and reducing waste to conserving water and operating energy-efficient facilities, we are proud to offer high-quality products made from up to 100 percent post-consumer and post-industrial recycled materials. From current recycling programs to new initiatives being implemented, the company continues with its commitment to be good stewards of the environment by exploring ways to recycle various types of plastic waste across multiple markets and end-uses.



All Vycom Celtec® expanded PVC sheets are 100% recyclable; above are Celtec DigiLite® Black sheets.

## Different types of plastics serve a multitude of purposes

*Much of the sustainability discussion these days focuses on 'single-use plastics' and the need to sharply decrease use in these applications. However, not all plastic used for single-use is the same composition and must be handled differently in the waste stream. If properly ushered through the end of their useful life, many types of plastic can be recycled back into other products. Plastics are categorized by a RIC (resin identification code) developed in 1988 by the Plastics Industry Association as a way to sort and recycle plastics more efficiently. The RIC code and associated plastic category are listed below.*



#1 PET (polyethylene terephthalate) is generally clear and is often used to create water bottles and other beverage containers, cups, and trays. One of the most easily recoverable materials, it can be recycled into clothing, carpet, clamshells, and other forms of packaging.



#2 HDPE (high-density polyethylene) can be found in milk jugs, detergent and shampoo bottles, and flower pots. Extruded HDPE sheets can be produced entirely from recycled materials including post-consumer content and are also 100 percent recyclable. HDPE can be recycled into packaging containers, pipes, rigid materials for signage, building components such as deck boards, and sheets for durable applications such as lockers and playground construction.



#3 PVC (polyvinyl chloride) can be either rigid or flexible and is widely used in healthcare; in electronics for cabling insulation; in construction for piping/conduits, vinyl flooring, and roof sheeting; and in the visual communications industry for signage, wayfinding and exhibit purposes. Though it requires knowledge of sorting and reprocessing by proficient recyclers, PVC can be recycled into pipes, wall siding, binders, foamed and solid sheet products, carpet backing and flooring, and outdoor building components such as deck boards.





#4 LDPE (low-density polyethylene) is used in shopping and trash bags, and food wrappers. It is more difficult to recycle due to handling issues, sorting, and end-use requirements, but can be recycled into products such as trash bags, shipping envelopes and compost bins, and outdoor building components including deck boards.



#5 PP (polypropylene) is often used for straws, food containers (including bottle lids), furniture, housewares, medical applications, and automobile parts. Recycling availability is limited due to some potential challenges with sorting and reprocessing, though it can have a second life as paint cans, automotive parts, hangers, and razor handles.



#6 PS (polystyrene) is utilized in food take-out containers, cups, plastic cutlery, and egg cartons; it is also used to create packing peanuts. While it is more difficult to recycle due to handling issues, sorting, and end-use requirements, PS can be recycled into picture frames, crown molding, hangers, toys, and lightweight supply containers such as tape roll holders.



#7 Other (acrylic, polycarbonate, etc.) are diverse materials with various properties. Common types and products include nylon, acrylonitrile butadiene styrene (ABS), polylactic acid (PLA), bottles, safety glasses, headlight lenses, etc. While not easily recycled, they can be reprocessed for use as electronic housings and automobile parts.



From the above list, it's apparent that not all plastic is created – nor can be recycled – equally. While one type of plastic can be handled relatively easily in the recycling waste stream, another could require additional handling and processing. Performance plastics are an ideal choice because they can – and do already – contribute in many ways to sustainability: durable construction; fuel efficiency and energy savings; protecting humans and health, and furthering their well-being. And, ultimately, these materials are in many cases recyclable.

## Performance plastics contribute in many positive ways to sustainability

*Undoubtedly, performance plastics contribute to a sustainable environment. Plastics make very efficient use of resources, especially during the utilization phase.*

### Energy savings

Because of their lightweight composition versus metals and superior strength-to-weight ratio, plastics contribute to fuel efficiency in transportation. Approximately 53 billion kWh of electricity is saved annually by improvements to appliances made possible by plastics. Without the benefit of plastics, these appliances would use up to 30 percent more energy. 650 gallons of fuel is saved over the lifetime of an average car due to lighter-weight plastic components. Without plastics, the energy used to produce packaging would double.



### Safety first

Plastics are widely used where safety is paramount because they are easy to sanitize, are safe for food processing and are preferred materials in medical applications such as IV bags and tubes, wall coverings, and floors. Medical-grade plastics are often used in knee and hip replacements, and prosthetics. The durability inherent in performance plastics provides an ideal material for fire and safety helmets, airport screening areas, body armor, and storm shelters.



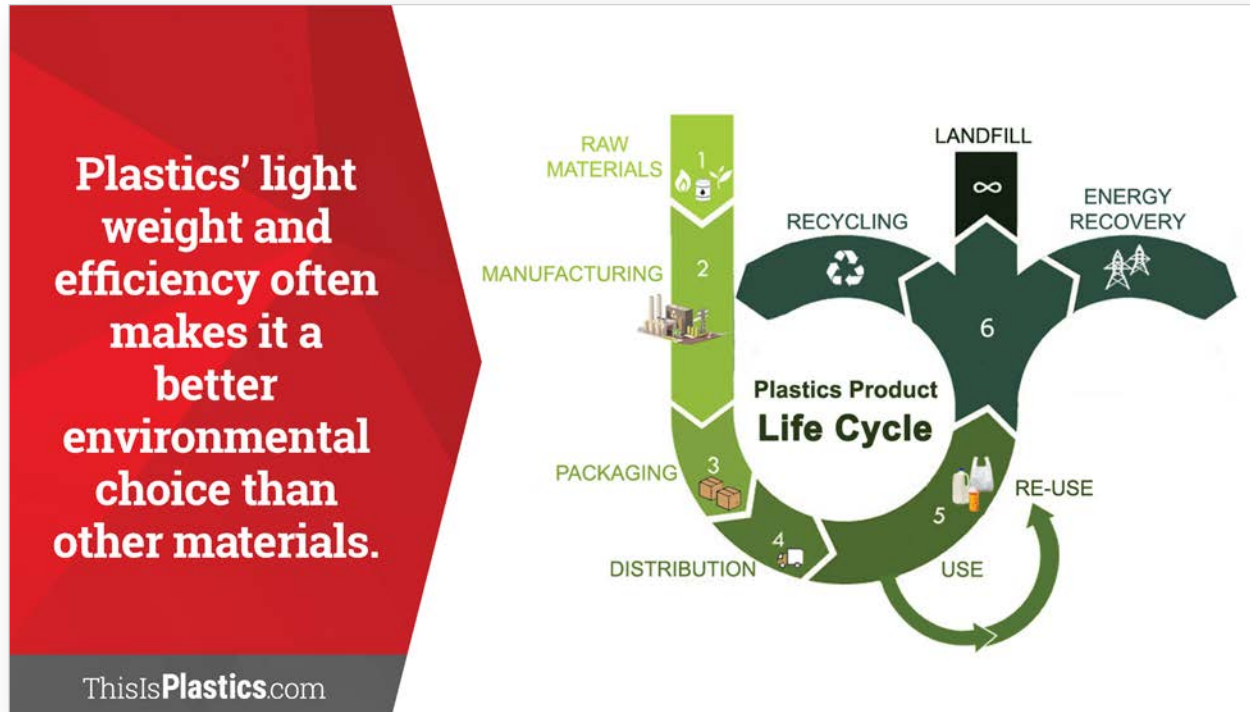
### Breathe easier

HDPE and PVC sheets naturally resist mold, mildew, fungus, and bacteria, making for a safer and healthier environment inside a facility. HDPE sheets help to reduce environmental impact and offer initial and long-term improvements to the indoor air quality of construction projects (HDPE requires no painting, which means no VOC emissions). Facilities can enjoy improved air quality as well as additional points that can contribute to the facility's LEED certification. Select Vycom HDPE and PVC sheets are GreenGuard Gold certified, a standard that defines low-emitting materials that are suitable for environments where people – particularly children and sensitive adults – spend extended periods of time.



## Environmentally considerate

At the end of their life – typically many years longer than wood, metal, and other traditional materials – performance plastics are still valuable resources that can be transformed into new feedstock, reducing reliance on petroleum-based raw materials by reusing existing products.



Vycom HDPE sheets can be produced entirely from recycled materials including post-consumer or post-industrial content and are themselves also 100 percent recyclable. HDPE is inherently very recyclable and can retain its chemical integrity through proper remanufacturing practices. PVC sheets are also recyclable, though it's important to understand the end-use of the products since there can be some potential challenges with sorting and reprocessing.

## We understand the challenges of plastics in the environment

*It seems the headlines, on a daily basis, present a dire view of our planet's future due to all the plastic waste in the environment. Each year, 100 billion plastic bags are used in the U.S. alone. Roughly 1.8 trillion pieces of plastic weighing nearly 90,000 tons are currently floating in the Pacific Ocean. Overseas plastics recyclers in countries such as China and Malaysia are no longer accepting imported shipments. According to EcoWatch, "of the 40 million tons of plastic waste generated in the U.S. in 2021, only 5% to 6% – or about two million tons – was recycled."<sup>1</sup> The reasons for the lack of recycling are many and varied.*


### Why not 100% recycling?

We know that not all plastics are easily recyclable, as determined by two important things: the market and local programs. In the U.S., there are currently seven RIC (resin identification code) categories for plastics, and they cannot all be recycled using the same methods. Plastics containing additional substances – such as paper or adhesives – cannot easily enter standard recycling streams.

## Not all recycled plastics are currently the same

**Widely recycled:**  **PETE (aka PET)**  **HDPE**

*Well-managed and clean streams, readily available*

**Additional steps required:**  **PVC**  **PP**

*Some potential challenges with sorting, reprocessing*

**More difficult to recycle:**  **LDPE**  **PS**  **OTHER**

*Handling issues, sorting and end-use requirements*

Consumer action (or inaction) is another large factor. Unwashed or improperly sorted materials – even ensuring recyclable materials are placed in the right bin – all contribute to contamination and ultimately more plastics ending up in landfills rather than the recycle stream. A change in human behavior can positively impact the number of recyclable materials being diverted from the waste stream.

<sup>1</sup> <https://www.ecowatch.com/recycling-stats.html>

## Common issues with recycled materials

Recycling is a big business that will continue to grow as U.S.-based companies take on more responsibility for managing their plastic waste. The logistics, including volume and distance to reprocessing facilities, is one issue. Contamination with additives, such as pigments or mixed materials (e.g., foil-lined, separation from other materials) could lead to the material being sent to a landfill. Performance degradation issues such as property changes due to heat, light, or chemical exposure need to be explored. The human factor: ease of separation by the consumer, often inconvenient or inaccessible, takes too much time, confusion about what is recyclable, or lack of collection points in public places translates to less material being recycled. In industrial settings, the lack of clear guidelines and collection locations pose additional roadblocks. Processing availability is now limited as China and Malaysia are no longer accepting imported scrap plastics, which means the U.S. must reinvest in local recycling initiatives.

## Performance applications for recycled plastics

There has been ongoing progress on the recycling front. Plastics can get new life in everyday products and components. Here are just a few examples of how recycled materials are used in performance plastics applications:

### Construction & building

- Outdoor signage, kitchens & furniture, flooring, playground elements
- Marina storage, docks, floating decks, walkways, fishing stations



### Food packaging machinery

- Guide rails, pipes, housings

### Automotive components

- Seat cushions, mud flaps, wiring harnesses



### Landscaping

- Fences, bridges, walkways, jetties

### Transportation & safety

- Truck bed liners, marine & RV components, traffic cones

### Consumer goods

- Sunglasses, clothing, footwear, travel bags, jewelry
- Lampshades, tote bags, rugs, toys, skateboards
- Toothbrushes, combs, mirror housings, pens



### Kitchenware

- Food storage sets, cutting boards, colanders, bowls

### Toys & sports equipment

- Shin guards, track beds

Top: Vycom Designboard®  
Center: Vycom Seaboard®  
Bottom: Vycom Polycarve®



## We are committed to stewarding sustainable practices

*Our commitment at Vycom – and across all the affiliates of The AZEK Company – to actively reducing the environmental impact of what we produce and consume is an integral part of the value we bring to our customers. We go beyond the basics of merely cutting waste, operating efficiently, and using recycled materials only when available by taking a holistic approach to sustainable development. From saving trees and reducing waste to conserving water and operating state-of-the-art energy-efficient facilities, we are proud to offer high-quality products made from up to 100 percent post-consumer and post-industrial recycled materials. In a circular economy, plastics will be recycled again and again, to eliminate waste and the continual use of resources.*

To help further our commitment to sustainability and circularity, we opened our TimberTech Recycling Plant in Wilmington, Ohio in October 2018. This dedicated facility accepts post-consumer and post-industrial recycled polyethylene materials (HDPE, LDPE, LLDPE) from retailers, waste management companies, and municipalities for reprocessing into TimberTech® deck boards. Located near Wilmington Air Park in Ohio, the 100,000+ square foot TimberTech recycling facility contains high-efficiency, continuous manufacturing lines that feature advanced technologies. This process turns recycled plastics into a raw materials that can be used in the manufacture of AZEK products. Throughout the recycling process, sampling stations have been positioned at critical locations to ensure quality requirements remain intact. Technicians collect these samples and test for quality utilizing our state-of-the-art analytical lab to ensure all material standards are maintained. The facility recycles plastic and wood materials to create the core of TimberTech's composite PRO and EDGE decking boards. Both product lines can be made with up to 100 percent recycled resin.



*The Wilmington plant's grinder can process up to 7,000 pounds of plastics per hour*

At our Scranton plant, we also purchase post-consumer recycled material from waste management companies that is utilized in Vycom's sheet products. Fifty-six percent of our extruded materials are manufactured from recycled sources. Ninety-nine percent of scrap generated at our Wilmington and Scranton manufacturing facilities is re-used, and products across The AZEK Company's portfolio are made from up to 90% recycled material.

In 2021, The AZEK Company diverted approximately 500 million pounds of waste and scrap from landfills, up from 400 million pounds in 2020. Most of this scrap material was transformed into long-lasting, performance decking products. The company is targeting to use 1 billion pounds of recycled material annually, which is equivalent to 166,000 dumpsters of scrap material that would span the distance between Chicago and Washington, D.C. if stacked back-to-back.

*PVC scraps and waste are returned to our Scranton facility and recycled into Vycom PVC and HDPE products, and are incorporated in to the core of TimberTech deck boards*



## Launching the Vycom Recycling Program

In October 2019, the Vycom Recycling Program was announced with a goal to take back and recycle printed and unprinted rigid PVC and acrylic sheets, as well as scraps and drops from finishing and fabricating with a focus on the signage and graphics industry. The program is for users of rigid PVC and PE products – in coordination with authorized distributors for drop-off or collection – to recycle used signage and scrap, which is returned to our recycling facilities and utilized to manufacture the company's PVC and HDPE products, ensuring these materials do not end up in landfills.



In 2020, a soft launch of the program was initiated by partnering with key stakeholders and building recycling programs for the signage and graphics industry. One of our initial partners in this effort is CIP Retail, a world leader in supermarket design, retail design, and décor fabrication that serves independent and chain retailers to provide customized retail experiences. Another initial partner is Condit, a provider of custom tradeshow exhibits that uses PVC and acrylics in a wide variety of applications such as three-dimensional graphics letters and logos, infill panels for its rental wall systems, display cases, and decorative finishes. Condit uses the Vycom Recycling Program to ensure materials (scraps, drops, and used graphics) do not go into landfills. In less than a year of using the program, the company has collected approximately 35 gaylords (equivalent to around 60,000 pounds) of mostly PVC materials.

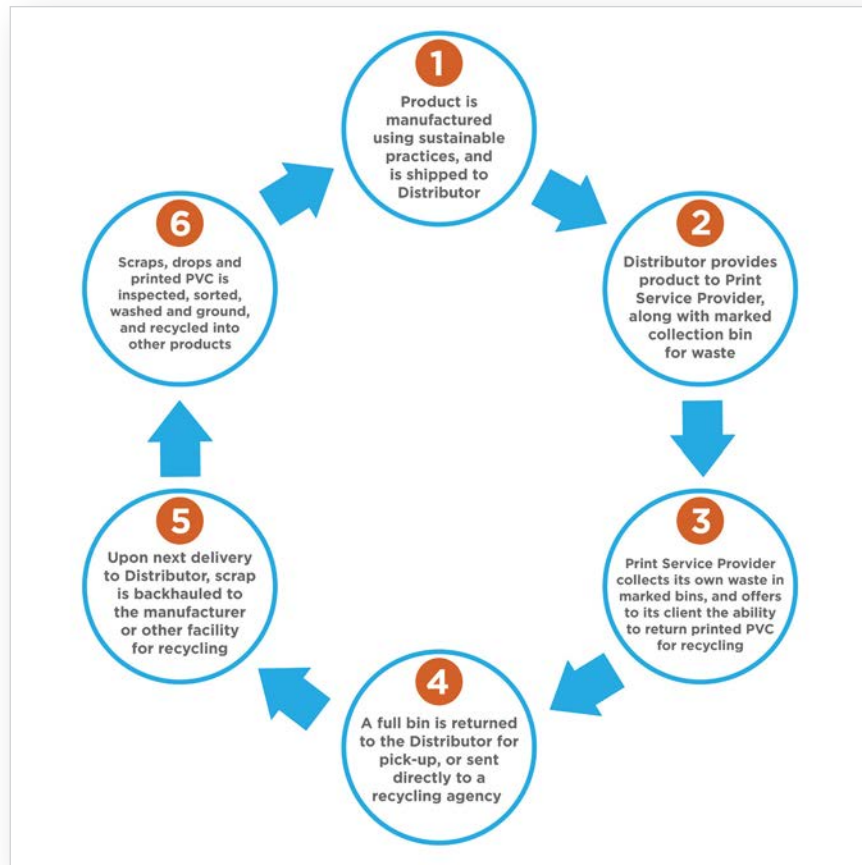
Vycom can collect retired rigid PVC-based signage as change-outs occur. All scrap is returned to company facilities and recycled into various products, ensuring these materials do not end up in landfills and instead is utilized in long-lasting, functional performance products.

In 2022, we brought this program directly to the core users of rigid PVC and acrylic sheet products at one of the signage and graphics industry's largest trade shows in North America. Understanding that these exhibitions are notable users of short-term rigid PVC and acrylic, Vycom placed collection bins in exhibitors' booths and promoted the program to visitors. At the International Sign Expo (May 2022), nearly 3,000 pounds of rigid PVC and acrylic materials were collected from the show floor. At the PRINTING United Expo (October 2022), more than 2,200 pounds were collected.

*At the PRINTING United Expo, the Vycom booth included application samples (a 'wolf' puzzle, made entirely of cut Celtec Woodgrain material) and featured collection bins that were stationed around the show to capture rigid PVC and acrylic materials used in exhibitors' demonstrations*



We're also working collaboratively with Piedmont Plastics, a leading plastics distributor to coordinate the return and reuse of not only Vycom products but competitive materials as well (i.e., rigid PVC, acrylic, PET, HDPE, PP, etc.). In this scenario, an ideal recycling program could look like this:



### Growing our recycling capabilities

At Vycom we work with our affiliate organization, Return Polymers, to develop customized PVC and acrylic recycling programs for our customers. We can take back scrap, cuts, and drops, and repurpose these materials to make long-lasting, high-performance products right here in the U.S. With this program, we provide closed-loop solutions and ensure these materials stay out of landfills. Return Polymers, a leader in PVC recycling and compounding, was acquired by The AZEK Company in 2020. This acquisition enabled AZEK to accelerate its sustainability mission by bringing in-house PVC recycling capabilities that will be leveraged by TimberTech, AZEK Exteriors, Versatex, and Vycom brands and products. Entering its twenty-seventh year of operation, Return Polymers brings full-service recycled material processing, sourcing, logistical support, and scrap management programs to AZEK's expanding capabilities. The Ashland, Ohio-based company complements AZEK's 100,000-square-foot polyethylene recycling facility in Wilmington, Ohio. In 2019, Return Polymers was named the first-ever Vinyl Recycler of the Year by the Vinyl Sustainability Council.



*Return Polymers headquarters in Ashland*

AZEK also offers the AZEK FULL-CIRCLE PVC Recycling Program, a professional on-the-ground approach where the company works directly with dealers, contractors, and mill shops to collect, return and recycle scrap PVC from fabrication shops, construction sites, and remodeling projects. The AZEK FULL-CIRCLE PVC Recycling Program expands AZEK's footprint as one of the largest PVC recyclers in the country and is another step in the company's ongoing commitment to building a more sustainable future.



### Zero-waste events

The 2021 TimberTech Championship became the first tournament in PGA Tour Champions history with its commitment to Zero-Waste-to-Landfill. Vycom provided high-performance products to create various signage and games for the spectator area. One hundred percent of used materials (signage and graphics, plastic bags, food and service items, etc.) were diverted from landfills: 49% were recycled, 30% were converted to energy sources, 16% were donated, and 5% were composted. This effort was duplicated in the 2022 TimberTech Championship event.



### Saving trees

Over the last twenty years, nearly three million trees have been saved because customers chose TimberTech decking over wood products. We've specifically designed offerings to replicate exotic hardwoods without cutting down a single tree. Even the wood used in the core of our composite decking products is 100 percent recycled.



TimberTech Decking

### Conserving water and energy

Delivering on our commitment to sustainability means looking at every resource and rethinking how we can utilize it more efficiently. All of our manufacturing plants employ a unique, closed-loop water filtration system that reuses and recycles hundreds of gallons of water every day. As well, our plants use energy-efficient systems for power, water, heating/cooling, and LED lighting. This effort extends to our corporate headquarters in Chicago, IL. LEED (Leadership in Energy and Environmental Design) is the most widely used green building rating system in the world and our HQ has achieved the organization's highest Platinum level certification.

## Respecting the environment

At Vycom and throughout all AZEK divisions, we believe our responsibility is not only to our customers and stakeholders but also to the planet. Our concern and respect for the environment are evident through our continued efforts to design and produce sustainable products with long life spans. In some cases, the lifecycle of our products is more than 50 years – incomparably longer than the traditional materials they replace. This ultimately limits VOC emission by requiring little to no maintenance or cleaning with harsh chemicals and ensures that we deliver products that are versatile and recyclable at the end of their useful lives.



*TimberLine HDPE sheets can be made into a variety of indoor and outdoor products, are 100% recyclable*

## Gaining recognition

In April 2020, Vycom received the Specialty Graphic Imaging Association (SGIA, now PRINTING United Alliance) 2020 Sustainable Business Recognition Award for its ongoing commitment to stewarding sustainable practices that support a circular economy, particularly for our efforts toward responsible consumption and production with our recycling program.



We also participate in the International Association of Plastics Distribution (IAPD) annual Environmental Excellence Awards and have received recognition in 2021 and 2022 for our efforts in promoting and actively participating in recycling and sustainability efforts.



## Establishing a leadership role

The world needs companies to lead the way by making sustainability a core part of their mission, process, and products. It's our goal to have each of our manufacturing facilities send zero production waste to landfills, and we are proud to be a 97% land-fill-free company. State-of-the-art recycling facilities and innovative material technologies can revolutionize our industry and help the planet. The future is dependent upon the commitment we make to sustain our natural environment and better utilize our precious resources. The AZEK Company's second annual Environmental, Social, and Governance (ESG) report is available for more information. ([Download the 2021 Full-Circle ESG Report here](#)).



Vycom and The AZEK Company will continue to pursue several green initiatives to positively impact our products, our culture, and our world. The company will continue with its commitment to be good stewards of the environment by exploring ways to recycle other types of plastic waste across multiple markets and end-uses.

## About Vycom

Vycom, an affiliate of The AZEK Company (NYSE: AZEK), manufactures market-leading brands of highly innovative plastic sheet products designed to replace wood, metal, and other traditional materials in a variety of applications. The company's extensive inventory and product offerings provide its customers with the convenience of single-source purchasing and the ability to maximize efficiency. Vycom's manufacturing agility places it in a prime position to be the essential partner in creating solutions that optimize quality and performance, and in providing a more sustainable future.

As an affiliate of the AZEK Company, Vycom is committed to accelerating the use of recycled material in the manufacturing of innovative, high-performance products across all associated companies, keeping hundreds of millions of pounds of waste out of landfills each year and revolutionizing the industry to create a more sustainable future. The AZEK Company and its affiliates operate manufacturing facilities in Ohio, Pennsylvania, Idaho, Minnesota, Michigan, Georgia, and Nevada. For additional information, please visit [azekco.com](http://azekco.com).

### Vycom

801 E. Corey Street

Scranton, PA 18505

Toll-free: 800-235-8320

Web: [www.vycomplastics.com](http://www.vycomplastics.com)

Email: [info@vycomplastics.com](mailto:info@vycomplastics.com) or [RecycleWithVycom@azekco.com](mailto:RecycleWithVycom@azekco.com)

LinkedIn: [www.linkedin.com/company/vycom-plastics/](http://www.linkedin.com/company/vycom-plastics/)

Twitter: [www.twitter.com/VycomPlastics](http://www.twitter.com/VycomPlastics)

Instagram: [www.instagram.com/vycom\\_ig/](http://www.instagram.com/vycom_ig/)

Facebook: [www.facebook.com/vycom/](http://www.facebook.com/vycom/)

All Vycom products are proudly made in the U.S.A.

