

### Composites Market Update for October 2024

The composites industry is experiencing varied performance across segments as it navigates shifting market conditions. Marine composites, for instance, faced a year-over-year decline of approximately 30%, an improvement from the 40% dip seen earlier in the year. Infrastructure composites contracted moderately, with a 5-10% year-over-year decrease, while residential applications showed flat performance with hints of softening demand. Month-over-month trends in September offered a slight reprieve, with total volumes rising marginally due to favorable working days, and the Marine segment showing a 7% uptick. Despite some stabilization in areas like pools, overall demand remains pressured by macroeconomic uncertainties and inflation.

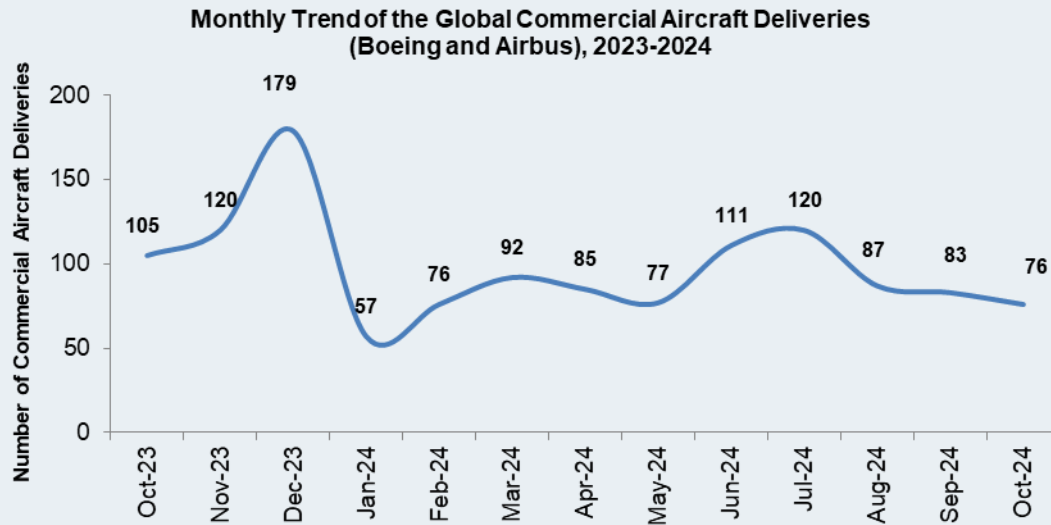
Pricing volatility is another significant factor, influenced by raw material cost fluctuations. Styrene prices have declined, while maleic and phthalic anhydrides have seen increases, driving inconsistent input costs. This has led to a 1-2% reduction in overall product pricing, as companies strive to maintain profitability. The interplay of high inflation, post-COVID adjustments, and delayed infrastructure and residential projects has further complicated market recovery. These challenges underscore the importance of strategic cost management and supply chain resilience as the industry adjusts to new economic realities.

### Implications of Potential Tariffs on Composite Imports

The incoming administration's potential implementation of tariffs on imported goods could significantly reshape the composites landscape. Key materials like glass fiber and resin inputs, heavily sourced from China, may face price hikes that ripple through the supply chain. Tariffs could raise costs by an estimated \$0.20 per pound, particularly affecting reinforced products like thermosets and thermoplastics. While some companies have diversified and localized their supply chains, certain segments, such as epoxy vinyl esters, remain dependent on imports, leaving them exposed. While tariffs aim to stimulate domestic production, they risk reducing U.S. manufacturers' global competitiveness unless offset by targeted incentives or subsidies. To adapt, industry players must innovate, re-evaluate sourcing strategies, and engage policymakers to mitigate potential disruptions while maintaining growth momentum.

### Aerospace

Commercial aircraft (Boeing and Airbus) deliveries decreased from 83 aircraft deliveries in September 2024 to 76 aircraft deliveries in October 2024.



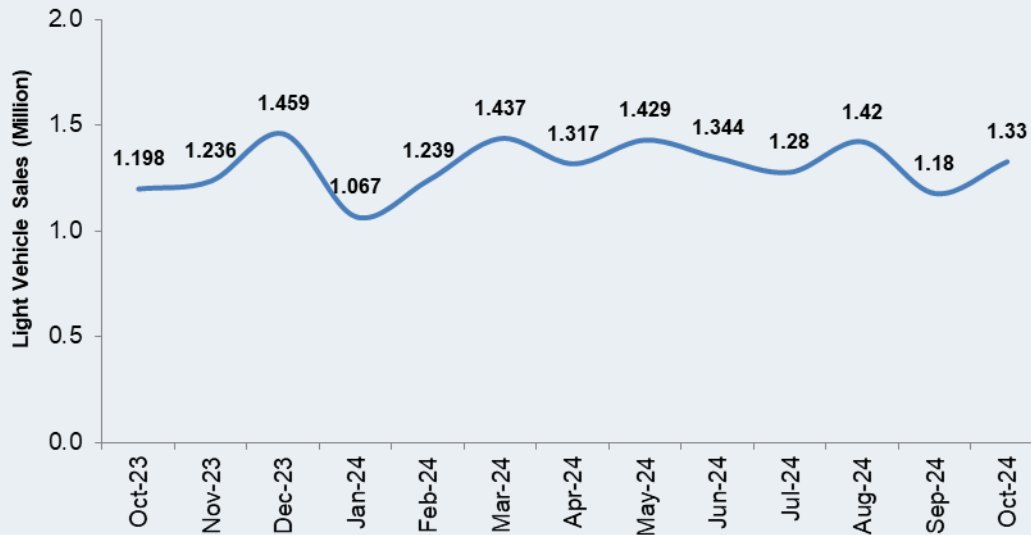
Some of the highlights of October 2024 are as follows:

- Bombardier begins manufacture of Global 8000 business jet.** Bombardier has announced that manufacturing of major structural components for the company's first Global 8000 production jet which is set to enter into service in the second half of 2025. The private jet makes ample use of ceramic matrix composite (CMC) components in its engine, providing customers with a fast, long-range travel option.
- The Gill Corp. announces hybrid laminate for aircraft cargo flooring.** The Gill Corp. introduced Gillfab 5433F, a lightweight hybrid laminate material designed specifically for the rigorous conditions found in aircraft cargo areas. The material features aluminum faces bonded with an epoxy laminate, fortified by woven fiberglass, providing optimal resilience in high-traffic zones such as around cargo doors and within bulk cargo sections.
- Natilus announces Horizon blended wing body CFRP aircraft for 200-passenger narrowbody market.** Natilus has announced launch of the Natilus Horizon blended wing body (BWB) aircraft, a step forward in sustainable commercial aviation for the underserved 200-passenger narrowbody market. Horizon will be the company's second aircraft in production, following the 2028 entry into service (EIS) of its Kona unmanned cargo aircraft, which has 460 pre-orders. Horizon's EIS is targeted for the early 2030s

### Automotive

The U.S. new vehicle sales of 1,327,305 units in October 2024 represented an increase of 10.8% as compared to 1,198,162 units in October 2023.

Monthly Trend of Light Vehicle Sales in the US, 2023-2024



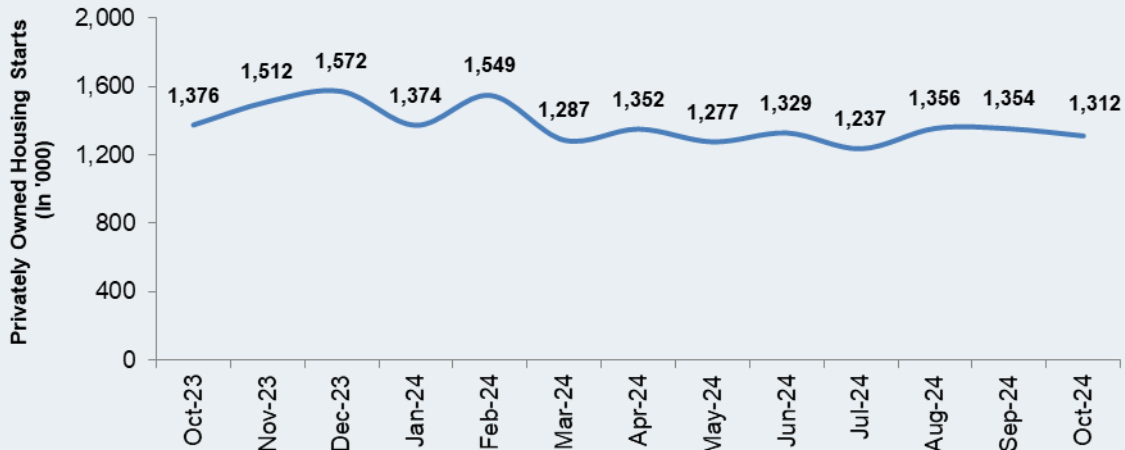
Some of the highlights of October 2024 are as follows:

- Bladder-assisted compression molding derivative produces complex, autoclave-quality automotive part.** HP Composites has developed its proprietary AirPower technology to address challenges related to production rates, cost and others. By integrating a derivative of bladder-assisted compression molding (BACM) principles with tailorable material science and process control, AirPower has successfully enabled the production of the Maserati (Modena, Italy) MC20 supercar's complex CFRP roof at a rate of 1,500 units per year, demonstrating its capability to deliver complex, high-quality composite components at niche, automotive-scale production rates.

### Construction

Privately-owned housing starts in October were at a seasonally adjusted annual rate of 1,311,000. This is 3.1 percent ( $\pm 11.6\%$ )\* below the revised September estimate of 1,353,000 and is 4.0% ( $\pm 9.0\%$ )\* below the October 2023 rate of 1,365,000. Single-family housing starts in October were at a rate of 970,000; this is 6.9% ( $\pm 11.7\%$ )\* below the revised September figure of 1,042,000. The October rate for units in buildings with five units or more was 326,000.

Monthly Trend of Privately Owned Housing Starts in the US, 2023-2024



Some of the highlights of October 2024 are as follows:

- Arkema, Sireg Geotech introduced bendable rebar.** Arkema and Sireg Geotech have developed what is claimed to be the world's first bendable composite rebar, providing an alternative to traditional steel reinforcement in construction. The rebar is a combination of Sireg's Glasspree TP fiberglass bars and Arkema's Elium recyclable thermoplastic resin. The use of Elium gives the rebar double the tensile strength of steel.
- U.S. grant is awarded for patented SIP composites formwork system.** Startup ST Bungalow LLC and Molinelli Architects in collaboration with the Sustainable Materials and Manufacturing Alliance for Research Technology (SM2ART), a partnership between Oak Ridge National Laboratory and the University of Maine have been awarded an Industrial Collaboration grant from the U.S. Department of Energy's Advanced Materials and Manufacturing Technology Office, for R&D of a patented "ConTech" stay-in-place (SIP) composites formwork system that can be made from recycled materials such as wind turbine blades.

### Wind Energy

As per the most recent "Energy Infrastructure Update" released by the Office of Energy Projects within the Federal Energy Regulatory Commission, wind energy with the combined installed capacity of 3 units in October 2024 amounted to 174 MW. Wind energy, with an aggregated generating capacity of 153.17 GW that contributes 11.75% to the total energy sources, amounted to 1,303.90 GW

One of the highlight of October 2024 is as follows:

- BlueWind secures contract with GE Vernova to manufacture wind turbine nacelle covers.** BlueWind Technology has announced a new contract with GE Vernova to manufacture the WT20 wind turbine nacelle cover. This marks an important milestone in the partnership between the two companies, which began in late 2019.

### Consumer Goods

New orders for manufactured durable goods in October, up following two consecutive monthly decreases, increased \$0.7 billion or 0.2% to \$286.6 billion. This followed a 0.4% September decrease. Excluding transportation, new orders increased 0.1%. Excluding defense, new orders increased 0.4%. Transportation equipment, also up following two consecutive monthly decreases, led the increase, \$0.4 billion or 0.5% to \$97.1 billion.

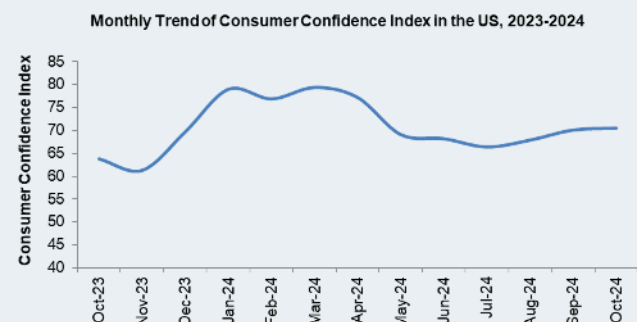
### Recent Development in Materials

- AOC introduces UV-Resistant Automotive System for SMC parts.** AOC Formulations new UV-Resistant System for exterior sheet molding compound (SMC) automotive parts. The innovation combines Atryl closed mold formulations with Chroma-Tek high-performing, UV-stable pigments.
- Arris chosen by U.S. Army for study on continuous fiber insoles.** Arris Composites announced its selection by the U.S. Army for a study on the use of advanced carbon fiber plates in military boots.

### The US Economic Overview – October 2024

The US Consumer Confidence Index increased to 70.5 in October 2024 as compared to 70.1 in September 2024. The GDP at current price of the US increased from US \$29.34 trillion in September 2024 to US \$29.52 trillion in October 2024.

**Real gross domestic product (GDP)** increased at an annual rate of 3.1% in the third quarter of 2024, according to the "third" estimate. In the second quarter, real GDP increased 3.0%. The increase in the third quarter primarily reflected increases in consumer spending, exports, business investment and federal government spending. Imports, which are a subtraction in the calculation of GDP, increased.



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