



MAGNUM  
TUFF

STRENGTH and TRANSPARENCY



**Annasaheb S. Jolle**  
Chairman

### CHAIRMAN'S DESK

It gives me immense pleasure to announce that Jolle Group is starting its new venture by the name 'Magnum Tuff India Pvt. Ltd.' A state of the art glass processing industry.

Magnum Tuff India Pvt. Ltd. is situated in Belgaum District, built on a 6.25 acres land with 1 Lakh Sq. Ft built-up area, which makes it the largest Glass Processing Facility in South India. I am proud to say that our fully automatic pre-processing line is first of its kind in India.

Magnum Tuff is an allied institute of 'Jolle Group'. Jolle Group was started 30 years back and today it has become a huge conglomerate with its presence in 7 different verticles. Jolle Group has a strong presence in the Finance sector with more than 200 Co-operative society's in Karnataka and Maharashtra. It also has entered in to other sectors like Education, Renewable Energy, Real estate, Manufacturing, Mining, Hospitality etc.

We started a small architectural glass processing unit in Belgaum 7 years back, and saw a huge potential in this sector and that's why we took a huge leap by starting Magnum Tuff. This is the outcome of our commitment to serve our clients with highest quality, on time delivery and commitment to give our clients a world class experience.

I am thankful to all our clients for their support and also to my team, without their commitment and dedication we wouldn't have achieved this milestone.

I am very confident that Magnum Tuff India Pvt Ltd will make its mark in the toughened glass industry in the future.

We look forward to your association and support.



**Basavprasad Jolle**  
Managing Director



**Jyotiprasad Jolle**  
Director

### Annasaheb S. Jolle

Chairman & Founder - Jolle Group  
Chairman - Magnum Tuff India Pvt. Ltd.



## **LEADERSHIP WITH TRANSPARENCY**

Magnum Tuff is synonymous for quality.

The first thing that strikes our mind when we hear about Magnum Tuff is quality, coupled with durability and strength. Our transparent attitude to deliver quality products is what separates us from the crowd. Optimizing the efficiency of manufacturing processes, ensuring safety and staying in tune with technology and knowledge is what pursue in our organisation.

## **VISION**

Our vision is to be the leading manufacturer of toughened glass, suitable for the Architecture and Automotive industry.

## **MISSION**

We believe in maintaining a customer-centric approach, providing superior quality glass products and solutions at competitive prices and meeting the needs of the customers. We are working to achieve this with commitment, sincerity and dedication.

## Our Speciality Products

### ARCHITECTURAL

- Tempered / Toughened Glass
- Heat Strengthened Glass
- Heat Soaked Glass
- Bent Tempered Glass
- PVB/SGP Laminated Safety Glass
- Ceramic Printed Glass
- Smart Glass/Privacy Glass
- Fire Resistance Glass
- Insulating Glass/(DGU)
- Frosting Glass
- Bullet Resistance Glass
- High performance Glasses
- Curved tempered Glass
- Curved laminated safety Glass
- Curved insulated Glass
- Privacy Glass

### AUTOMOTIVE

- Bus Laminated Wind Shield Glasses
- (Scania/Volvo/Veera/MG/etc)
- LCV wind shield Glasses
- Car and Wind Shield Glasses
- Bullet resistant Glasses for ARMORED VEHICLES/VIP CARS
- Bus Side Ffix / Sliding Toughened Glass
- LCV side Glasses
- (Wind Shield, Door Glasses, Quarter Glasses, Backlites)
- Roof Hatch Glasses

### Certification

- BIS Certified
- ARAI Certified
- DOT Mark
- ISI Mark
- E Mark
- ISO 9001
- TS 16949

### Lab facility

- EN 12150 for Toughened Glass
- EN 12543 for Laminated safety Glass
- EN 1279 for Insulating Glass
- EN 14179 for Heat soaked Glass
- IS 2553 : PART 1 : 2018 for Architectural Glasses
- IS 2553 : PART 2 : 2019 for Automotive Glasses

## CNC Glass Cutting Line With Auto Loader



The first step in processing any glass is getting the glass cut.  
CNC automated glass cutting saves labor, materials and increases productivity.  
Any regular and irregular shape drawn in AutoCAD with DXF file can be cut with high precision

Machine Make: Bottero, Italy
Machine process Capacity
Maximum size: 3000 x 6000mm
Minimum size: 300 x 300
Precision: 0.5mm
Loading Station: 4 nos
Scanning Option: Yes



## Double Edger Grinding Machine Line



Glass Edges are blunt and Sharp after Cutting so they need to be grinded for safe handling. Double Edger line has two Grinding Heads and each head have 10 pairs of Grinding and Polishing wheels. Glass is then transferred from head 1 to head 2 through auto transmission table. The Precision of grinding is  $\pm 0.5\text{mm}$ . With the Grinding L-shape line productivity is high.

Machine Process Capacity
Maximum size: 2440 x 4880mm
Minimum Size: 300 x 300mm



## Horizontal Glass Washing Machine



Preprocessed glasses have burr, sludges and dirt on the surface so it needs to be washed. Our machine has three pairs of brushes ( $\phi 160\text{mm}$ ) with SS304 shaft. (Wash LOW-E glass, ordinary coated and solar coated glass without any scratch on surface). Machine Blower has air filter in air inlet, big airflow and excellent drying effect. DM water is used to wash glasses.

Machine Process Capacity
Maximum Size: 2440 x 5000mm
Minimum Size: 300 x 300mm

## Horizontal Seaming Machine



The automatic horizontal seaming machine is used to remove the sharp edges of glass before tempering by grinding all four sides using four separate individually controlled heads each with four grinding wheels. Corner dubbing is also an option. The TWM horizontal seamer automatically adjusts for different glass sizes and thicknesses and is connected directly in line with a horizontal washing machine.

Machine Process Capacity
Maximum Size: 2440 x 5000mm
Minimum Size: 400 x 700mm

## Ceramic Screen Printing Machine Line



The application of fused colour glass provides architects with the ability to complement or contrast the vision glass used in today's modern buildings. The coloured frit used in this process consists of glass flux (70 - 95%) and ceramic pigment (5 - 30%). The manufacture of Colourlite involves 'screening' the selected coloured ceramic paint on to one side of the glass. This method of application ensures total and complete coverage of the glass surface. Once the colour has been applied, the glass is then heat treated with the heat generated within the furnace sufficient to melt the frit into the glass substrate.

Machine Process Capacity	
Minimum size:	350mm x 350mm
Maximum size:	1500mm x 2700mm

## Waterjet Machine



WaterJet cutting uses an ultra-high pressure stream of water to carry an abrasive grit. The abrasive does the cutting through a mechanical sawing action, leaving a smooth, precision cut surface. WaterJet is the most versatile process, because it is able to cut almost any type of material. Limitations include materials that are highly brittle, such as tempered glass and some ceramics. WaterJet is a very precise cutting process. It has a narrow kerf width, allowing fine contours to be cut, and producing high tolerance parts.

Machine Process Capacity	
Maximum size:	2000 x 4000mm
Minimum Size:	300 x 300mm



## Flat Tempering Machine



Machine Name: FLAT TEMPERING MACHINE
Make: LandGlass LD-A2450U
Machine processing Capacity
Thickness: 4mm to 19mm
Maximum Size: 4880 x 2440mm
Minimum Size: 300 x 300mm
Type of Glass: Clear, Tinted, Ceramic frit, all reflective and low E glass(0.01 Emissivity)
Quality Standard complies: EN12150, ASTM1048C

### Toughened Glass

The cut-to-size glass sheets are fed from the loading conveyer into the furnace where it oscillates back and forth on ceramic rollers until it reaches approximately 620°C. Progressing from the furnace, the glass moves into the quench where it is rapidly cooled by blasting both sides with air. This 'snap cooling' or quenching induces compressive stresses to the glass surface while the centre remains in tension. Although the physical characteristics remain unchanged, the additional stresses created within the glass increases its strength by 4 - 5 times that of annealed glass of equal thickness.

### Heat Strengthened

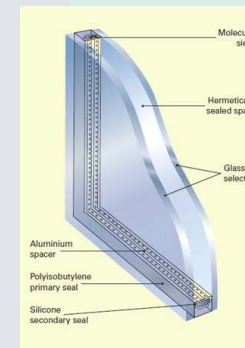
The process is similar to that of toughening, however in this instance the glass is quenched at a slower rate. The result is lower compressive stress, increasing the strength to only twice that of annealed glass of equal thickness.

## Insulating Glass Unit / Double Glazing Unit



Toughened glass is moved vertically along a conveyor through a washing and inspection process which ensures that the glass is thoroughly clean and free of defects. The hollow aluminium spacer is then shaped to suit with a slug of Polyisobutylene applied to both sides providing the primary seal and an excellent vapor barrier. The spacer, which is filled with molecular sieve (desiccant) to prevent condensation from forming after sealing, is positioned between the two panels of glass and then pressed together. Finally the silicone secondary seal is applied to the perimeter void around the unit.

Make: Hanjiang, China
Machine processing Capacity
Maximum Size: 2440 x 3660mm with single press and 2440 x 5000mm with double press
Minimum Size: 300 x 300mm
Step Glaze: 3 and 4 side step
Silicon Sealing: Robotic
Quality Standard Complies: EN 1279



## Bend Tempering Furnace

Machine process Capacity
Maximum Size: 1500 x 2440mm
Minimum Size: 300 x 300mm
Maximum Radius: R10000
MiniumRadius(4-5mm): R750
Minimum Radius (6-12mm): R1000



## Lamination Line With Autoclave



Machine Process Capacity
Maximum Size: 2400 x 5000mm
Minimum Size: 200 x 300mm
Autoclave Size: 2400 x 6000mm
Quality Standard Complies:
EN 12543, C 1172 - 03 & ASTM C - 1036

### Autoclave

Heating and cooling:  
Centralized and Even heat distribution system  
Production capacity: 250 sqm/cycle

The manufacture of laminated glass commences with the glass being thoroughly washed and dried before passing into an air conditioned 'clean room'. Here the humidity and temperature are strictly controlled, with operators wearing special lint-free headgear and clothing, to ensure the atmosphere is free of dust, moisture and debris of any description. A PVB interlayer, initially translucent in appearance, is sandwiched between the glass, which is then passed through pressurized rollers and heating ovens. This pre-nip, de-airing process removes air trapped between the glass and the interlayer(s) as well as softening the PVB to give initial adhesion or pre-tacking. The glass is then autoclaved where it is again heated and subjected to extreme pressure (between 8 and 12 BAR) permanently bonding the glass and the interlayer. It is during this final process that the glass becomes completely transparent.



## Serial Bend Furnace For Automotive Glass



This machine is used for bending the bus windshield glasses. All kinds of glasses can be bent e.g. Deep bending, Complex bending either it is Scania or Volvo and other typical windshield glasses. It has Seven Wagon, can be bent seven type of glasses continuously. 40-50 nos. of glasses can be bent in 24 hours. It is fully controlled by PLC system.

Machine Process Capacity
Maximum Size: 2500 x 3500mm

## Automotive Preprocessing Line



Auto preprocessing line is one of a kind in India. Auto processing line includes CNC cutting, CNC Grinding and CNC Drilling. All the 3 machines are interfaced and integrated, so they work as a single machine. This machine works with minimum manpower, maximum output with high precision.

Machine Process Capacity
Maximum size: 1800 x 1300mm
Minimum Size: 500 x 450mm

## COMPLETED PROJECTS



Delta, Mangalore



KIIMS, Hubli



Tata-Hitachi Plant, Dharwad



Alexandria MNG



Mangaluru International Airport



Medical College, Anantpur



Soliter, Anantpur



## COMPLETED PROJECTS



Pride Icon, Belgavi



Marvel Artiza, Hubli



SKS, Mangalore



Medical College, Bellari



Aluwind Northenskyman



Belagavi Airport



Works



Plant-1



Corporate Office



■ **Works:**

Naingalaj cross, Nipani-Chikodi Road, Naingalaj,  
Belagavi 591238, Karnataka, India  
Tel: +91 91489 83688, +91 96633 96746  
Email: [info@magnumtuff.com](mailto:info@magnumtuff.com)

■ **Corporate Office:**

Naingalaj cross, Nipani-Chikodi Road, Naingalaj,  
Belagavi 591238, Karnataka, India  
Tel: +91 91489 83688, +91 96633 96746  
Email: [contact@magnumtuff.com](mailto:contact@magnumtuff.com)

■ **Plant-1:**

R.S. No. 681, B, Near Dutch Industrial Estate,  
R. C. Nagar, Udyambag, Belgavi - 590 008,  
Karnataka, India.  
Tel: +91 831 4217190

[www.magnumtuff.com](http://www.magnumtuff.com)

For Enquires Contact: 91489 83688, 96632 23737, 96632 25454