



Good days for Indian architectural processed glass market

An extended slowdown of the Indian float glass market in recent years has failed to dampen the steady growth of the local processed glass market. Indian producers and downstream processors have steadily increased their installed capacity by adding new tempering, insulating, laminating and coated glass lines. On an aggregate basis, barring China, the country has more glass processing lines than most other Asian countries. Via discussions with key players, Sunder Singh tracked the sector's development for *Glass Worldwide*, preferred international AIGMF journal.

Comprising four primary producers/processors, about a dozen mid-sized processors and 65 small-scale processors, the Indian processed glass industry has added significant capacity in recent years.

Currently, the nation has 223 tempering, 82 insulating and 63 laminating lines in operation. Estimated in the range of INR 17-19 billion, the processed glass market has grown at a rate of about one and a half times of the economy in the past five years. The Indian economy grew at 6.6% in FY 2017-18, with an expectation to grow by 7.4% in 2018-19. In early 2017, India was projected to be the fastest growing economy in Asia but higher crude oil prices and bumps from financial and fiscal measures lowered growth rates to 6.6% in 2017-18.

The processed glass industry was also impacted by a series of one-off events, such as the implementation of GST (July 2017) and a demonetisation of currency (November 2016), which had a dampening effect on growth.

However, the economic outlook for 2018-19 is expected to be more buoyant, with the IMF projecting the Indian economy to grow by 7.4% and further accelerate to 7.8% in 2020. This would make India the world's fastest growing economy in 2018 and 2019, the top ranking it briefly lost in 2017 to China.

Low usage in residential segment

Whereas the use of value added/processed glass has gained immense popularity in commercial buildings in recent times, residential buildings, which account for almost 62% of flat glass consumption, still heavily use plain float glass. In the last three years, however, some newer residential properties have started to use processed glass but these buildings are only a fraction of total residential constructions.

Leading glass processors are optimistic about future demand. Gaurav Bansal, CEO of Merrut-based Allied Glasses told the author: "Until a decade ago, there was hardly any usage of processed glass in the Indian residential sector. However, high end residential properties have started using processed glass in an increasing manner. We expect this segment to contribute higher volumes in the future."

Good days ahead

Although the Indian glass processing industry has enjoyed steady growth, most told Sunder Singh that the growth phase has only just started. Sharanjit Singh, CEO and Managing Director of one of the largest glass processors in the country, GSC commented: "There is an enormous potential for processed glass industry in the country. Hitherto, demand was confined to large-scale commercial constructions. Even in mid-sized commercial constructions, developers and builders were either using plain flat glass or at most, ▶



Newer residential properties have started to use processed glass but these buildings are only a fraction of total residential constructions.

| Company | Manufacturing location(s) | Installed capacity | Technology suppliers |
|-----------------|-------------------------------|---|--|
| Sezal Glass | Silvassa | Four tempering lines, three insulating and three laminating lines | Glaston, Land Glass, LSEC, Bystronic, HOAF, Scholz and Intermac |
| Gold Plus Glass | Sonipat and Kala Aamb | Six tempering lines, five laminating and four insulating glass lines | Glaston, LSEC, Ekang Tech, Land Glass and Schiatti Angelo |
| GSC Glass | Greater Noida and Navi Mumbai | Six tempering lines, three laminating lines, three insulating lines, three ceramic printing lines and five ceramic fritting lines | Glasstech, North Glass, Scholz, Lenhardt, LSEC, Rujkan, DipTech, Giardina and AG Engineering |
| Fuso Glass | Chennai, Hyderabad and Mumbai | Six tempering lines, four PVB laminating lines with autoclaves, five IG lines and three ceramic fritting lines | Glasstech, Land Glass and North Glass |
| FG Glass | Mumbai | Four tempering lines, four IG lines and three laminating lines | Uniglass, Hegla and Landglass |
| Kochhar Glass | Bhopal | Four tempering lines, three IG lines and two ceramic fritting lines | Glaston, North Glass, LSEC and Land Glass |

Major tier I glass processors in India.



tempered glass. But now, even small retail establishments have started using insulating glass, with one pane of coated glass to reduce heat gains. With the gradual decrease in the price of high quality processed glass, rising awareness among consumers and increasing purchasing power of the vast middle class, processed glass demand has started to gain momentum. We anticipate that growth in the local processed glass industry will be at least twice the industry growth for flat glass in the next three years."

Sharanjit Singh's company, GSC Glass is one of the largest glass processors in the country, with facilities in Greater Noida and Mumbai, spread over 12 acres of industrial land. The company has a covered area of 300,000ft², a subsidiary in Belgium and various resident representatives in different cities.

The General Secretary of the New Delhi-based Federation of Safety Glass (FOSG) explained that processed glass consumption in India is still not driven by mandatory regulations or standards, adding that there is huge user segment in commercial construction that uses glass merely as a cosmetic finish to buildings and generally compromises on other performance and safety characteristics. "There is an urgent need to frame rules and regulations that ensure minimum standards are followed in the industry for safety, security and most importantly from the point of view of energy efficiency. With 40% of energy consumed in India by buildings, it is imperative that standards ensure we save up to 30%-40% energy from current unregulated practices by the use of modern processed glass products and systems."

Ramesh Chouhan, CEO and Managing Director of Chennai-based Fuso Glass commented: "The Indian glass processing industry is in the initial phase of growth. However, ours is a unique country with different geographical and climate zones, so there cannot be standard products or performance criteria as in European markets. In these conditions, the role of processors becomes very crucial to deliver value added products for customised solutions. The performance of any high performance coated product depends on processing quality."

With glass processing facilities in Chennai, Hyderabad and Mumbai, Fuso Glass is among the industry's

leaders. The company claims to have supplied glass for 18 airports in such cities as Delhi, Mumbai, Hyderabad and Bengaluru, as well as glazing for Infosys Technologies Campus, Hyderabad and Facade Glazing for Anna Centenary Library, Chennai. Meanwhile, Fuso has also supplied glasses to major IT parks of TCS and Infosys, as well as recently exporting 35,000m² of glass for the Vision Exchange project in Singapore.

Major players

A decade ago, glass processors were concentrated around the major metro cities of Delhi, Mumbai, Chennai, Kolkata, Bangalore and Hyderabad. Comprising approximately 80 companies, today however, the industry has spread to almost all corners of the country. As the use of processed glass has become more popular in tier II and tier III cities, a number of processors have set up establishments in these cities and towns. Most of these companies are still confined to processing tempering glass but they are expected to develop full-scale capabilities that embrace tempering, insulating and laminating glass in the future.

Tier I producers located in and around the major metro cities of Delhi, Mumbai, Chennai, Hyderabad and Bangalore lead the industry in terms of volume and value. These processors have been engaged in glass processing for more than two decades and have been able to establish state-of-the-art facilities.

With the emergence of a number of new glass processors in the last three years, the industry has become highly fragmented, with considerable emphasis on the acquisition of tempering capabilities. In the second half of 2018 alone, about 36 tempering lines are expected to commence commercial operations.

Anti-dumping duties for Chinese imports

In second half of 2017, the Indian government imposed anti-dumping duties on tempered glass imports from China for five years to protect the domestic industry from below cost imports.

The Indian revenue department has issued a notification imposing anti-dumping duty in the range of \$52.85-\$136.21 per tonne, a duty imposed on 'textured toughened (tempered) glass with a minimum of 90.5% transmission, having a thickness



not exceeding 4.2mm and where at least one dimension exceeds 1500mm, whether coated or uncoated. "The anti-dumping imposed shall be effective for a period of five years from the date of publication of this notification" according to the notification.

Investigations by the Directorate General of Anti-Dumping and Allied Duties (DGAD) had found that the tempered glass has been exported to India from China below its associated normal value. Also, it concluded that the domestic industry has suffered material injury, which was caused by the dumped imports of goods from China.

Primary producers and processors

Two of the largest float glass processors, Saint-Gobain and Asahi Glass India are also leading glass processors in India. Both companies have invested extensively in setting up state-of-the-art glass processing facilities at multiple locations in the country to cater to for steady demand for processed architectural glass.

Two other companies, Sezal Glass and Gold Plus Group were initially exclusively glass processing companies but both subsequently established their own float plants. Sezal Glass later sold its float glass operations to market leader Saint-Gobain India.

Asahi Glass

India's second largest float glass producer, Asahi Glass is also a major processor. The company operates architectural glass processing plants in Roorkjee, Chennai and Taloja. Its products include heat reflective glass, energy efficient reflective glass, solar control glass, upvc windows, tempered burglar-proof glass, lacquered glass, frosted glass, sound-resistant glass and impact-resistant glass. In addition to glass processing, the company has facilities for mirroring, as well as hard and soft reflective coatings. ▶



| Company | Location | Zone | Products |
|---------------------------------|--------------|---------|---|
| Allied Glasses | Meerut | North | Tempered, laminated and insulating glass |
| Hindustan Glass Works | Allahabad | North | Tempered and insulating glass |
| Gurind Glass India | Noida | North | Tempered glass |
| Mehr Image Pvt Ltd | Noida | North | Tempered and insulating glass |
| Nanda Glass Industries | Noida | North | Tempered glass |
| Birkana Engineering Industries | Ghaziabad | North | Tempered, insulating and laminating glass |
| Structural Glazing & Insulation | Lukhnow | North | Tempered and insulating glass |
| Art N Glass | Delhi | North | Tempered, laminated and insulating glass |
| Keenat Glass Works | Delhi | North | Tempered glass |
| Sheesh Mahal Tuff Glasses | Rohitak | North | Tempered and insulating glass |
| Dura Tuff Glasses | Bahadurgarh | North | Tempered glass |
| Chandra Lakshmi Glasses | Rai, Sonepat | North | Tempered and insulating glass |
| Swastik Toughened Glass | Sonepat | North | Tempered glass |
| Mico Glass Industries | Gurugram | North | Tempered, laminated and insulating glass |
| Surbhi Glass | Gurugram | North | Tempered glass |
| TL Verma & Co | Baddi | North | Tempered and insulating glass |
| J K Toughened Glass | Jallandhar | North | Tempered, laminated and insulating glass |
| Ridhi Sidhi Glasses India | Jaipur | North | Tempered, insulating, laminating and ceramic coated glass |
| Jaipur Toughened Glass | Jaipur | North | Tempered glass |
| Shree Neelkamal Glasses | Jaipur | North | Tempered glass |
| Aaimaa Industries | Jodhpur | Central | Tempered glass |
| Wadhwa Glass | Rajpur | Central | Tempered and insulating glass |
| Shree B K Glass | Rajpur | Central | Tempered and insulating glass |
| Sahil Glass Industries | Indore | Central | Tempered glass |
| Jajoo Architectural Glass | Vadodara | West | Tempered and insulating glass |
| Bhatia Glasses | Thane | West | Tempered and insulating glass |
| Glasstech Industries Limited | Mumbai | West | Tempered, laminated and insulating glass |
| Tuffglaze India Pvt Ltd | Mumbai | West | Tempered and insulating glass |
| V Tuff Glasses | Mumbai | West | Tempered and insulating glass |
| Hard Glass Ltd | Mumbai | West | Tempered glass |
| Alpha Safety Glasses | Nasik | West | Tempered glass |
| Dadakrupa Glasses Pvt Ltd | Nagpur | West | Tempered glass |
| Veeral Safety Glasses | Pune | West | Tempered, laminated and insulating glass |
| Nanda Glass Industries | Pune | West | Tempered and insulating glass |
| Shree Rang Glass | Ahmedabad | West | Tempered, laminated and insulating glass |
| Gujarat Toughened Glass | Ahmedabad | West | Tempered glass |
| Rio Glass Ltd | Rajkot | West | Tempered glass |
| Impact Safety Glass Works | Bengaluru | South | Tempered, laminated and insulating glass |
| ABC Group of Companies | Bengaluru | South | Tempered, laminated and insulating glass |
| Balaji Safety Glasses | Bengaluru | South | Tempered and insulating glass |
| Toughglass India Pvt Limited | Bengaluru | South | Tempered and insulating glass |
| Arihant Safety Glass | Bengaluru | South | Tempered and insulating glass |
| Toughglass India Pvt Ltd | Bengaluru | South | Tempered glass |
| Prakash Glass & Rubber Works | Hyderabad | South | Tempered, laminated and insulating glass |
| N N Safety Glass | Hyderabad | South | Tempered and insulating glass |
| Nandi Tuff | Hyderabad | South | Tempered glass |
| Annex Glass Works | Hyderabad | South | Tempered glass |
| Galaxy Glass Works | Chennai | South | Tempered glass |
| Manchu Toughened Glass | Chennai | South | Tempered glass |
| Sure Safe Glass Works | Kolkata | East | Tempered, laminated and insulating glass |
| Saraf Glass Works | Kolkata | East | Tempered, laminated and insulating glass |
| Brite Glass Works | Kolkata | East | Tempered and insulating glass |
| Bharat Safety Glass | Jamshedpur | East | Tempered and insulating glass |
| Glass India | Guwahati | East | Tempered glass |

Major tier II glass processors in India.



GlasXperts is the architectural arm of the company for glass design and installation services for the retail sector. According to Asahi India's management: "GlasXperts is a one-stop for 360 degree solutions, which integrate specialised glass knowledge in design, selection and installation of glass in homes, offices and other commercial establishments. GlasXperts leads the way in providing innovative concepts and cutting edge solutions in living glass. It meets the needs of consumers for modern, eco-sensitive aesthetics with a full spectrum of world class, high quality branded glass products, fittings and systems, with assured safety and its hassle-free services."

Saint-Gobain India

The country's largest float glass producer, Saint-Gobain India too has invested heavily in glass processing facilities. The company operates state-of-the-art processing facilities at its Chennai and Biwadi plants. ●

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