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Hollow glass becomes trendier in the glass manufacturing industry

Under the present market conditions, the glass manufacturing industry is counting considerably on large volume industries, including auto manufacturing, building construction sectors and the food & beverage industry. Besides, smaller volume industries which produce high-value consumer products have also gained traction in recent years.

GLASS MANUFACTURING STAKEHOLDERS ENVISAGE HOLLOW GLASS TO BE THE MATERIAL OF THE FUTURE

In a bid to bolster growth and investment in research and development, glass manufacturers have upped their production among the rise in the usage of metal and plastic products for windows and containers. Popularity of glass has risen by leaps and bounds on the heels of its relative cheapness, versatility and recyclability.

Container glass, for instance, has become highly sought-after in



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the food & beverage industry for beers, wines, soft drinks, spirits and wide neck jars, regarded as commodity items. Notably, container glass has become trendier in the production of higher value containers for cosmetics and pharmaceutical industries.

Robust growth of food and beverage, automotive, construction, pharmaceutical and cosmetic industries will augur well for stakeholders of the glass manufacturing market. Growing traction towards container glass is majorly attributed to its high barrier properties and chemical resistance. Besides, aesthetic appeal owing to transparency, design and colour for the identification of brands has received accolades from a slew of industries.

Shifting consumer pattern towards consumption of lower volumes but higher quality wines will also have influence on the manufacturing of glass.

In a capital-intensive industry, glass manufacturing market has taken a massive stride in reducing its environmental

footprint through waste reduction, enhanced energy efficiency, innovative product development and increased recycling.

Glass manufacturers are gradually switching to hybrid, all-electric and other furnaces having influence on raw materials. Scientists from the Indian government-run Center for Nano and Soft Matter Sciences have introduced a hybrid production method combining a metal-oxide and metal mesh layer over a glass substrate, bringing down cost by 80 per cent. The glass is said to have the potential to cut down the production cost of devices such as touch screens and smart windows.

HOLLOW GLASS IS HERE TO STAY

Relentless and considerable investments in research and development pertaining to hollow glass have bolstered the market position of glass manufacturing industry. Automation has come to the fore and has seemingly fostered Industry 4.0 principles,

aimed at the optimization of the production process.

Stakeholders in hollow manufacturing industry are reaping rewards from advanced automation techniques and machine learning-based approach. They are developing state-of-the-art sensors and close-loop control systems which can automatically stabilize production and optimize performance.

Hollow glass is usually obtained through an industrial process, including melting, forming and annealing. Well-established players use technological innovation to leverage the computerized management and monitoring throughout the production cycle, thereby obtaining the quality of the finished product by keeping up with the aesthetic and functional needs of bottlers, consumers and distribution.

Even the smallest shock triggered by tooling tends to lead to crack, scratch during the production of hollow glass. In a bid to foil the attempt, all machine components which come into con-

tact with the hot glass, including conveyor parts, stackers, fingers are covered with heat-resistant separation materials.

AUTOMAKERS WARRANT HOLLOW GLASS

Recent developments that have unfolded in polymer composites have encouraged hollow glass industry players to provide greater flexibility in improving strength in line with weight reduction. Automotive industry is grappling with environmental concerns to bolster vehicle weight reduction without compromising on performance. To add to it, automotive industry is facing a real and perceived challenge of reducing fuel consumption and boosting the range of electric cars.

Hollow glass microspheres are profoundly used as reinforcing materials in a polymer matrix to produce light-weight composites with high mechanical proper-

ties. Automakers have exhibited inclination towards light hollow spheres given the traction for high weight reduction among OEMs. It is pertinent to mention that hollow glass microspheres boost properties such as low thermal conductivity, lightness and low dielectric constant. Automakers are touted to demand hollow glass – the positive business outlook will continue for at least next five years.

HOLLOW GLASS BECOMES A CATALYST IN THE CONSTRUCTION INDUSTRY

At the time when manufacturers are looking to meet emissions standards and weight reduction targets, low-density and high-strength hollow glass has come up as a top-notch solution to provide a class A finish.

Hollow glass has fuelled the trend in construction industry following the pressing demand for energy conservation wit-

nessed in recent years. With reduction of energy consumption gaining momentum, improvement of thermal insulation performance of building, especially of windows to prevent heat loss of buildings has bolstered the position of hollow glass in construction industry.

Hollow glass has become the linchpin for pollution prevention, dustproof, prevention of lamp-black, saving time and cost. Use of hollow glass for energy saving buildings has received accolades from stakeholders, including end-markets, investors, contractors and builders.

Application of glass reinforced panels, acrylics and polycarbonate for manufacturing glass will gain more impetus among customers. The ubiquitous nature and versatility of glass have made the material highly popular in automotive and construction sectors. Whether it is to use glass to make delicate looking fenestrations on facades and traditional windows or the advent of green technology in construction industry, hollow glass in particular, is relentlessly witnessing transformation.

As weight reduction is likened to conserving environment and saving money, glass manufacturers are pushing to the limits and have augmented the production of hollow glass as the material is gaining traction as a lighter and cheaper automotive component.

With weight reduction becoming the new normal, lightweight materials based on hollow glass will observe a compelling growth. Infusion of funds in hollow glass will complement innovations in automotive glass which counts on damage-resistant and lightweight windows. ■



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