

# COMPOSITES MARKET PERFORMANCE INDICATORS

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2023/2024

**President**

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2022-2024

# INTRODUCTION

Sectoral performance indicators provide greater assertiveness in visualizing trends and creating scenarios. They also strengthen the representativeness and credibility of industries before government bodies and global markets.

Consistent data and market knowledge are fundamental for business planning and management.

Therefore, the Latin American Composite Materials Association (ALMACO) presents the Composites Market Performance Indicators in this report.

Based on research and interviews with members of the entire material production chain, ALMACO consolidated data for the first half of 2023.

Happy reading and, above all, good business involving composites!

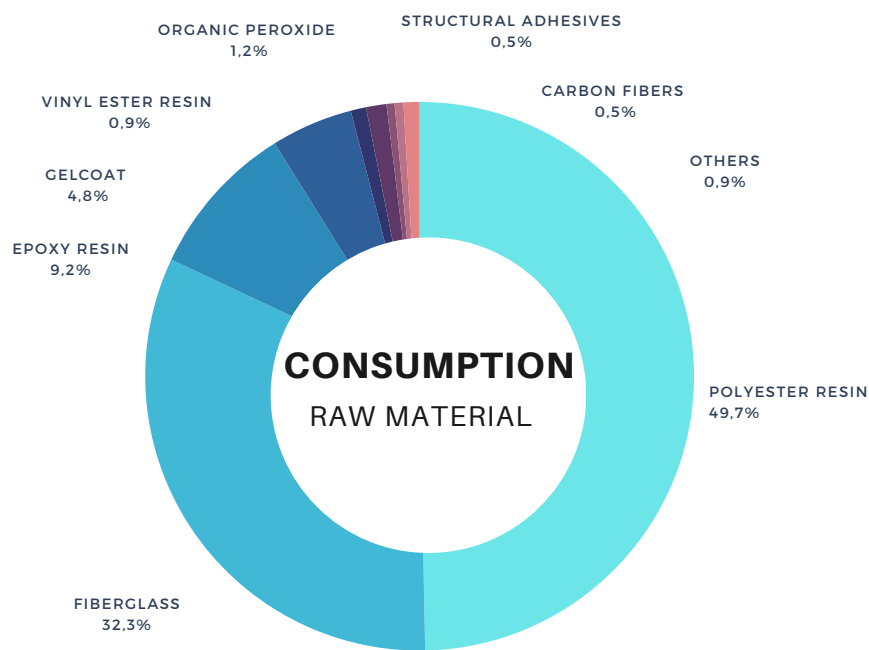


# RESEARCH

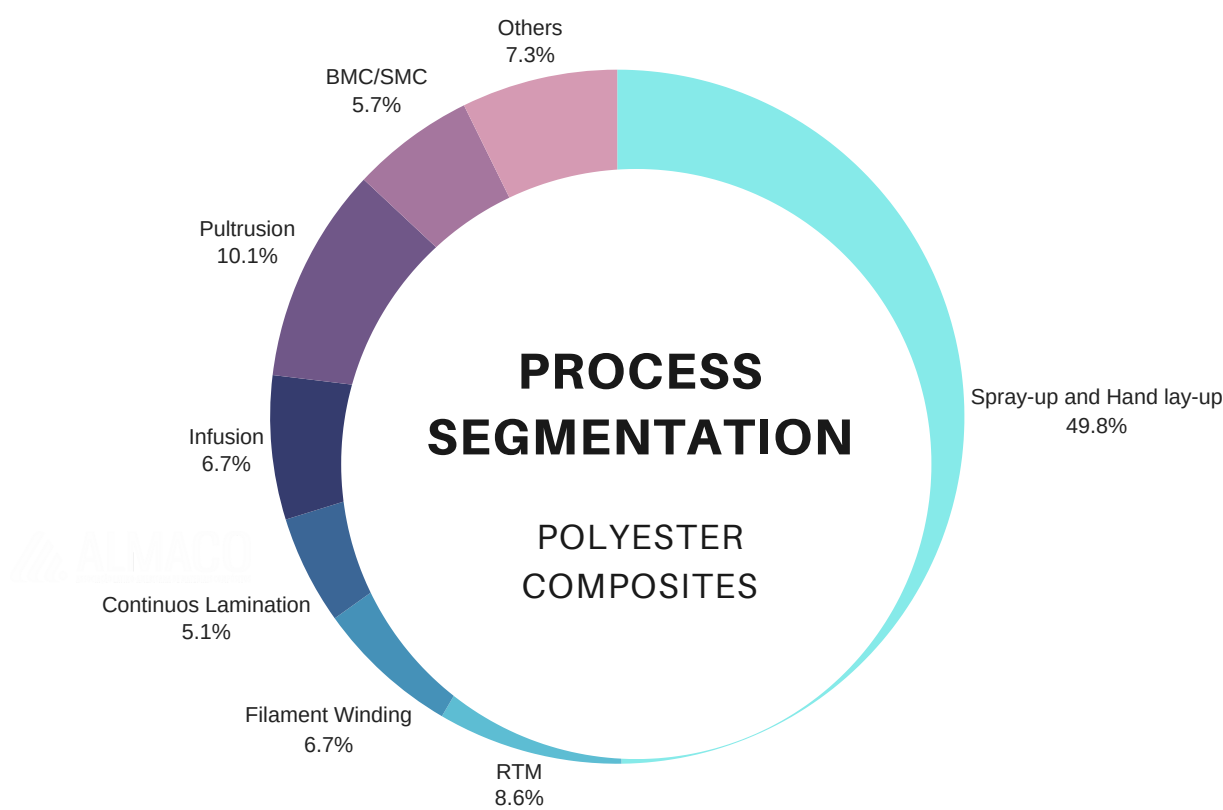
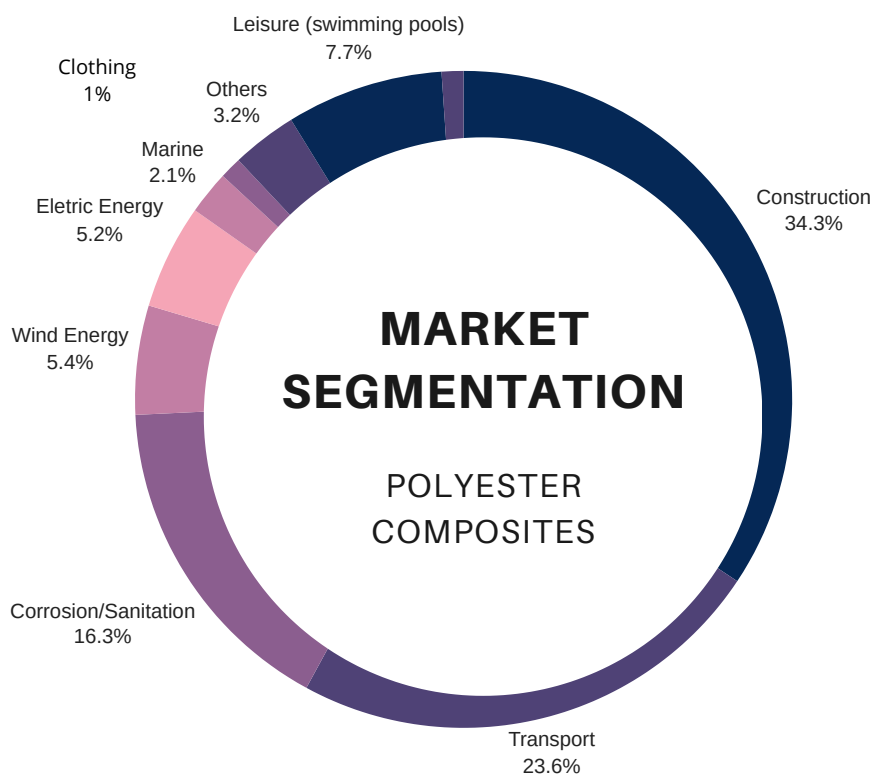
INDICATORS/YEAR	2022	2023	2023/2022	2024*	2023/2024*
PRODUCTION VALUE (MILLIONS/US\$)	856	668	-22%	701	5%
CONSUMPTION OF RAW MATERIALS (THOUSAND TONS)	231	232,7	0,74%	242	4%
JOBS (THOUSAND)	65,3	65,5	0,29%	67	2,3%
OPERATIONAL LEVEL (%)	68,0	68,4	0,58%	66	1%

(\*) ESTIMATE 2024

RAW MATERIAL	VOLUME (KTON)
POLYESTER RESIN	115,6
FIBERGLASS	75,2
EPOXY RESIN	21,3
GELCOAT	11,2
VINYL ESTER RESIN	2,1
ORGANIC PEROXIDE	2,8
STRUCTURAL ADHESIVES	1,1
CARBON FIBERS	1,2
OTHERS	2,2
TOTAL	232,7

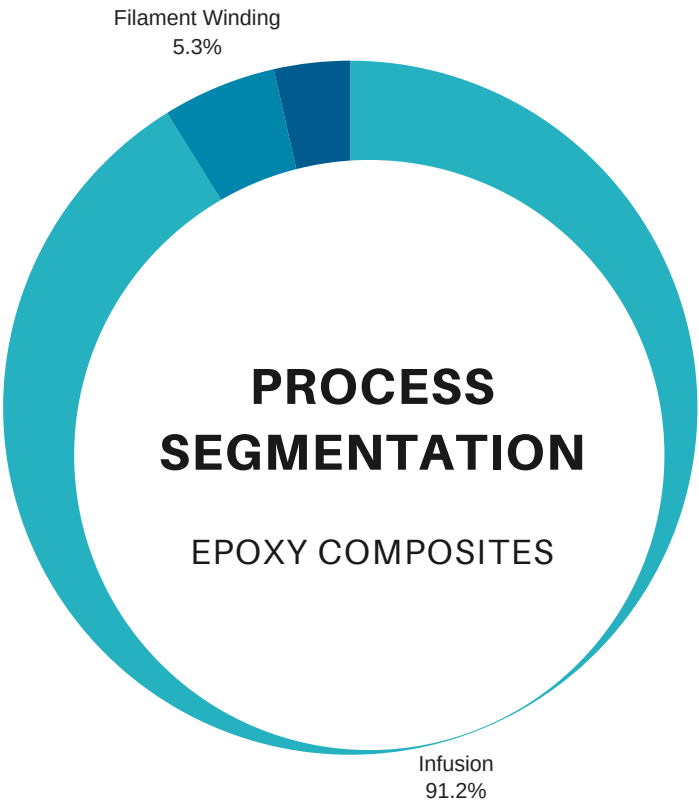
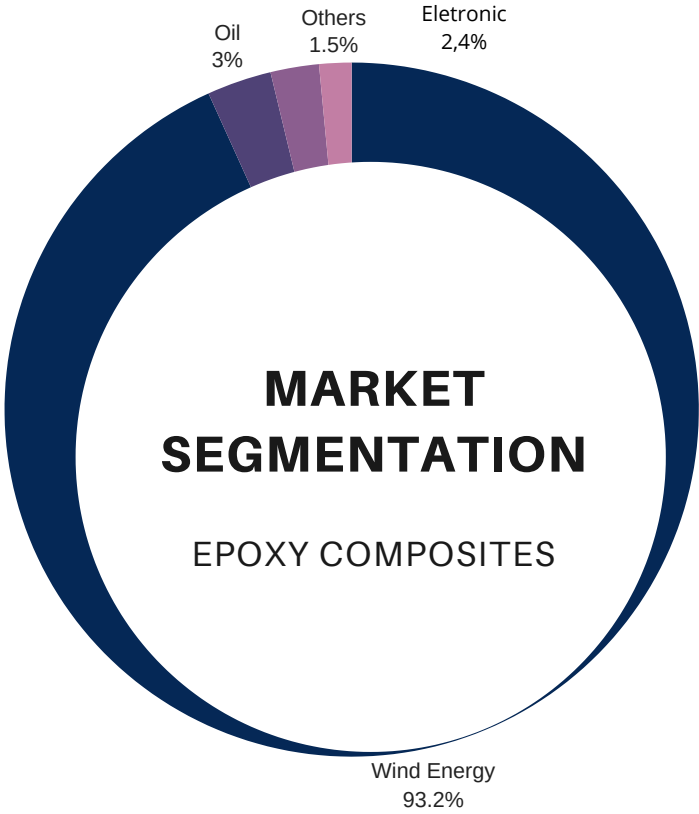


# RESEARCH





# RESEARCH



# CONSTRUCTION

While the real estate market is experiencing a good phase – walk through capitals like São Paulo to notice the boom in new developments – consumption arising from small works and renovations shrank in 2023. The drop was reflected in the balance of the construction industry as a whole, which grew a meager 1.2% in the period, according to the Construction Industry Union (SINDUSCON).

Exactly this public, a crowd living in classes C, D, and E, leads the demand for water tanks, tiles, and synthetic marble, the classic examples of composites in Brazilian civil construction.

One of the likely explanations for the drop in so-called self-construction is that many people used the resources from government aid released during the pandemic for renovations. Now, even with inflation within the target (4.62% in 2023) and a drop in the prices of items in the basic basket, the money eventually left over was absorbed by other sectors, such as services, which grew 2.3% in the previous year.

In any case, the construction industry remains firmly in the lead in the consumption of composites, and its small growth in 2023 also helps to explain the 0.74% increase in the volume of material processed in the period. An even more surprising percentage if we remember that, at the beginning of the year, companies in the composites sector took a decline of around 10% for granted.

For 2024, SINDUSCON is betting on a 2.9% jump, a movement driven by the fall in interest rates and a new real estate cycle driven by the government's popular housing program Minha Casa Minha Vida, the new phase of which was announced late at the end of the year past.



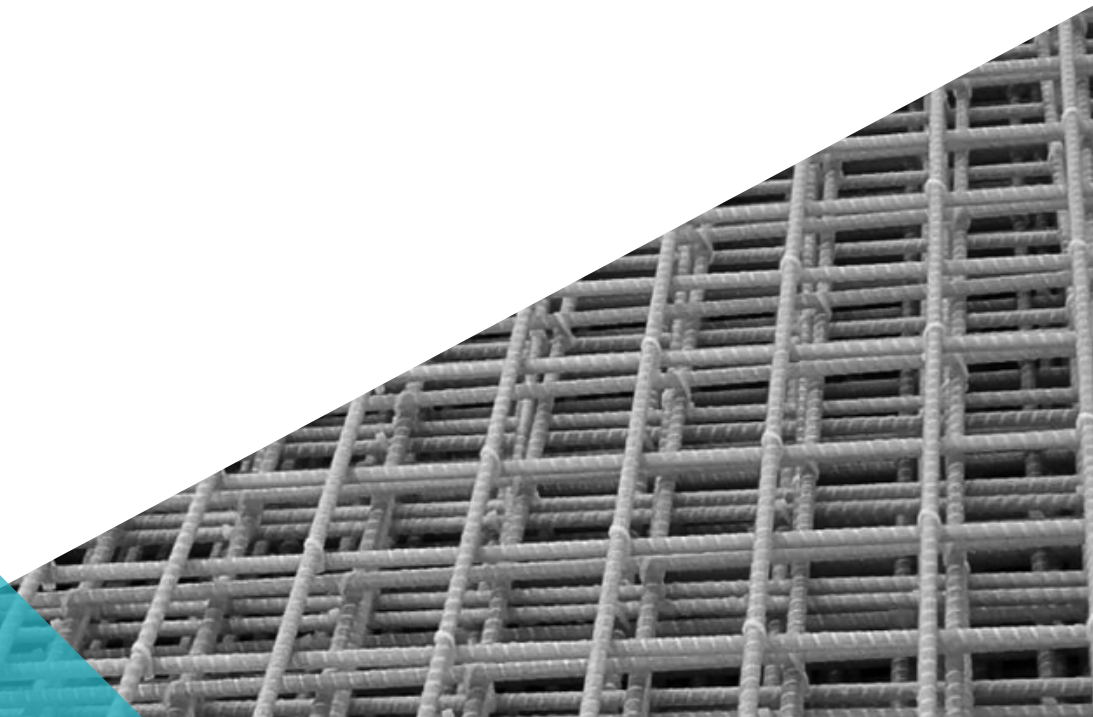
# CONSTRUCTION

This year will also mark the publication in Brazil of the standard for manufacturing composite rebars. Even though this does not mean an immediate explosion in consumption, it is excellent news, as the numbers related to this type of product are gigantic in Brazil and worldwide. Proof of this is global raw material manufacturers' growing interest in participating in this segment.

Still, on raw materials, it is worth noting that what is happening in Brazil is what is observed, to a greater or lesser extent, in other parts of the world: an avalanche of inputs imported from Asia, especially from China, whose slowdown in the domestic market has further fueled its notorious export spirit.

This situation intensely impacted the composites sector's revenue in 2023 – a drop of 22%. Sources in the Brazilian market guarantee that, many times, Chinese merchandise arrives here costing 40% less than the product manufactured locally, which makes any dispute unfeasible.

Counterattack movements are being made, such as requests to the government to increase import tariffs, similar to what the steel sector did. Discussions in this regard are already taking place among members of the Latin American Composite Materials Association (ALMACO).





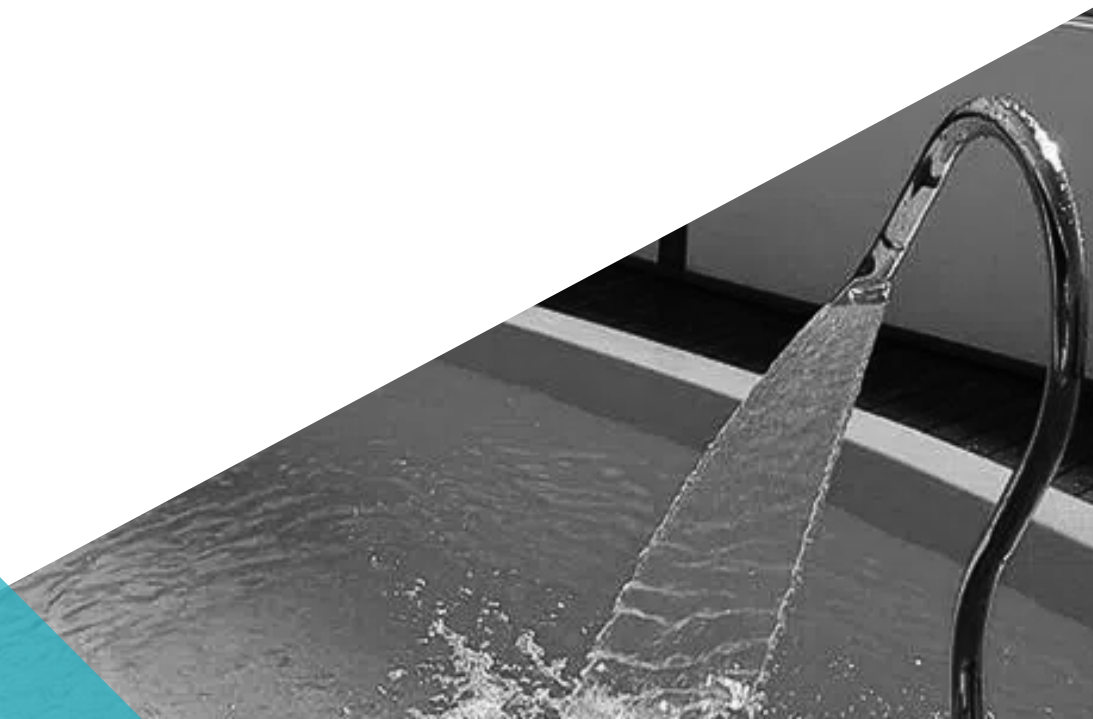
# LEISURE/SWIMMING POOLS

The heat wave that began to hit Brazil at the end of the year's second half was not enough to boost swimming pool sales in 2023. During the first half of the year, demand for the product decreased by around 15% compared to the same period last year.

So, from August to December, when the new molds were ready, and the old ones were renovated, the so-called "pool season" ended up disappointing, industry sources attest. To the point that some stocked transformers did not even place new orders, such was the stagnation in this market.

A recurring theme in the meeting rooms of companies working in the composites sector, the local swimming pool industry continues to follow the path of inevitable accommodation after two golden years of "stay at home", in which the product has never been sold so much by these bands.

In 2024, with successive heat waves, controlled inflation, and falling interest rates, there is a tendency for an improvement in swimming pool demand. Whether this advance will repeat what was seen recently, however, only time will tell.



# TRANSPORT

The Brazilian bus industry has been recovering after the nightmare experienced during the pandemic. In 2023, Brazil produced 19,612 units, an increase of 2.4% compared to 2022. Of this amount, 17,023 remained on the domestic market (+9.5%), while exports (2,589 units) fell 28.2%. For comparison purposes, in 2019, the year before the outbreak of the health crisis, 17,900 units were traded on the domestic market alone.

Last year, bus sales were boosted by repeated – and intense – increases in airline ticket prices, which caused a 16% jump in the turnover of road models. In parallel, more than 220 municipalities invested resources in their transport systems, which positively impacted the sale of urban buses.

For 2024, with the resumption of the governmental Caminho da Escola program, which should result in the sale of 15,220 units across all models, and the financing facilities provided by the also governmental PAC 3, expectations are for a growth of 20-25% in Brazilian production, calculates the National Association of Bus Manufacturers (FABUS).

The electrification of the public transport system in Brazil, a measure eagerly awaited by the composites production chain, still takes time. This is because the bill does not add up to the rates currently charged by municipalities.

Therefore, either governments understand the importance of electrification and subsidize the change, or the decarbonization of this mode will remain for the next generations.



# TRANSPORT

Concerning trucks, the scenario is the opposite. In 2023, new vehicle sales fell 16.39%, totaling 104,155 units.

The leading cause for the poor result was the entry into force of Proconve P8. To comply with new emission control rules, the trucks received several updates. As a result, prices rose by up to 30%. Also noteworthy is the expensive and scarce credit.

Turning the page to 2023, the Brazilian truck industry now expects a 10% growth in sales, totaling 114,500 registered units. Improvement in the supply of credit and the evolution of agribusiness, which accounts for half of the demand for trucks in Brazil, are the bets of this sector for the period that begins.





# CORROSION/SANITATION

Traditional consumer of composites in the form of tanks, special equipment, tubes and coatings, the high corrosion sector usually presents a somewhat stable demand, only disturbed when a large project emerges here and there, for example, a new pulp and paper plant.

Last year was one of those periods of stability. Without significant investments – unlike what should happen in 2024, with a likely new Bracell factory in Mato Grosso do Sul – the consumption of vinyl ester resins, the most common in applications subject to high corrosion, remained at the historical average.

Alcohol and sugar plants, despite the increase in production recorded in 2023, slowed their contributions. The chemical sector, which is not experiencing its best days, shows little appetite to invest in new tanks and, when possible, in maintenance. Companies are postponing repair expenses as much as they can, which mainly affects the turnover of vinyl ester resins and glass fibers distributors.

About basic sanitation, little or almost nothing has been done to put the Sanitation Legal Framework on paper, a law that requires the universalization of sanitation services by 2030.

To get an idea of the size of the challenge, Brazil needs to invest more than US\$ 100 billion to achieve these goals. In other words, double investments in sanitation per year to bring treated water and sewage to the entire population.

Possible? Many already have doubts, including several representatives from the composites sector.



# ENERGY

According to the Brazilian Wind Energy Association (ABEEólica), 123 new wind farms came into operation in Brazil last year – together, they totaled 4,100 MW. This represented an increase of 12.8% compared to the 2022 result. In total, 954 wind turbines were installed in 2023, a number 5% above that recorded in the previous period.

In 2024, everything indicates that the scenario will change for the worse. ABEEólica works with a projected 20% drop in the number of new parks in operation, although this number is updated daily by the National Electric Energy Agency (ANEEL).

Last year, wind energy represented 24.3% of the National Interconnected System (SIN) demand in Brazil, with an average generation of 17,110 MW. As for offshore exploration, there are 78 projects under development in Brazil, totaling 189 GW of capacity proposed for licensing at the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA).

Concerning composite poles, the year was marked by a few investments by electricity concessionaires, which resulted in a drop in demand estimated at 10%.

For some sources that operate in this segment, Brazil produced between 80-100 thousand poles last year, with a share above 80% going to applications in energy distribution, ahead of lighting (10%), security and monitoring ( 5%), and telecommunications (5%).



# AGRIBUSINESS

In 2023, agribusiness did not repeat the good results of previous years, so sector analysts are betting on a drop of almost 1% in the period – official data has not yet been released.

Just as it affected the balance of truck sales, this performance also harmed the turnover of agricultural machinery.

According to the Brazilian Association of the Machinery and Equipment Industry (ABIMAQ), net revenue from the domestic market fell 15.4% in 2023.





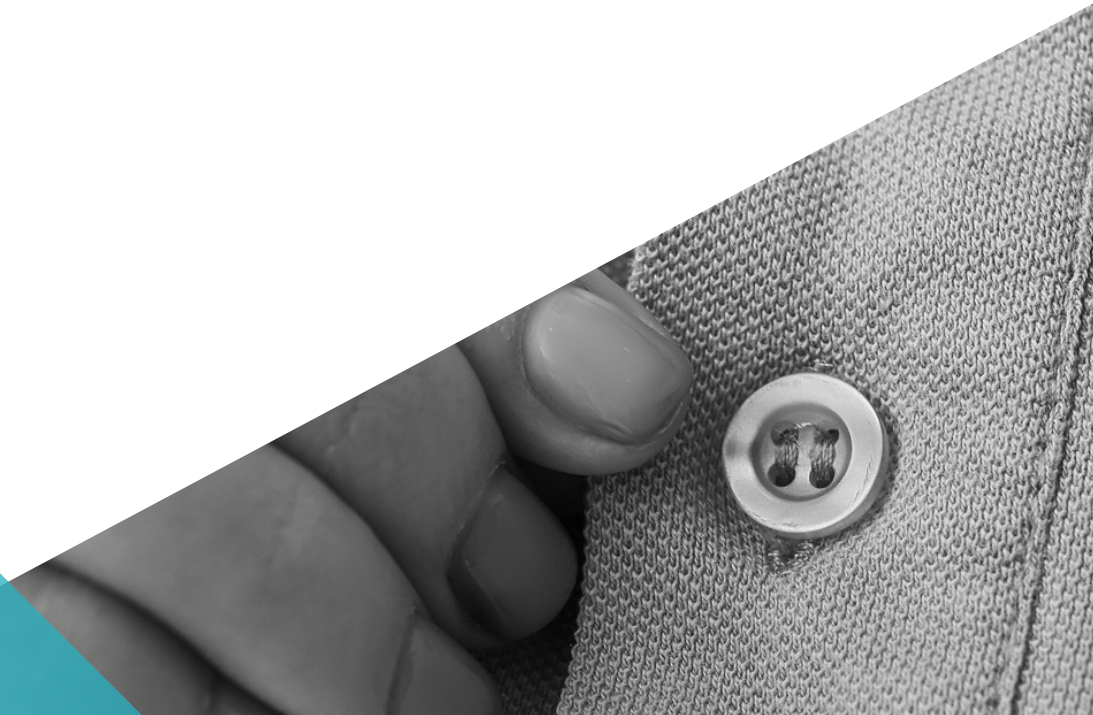
# CLOTHING

While suppliers of raw materials for composites have recently started complaining about the avalanche of products imported from China, some manufacturers feel this competition is not new.

A classic example is that of button manufacturers. For years, they have suffered from the entry of products whose final prices are lower than their production costs – around 40% of local demand is supplied by buttons manufactured in Asia.

And now, with the slowdown in the Chinese economy, the volume has increased even more.

To make matters worse, clothing imports alone – ready-made clothes already come with buttons, further reducing local demand – jumped 27% in 2023.



# MARINE

In 2023, the nautical sector maintained the pace of recent years. With their portfolios complete of orders, the large shipyards continued producing to reduce the waiting lines that began to form during the pandemic years.

On the other hand, sales of smaller and more affordable boats showed some retraction, mainly due to interest rates, which directly affect the possibility of financing for the middle class, the target audience for these vessels.

Even though it represented only 2.1% of local composite consumption in 2023, the nautical market is seen by experts as an essential vector of demand growth.

With its extensive coastline and thousands of navigable rivers, Brazil has great potential to become a gigantic shipyard market.



# ARGENTINA



Consumption as a form of protection. This was the solution found by many Argentines in 2023 to preserve their reserves from inflation of 211%, the highest in the world in a year, whose GDP shrank by 4.5%. This factor, alongside government investments in times of elections, resulted in an increase of around 5% in the volume of composites processed.

Nowadays, the most significant portions of demand for the material in Argentina are divided between the public works, swimming pools, and transport sectors. However, none of the three local sources assess, will be able to mitigate a drop of close to 20% in volume in 2024 as a result of the economic adjustments of the newly elected government and the excess stock – raw materials and finished products – of companies at the beginning of the year.

If the Argentine economy finally recovers, the local composites industry will see the advancement of material applications in sectors related to the exploration of clean energy, oil, and agriculture after 2025.



# CHILE



In South America, only the Chilean economy did not perform worse than Argentina's in 2023. By recording zero growth in the period, Chile at least contradicted the IMF's predictions last January that the country's GDP would shrink by 1%.

Overly dependent on mining – the most significant local consumer of composites – Chile only managed to celebrate a good performance in copper and lithium exploration in the last quarter, but this was insufficient to improve the country's annual balance sheet.

For 2024, with the continued reduction of interest rates and the easing of monetary policy, Chilean analysts believe in GDP growth of 2.5%.

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# COLOMBIA



In 2023, the composites market in Colombia maintained stable demand compared to the previous year despite falling prices, thanks to sectors such as transport and the conclusion of infrastructure contracts. This behavior was reflected in the 12% growth in volume, driven mainly by infrastructure and energy.

A decrease in local consumption, both in value and volume, is expected this year due to the decline in the construction and infrastructure sectors and the entry of new competitors from Brazil, which adds uncertainty to the market. The political situation in the country, combined with high-interest rates and inflation, could negatively affect the execution of infrastructure projects and investment in construction.

As for the main consumer markets for composites in Colombia, the highlights are infrastructure, energy, construction (polymer concrete), transport, and marine.

# ALMACO

Founded in 1981, ALMACO's mission is to represent, promote, and strengthen the sustainable development of the composites market. With central administration in Brazil and regional headquarters in Chile, Argentina, and Colombia, ALMACO has around 400 members (companies, entities, and students) and maintains, together with the Technological Research Institute (IPT), the Composites Technology Center (CETECOM), the largest of its kind in Latin America.