

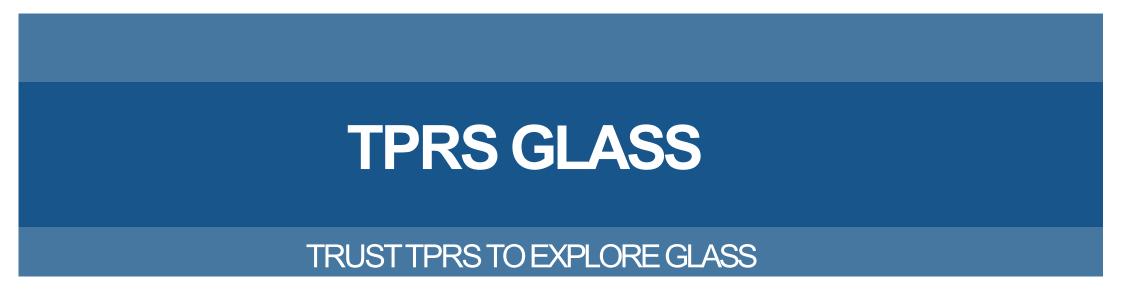
.tprsenterprises.in

# TRUST TPRS TO EXPLOREGLASS

B TPRS GLASS



We are a trustedArchitectural,Automobile, Elevator, Escalator and Appliances Glass solutions provider in India. We hold maximum market share inAutomobile OE Segment, Architectural Segment and Elevator segment. We also exportAutomobile andArchitectural glasses to UAE, UK,African andAsian countries.



TPRS is a 1000+ member family and we specialise in toughened safety glass, laminated safety glass, screen printed safety glass, digitally printed safety glass and insulated glasses for Architectural, Automotive Elevators and Escalators segment. We have obtained necessary certifications viz. ISO 9001 : 2015, E Marking, IATF 16949, COP,ISI 2553 Part I & II, CE Marking,AS 1288:2006, DOW Corning Quality Bond Certification.

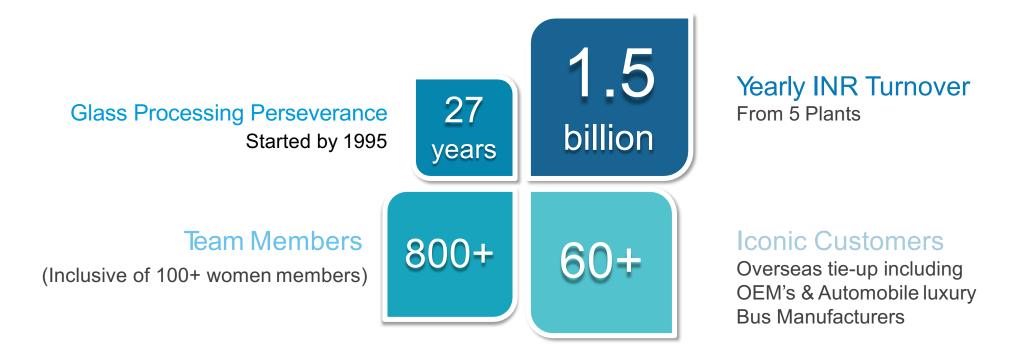
We have many established laboratories in which all the testings are conducted in line with required standards. We support rapid new product development, supply quality products and adhere to delivery commitments and we value our customer satisfaction which is a driving force in all walks of ourdevelopment.

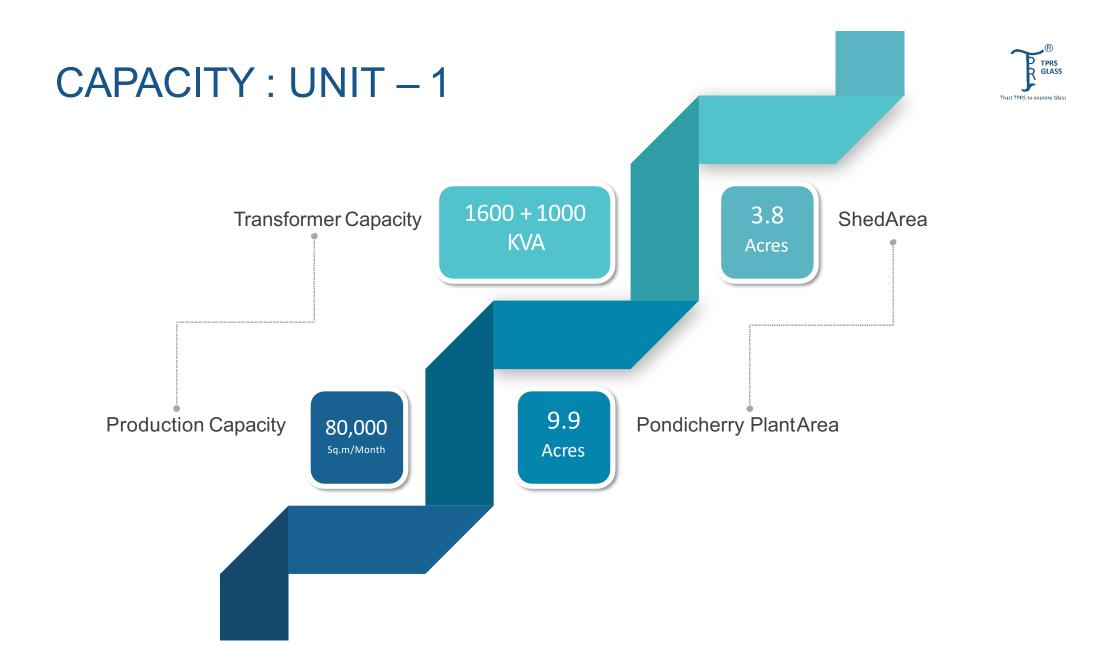


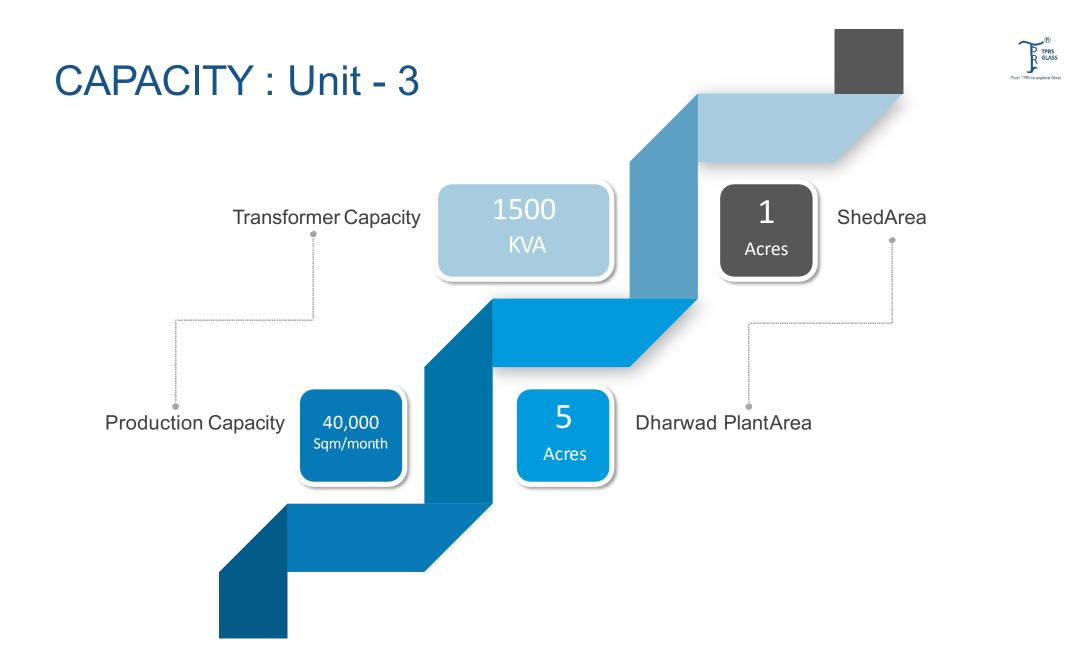
# Highlights

TPRS GLASS

#### **ANYTHING IN GLASS**



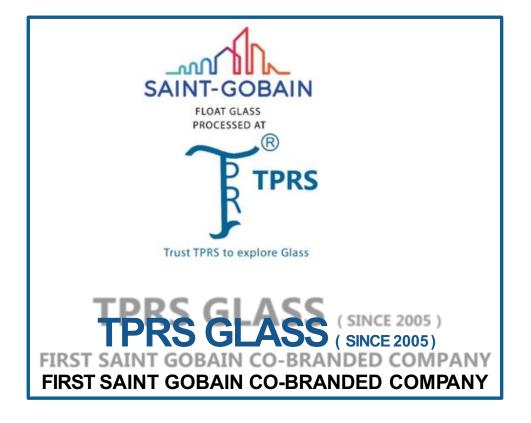






# SAINT GOBAIN ASSURED QUALITY

- We are validated for entire range of performance glasses of Saint Gobain
- TPRSholds all low Eperformance
  glass of Saint Gobain
  - Planitherm (PLT)
  - Nano (KT)
  - Nano Silver (KS)
  - Envision (SKN)
  - Xtreme
- We have done projects in all the above mentioned glasses

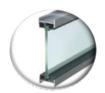


# RANGE OF PRODUCTS



#### Automotive W/ Frame

- Sliding W/F
- Top Fixed and bottom Sliding W/F
- Glass in Glass concept



#### Single Glazing Unit

- Bend
- Beveling
- Switchable Glass
- Toughened / HS
- Solar glass
- Frosted Glass



### Double Glazing Unit

- DGU with Blinds
- Lamination-DGU
- Georgian Bars
- Custom Shapes



### **Digital Printing**

- Textures
- Patterns
- Translucent
- Customized Images

#### **Ceramic Printed Glass**

- Anti Skid
- Gradation
- Any RAL colors



#### Laminated Glass

- Mesh Lamination
- Acoustics
- Colored PVB
- Bend Lamination





TPRS

GLASS

# AUTOMOBILE CAPABLITIES

TOUGHENED GLASS – (Two Processing Lines – PY & DWD)

**WINDSHIELD** 

FRONT

WINDOW FRAME

**Processing line** 

(Four Furnaces, Forvet Machine Seamer Machine) **CAPACITY: 3500 buses** per month We have achieved up to 2600 buses/month.

**CAPACITY: 4500 Buses** per month We have achieved up to 3500 Buses/Month

This includes AC and NON AC Buses

CAPACITY: 1500 Buses per month

We have achieved up to 800 Buses / Month

Frame manufacturing and assembly inhouse.

**4 Furnace** for tempering in which 3 furnace have bending facility (R2000 to R33000)

Forvet Machine for rapid and precise drilling and milling

Seamer Machine for automatic grinding

Water Jet machine for precise cutting of unique shapes

**Screen Printing – 3** – Screen development till printing inhouse



Capacity :

Maximum lamination of **2300 mm × 4700 mm** with PVB / SGP – Double / Multi layer

#### Capacity :

Machine processing line : 2400 mm × 3500 mm

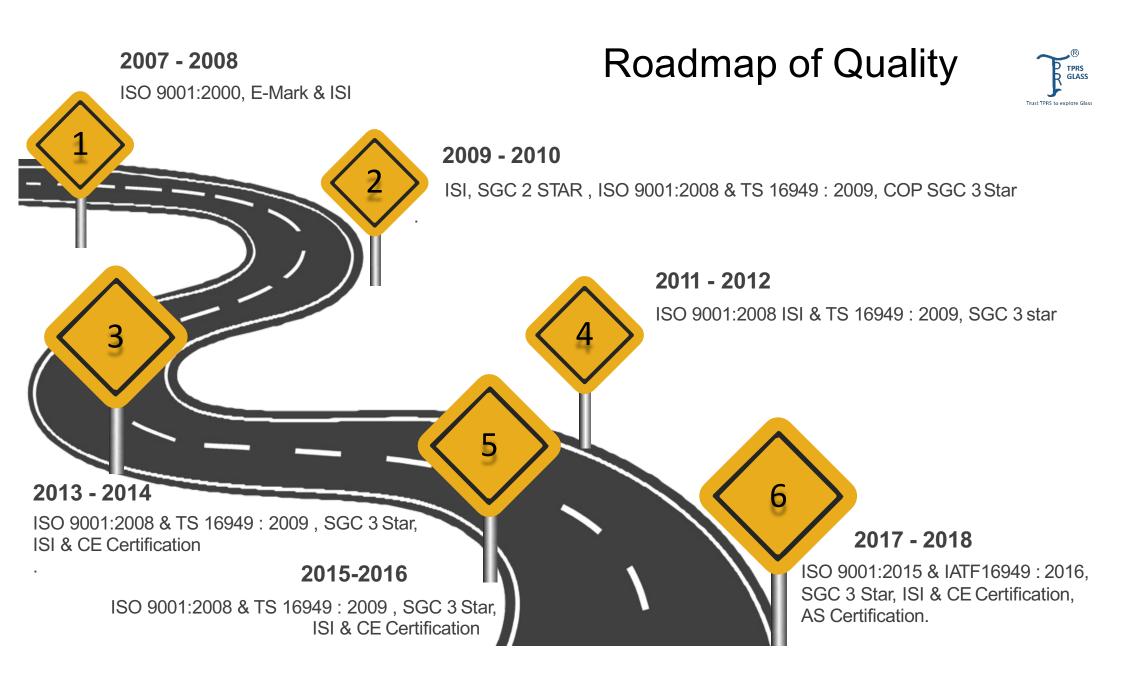
Manual processing line : 2400 mm × 4500 mm

#### Capacity :

Maximum size for screen printing : **2400 mm × 3800 mm** Maximum size for digital printing : **2400 mm × 4700 mm** 

#### Forced convection based tempering lines

Heat soaking facility to ensure the best toughened glass





# **TPRS LAMISAFE**

- Customized bend lamination
- SGP interlayer for effective impact resistance
- TPRS Wizard glass Switchable glass
- Color and transparent laminated panels
- Mesh laminated panels

**Capacity :** Maximum lamination of 2300 mm × 4700 mm with PVB/ SGP-Double / Multi layer

#### 12,000 Sq. Meters + of glass per month

Upgraded technology with dust-free clean room (100,000 class) and autorewinding and motorised PVB pulling structure to protect the PVB's quality while laying on glass

# Standard quality test Lamination



Boil test

Optical distortion test

Secondary image test

UV chamber test

Penetration test

Impact resistance test





#### **Quality Tests**

Head form

test Pummel

Pendulum test

Light transmission test

Fracture and Adhesion

test



# **TPRS ECOSAFE**

- Customized bend IGU
- \* Argon filled panels for effective insulation
- ✤ IGU with Georgian bars
- Heavy laminated panels
- Intricate shapes of DGU
- ✤ IGU with sleeves

Specialized processing line : 2400 mm × 4500 mm

12,000 Sq. Meters + of glass per month

Specialized process for intricate shapes and designs - Bend IGU - Step Glazing and triple glazing also available

Robotic Sealant facility for insulating panels - ensuring smooth and aesthetically superior glazing finish

# TPRS ECOSAFE

IGU highlights

More than 10 years of expertise in IGU

Serviced 1million SQM + of IGU glass



# Standard quality test



### **Quality Tests**

Peel adhesive test

Butterfly test

Dew test

Desiccant test

Argon Gas

Analyser





### **Quality Tests**

Ratio test

Parallel test

Vacuum test

Shore A hardness test

Elasticity test



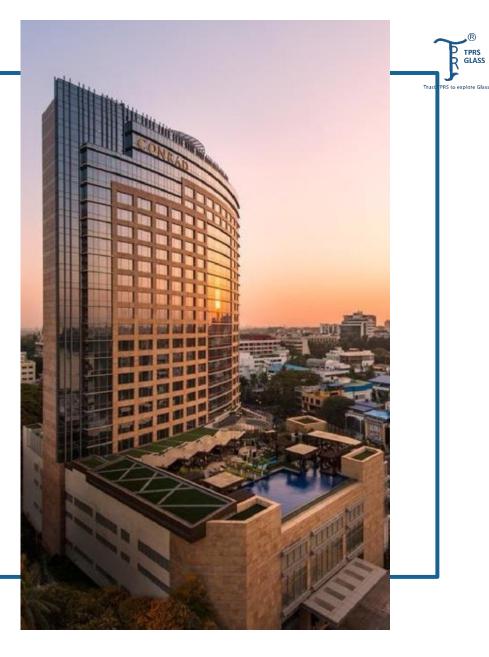


### TPRS'S HIGH QUALITY ECOSAFE GLASS

IS ASSURED BY DOWSIL

We practise and maintain regular testing of IGU. To assure our process and product quality Dowsil has provided their quality bond certificate by regular audit.

We are the only processor in South India to hold Dowsil's quality bond certification



# TPRS **DIGITAL PRINTING**

Only Indian processor – World's prestigious (Ferro – DIPTECH GPI) digital ceramic printing machine for glass



Inhouse design and graphics team



# TPRS WINDOW FRAME

Window Frame highlights

More than 10 years of expertise in W/F Serviced more than 50,000 buses

Only Indian glass solution provider to have inhouse window frame unit for Automobiles

First Indian processor to have glass in glass solution for buses





# **TPRS WINSAFE**

- Sliding Window with Glass
- Top Fixed and Bottom Sliding window with glass
- ✤ Glass in Glass Window

2000mm X 1600mm

#### Capacity : 1500 Buses/Month

At present we are doing 800 buses/Month and in this 450 buses are with glass in glass concept.

End to End Inhouse Integrated Process

# Standard quality test

## Window Frame

#### **Quality Tests**

Peel adhesive Test

Mechanical Strength Test

Fatigue Test

Corrosion Test





#### **Quality Tests**

Water Spray Test

Vibration test

Tubular Impact test

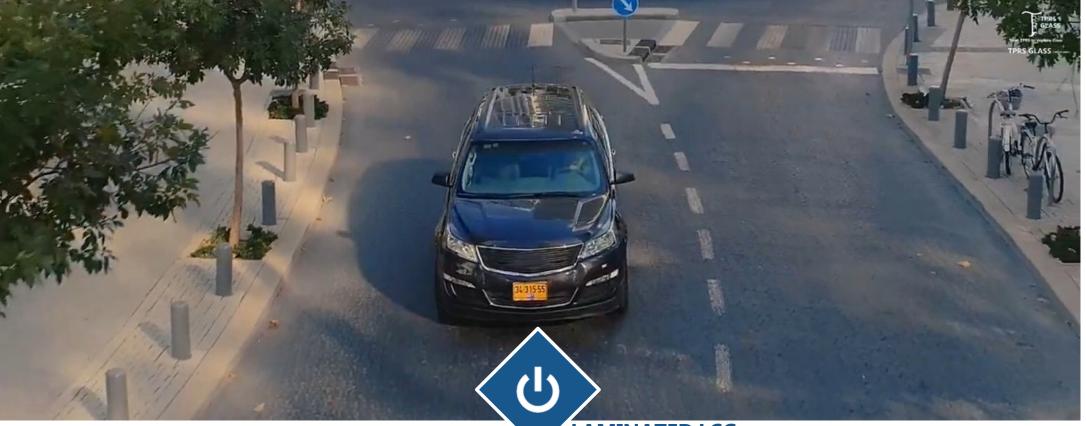
Coating Thickness Measurement Test



# **TPRSARCHSAFE**

- Toughened bend glass
- Single-axis bend glass
- Multi-axis bendglass
- Laminated bendglass

#### **INHOUSE DIE MAKING TEAM FOR YOUR UNIQUE DESIGNS**



# **DYNAMIC WINDOWS**

Dynamic glass that switches from transparent to varying degrees of opaque

#### LAMINATED LCG

Blocks 99 % of light

Dimming for dynamic shading and complete control

Maintain views to the outside

Reduce Glare and harsh sunlight

Mitigates lighting, heating and cooling expenses for energy control

### LAMINATED LCG

Ultra-low haze with customized thickness

Seamless cutting, laminating and installation process

Embedded for durability, reliability and innovative mobility solutions

Easy maintenance and cleaning

Custom integration with IOT and any mobile applications

# **HYBRID DISPLAY**

Dynamic glass that can be used as digital banner

# **APPLICATION OF SMART SOLUTION**



# INNOVATIVE SOLUTION

Informative safety signs on rear windshield to communicate safety messages

In association with Daimler the smart car can be used as display to project time and location, which would get disconnected when engine starts

INNOVATIVE PROJECTS ACROSS GLOBE

# **FUTURISTIC SOLUTION**

Transparent solar glasses can be used as sustainable energy generation

Bullet proof glasses would ensure the maximum safety of a passenger

INNOVATIVE GLASSES UNDER DEVELOPMENT





# **HEADS-UP DISPLAY**

Heads up display can be used for effective and futuristic driving experience.





1. QUALITY Qualified engineers to ensure product & process complianceto international standards

Product documentation and procedures



2. INHOUSE DEVELOPMENT TEAM

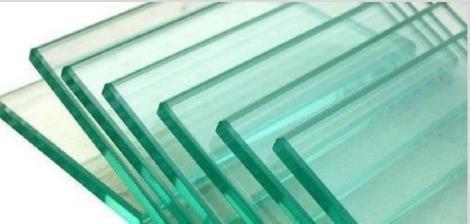
Inhouse graphic design team Inhouse product development team

Inhouse die making team for curvedglasses









3. PRECISION CUTTING & CUTOUTS CNC cutting machine, waterjet machine, Forvet machine for highly precise cutting

#### 4. FINE FINISHING & FINEPOLISHING

WorkCentre machine, CNC polishing and various machining process to achieve all your requirements with complete aesthetics









5. PRINTING We print durable single or multi-colored textures, designs or photorealistic images to merge with your theme 6. LAMINATION

Step lamination & multi-layered lamination







### 7. SWITCHABLE GLASS

Switchable glass for easy transition



8. CURVED LAMINATED GLASS

Curved panel for greatervisibility We have inhouse die making team to provide endless solutions









#### 9. PACKAGING & LOGISTICS

All type of safety package done inhouse

Fleet of vehicles for timely delivery at your end

#### 10. CRYSTAL CLEAR VISIBILITY

TPRSis specialized in processing glasses with minimal distortion



# CERTIFICATIONS

TPRS GLASS

Trust TPRS to explore Glass

We are certified under Indian, European and AustralianStandards



## PASTED GLASSES For Buses and Earth moving Equipment







TPRS GLASS

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Bend Laminated and SGU Panel for spider glazing curved facade

TPRS GLASS



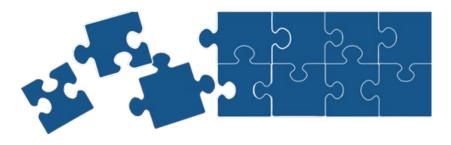
## EQUTEN OX PROJECT

We are currently working on the most prestigious Syntel ( **Architect** : Edifice Architect Pvt. Ltd **Consultant** : Synergy Façade consultant )

We have committed to supply IGU glass with less than 0.0768 mm waviness









#### WHITE GOODS

Large electrical goods used domestically such as refrigerators and washing machines, glass stoves, and appliances typically white in color.

#### **ELEVATORS**

Vertical transportation machine that moves people or freight between floors

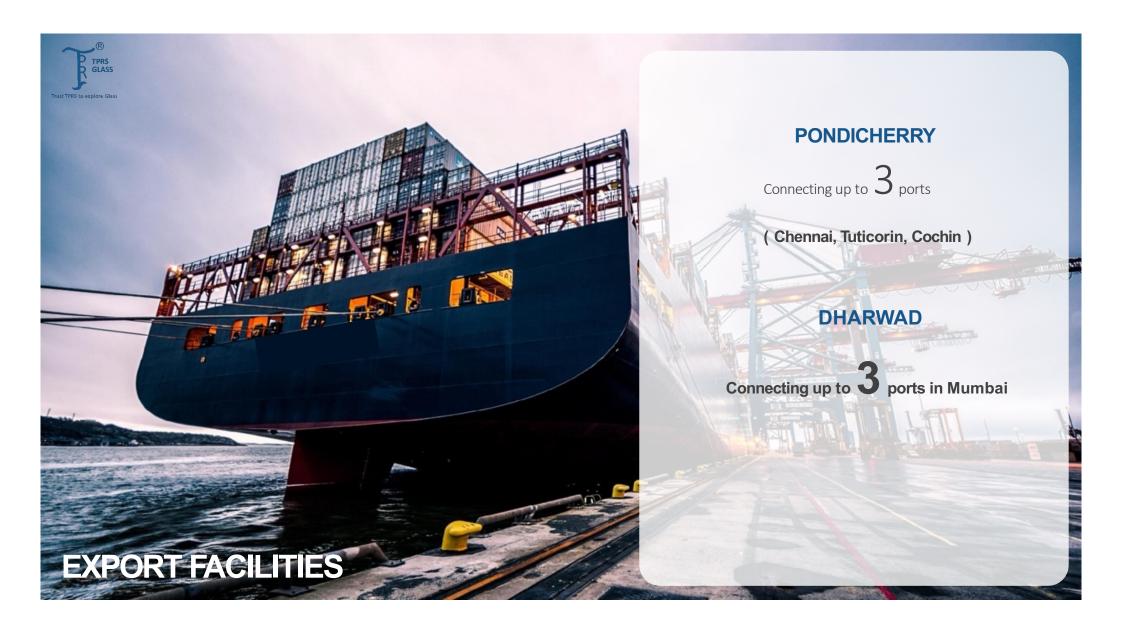
#### **ESCALATORS**

An escalator is a moving staircase which carries people between floors of a building



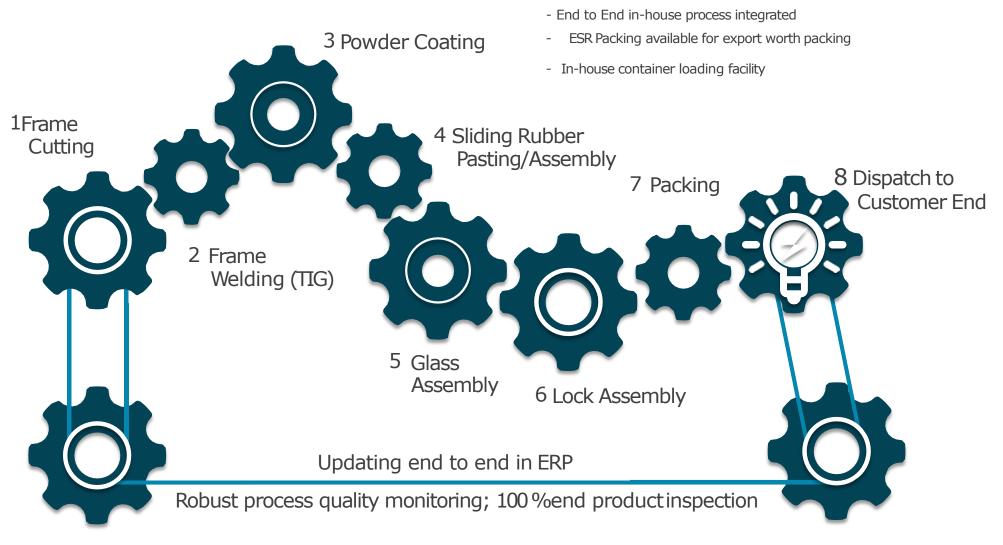
**ENGINEERING GLASS** 

Glass for equipment's



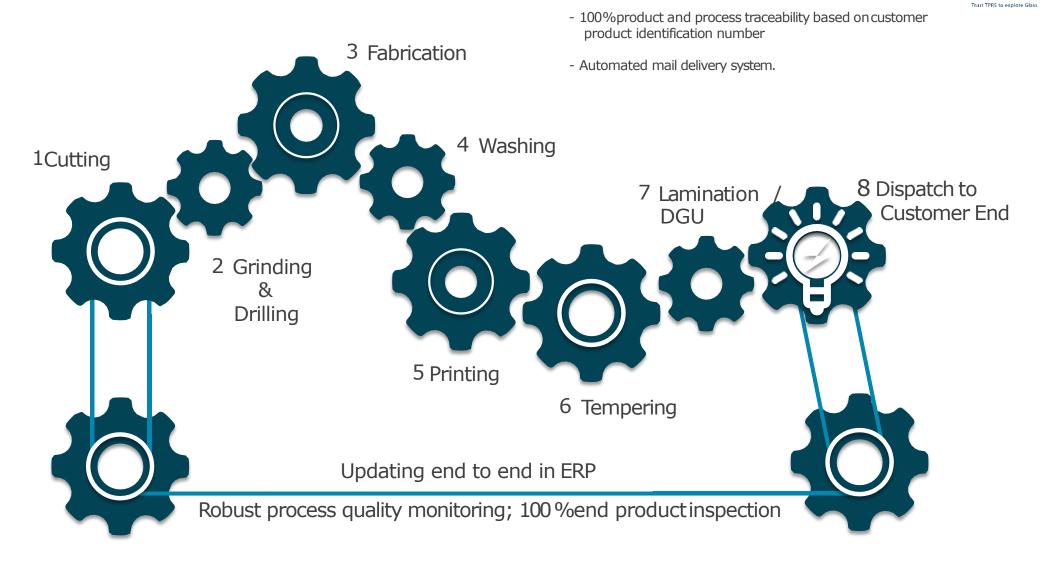


## Window Frame -Production Process Flow



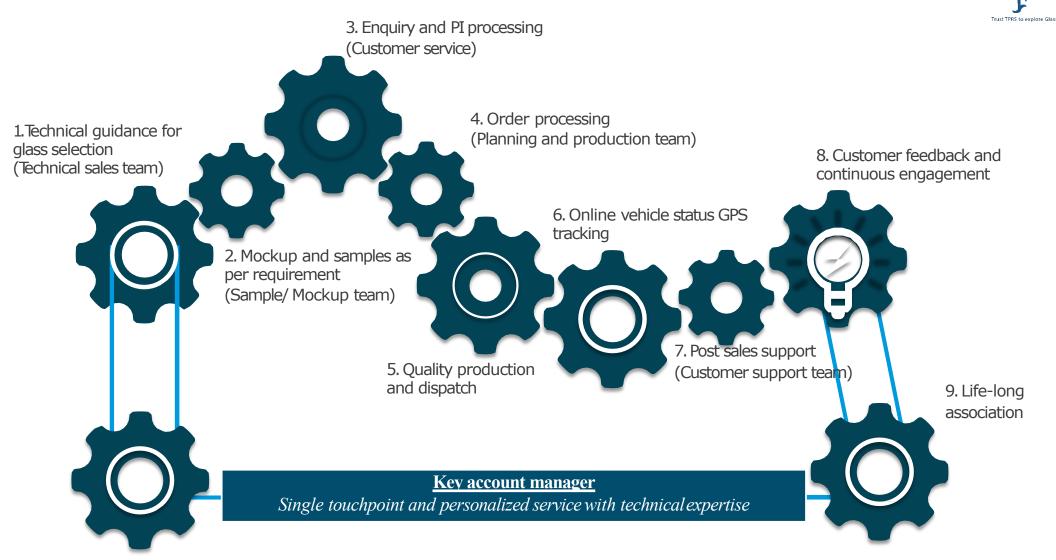
### **Production Process Flow**

TPRS GLASS



### Sales Process Flow

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### **Automobile Customers**

















### **Architectural Customers**

TUFF

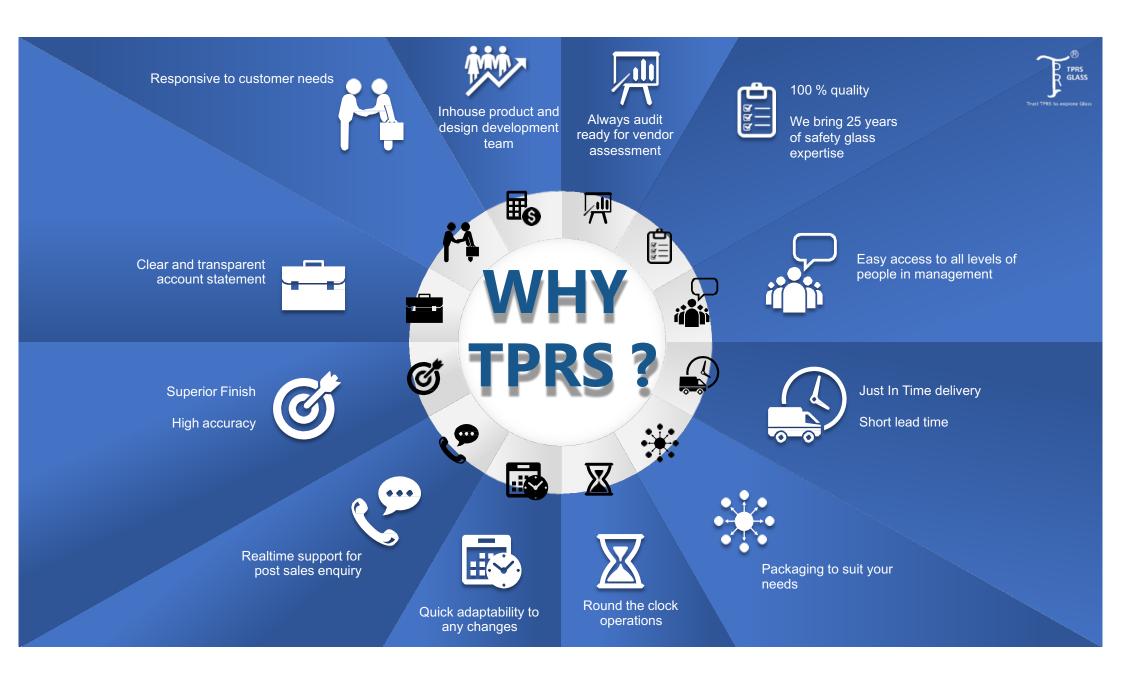
Trust TPRS to explore Glass



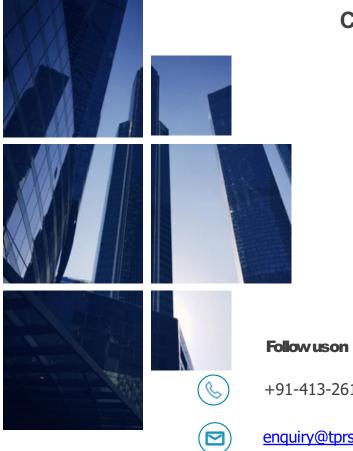
are supplying for Chennai Air port expansion

# Construction Equipment Customers





#### **TRUST TPRS** to explore glass



**Currently Serving :** 

• PAN INDIA

 MIDDLE EAST COUNTRIES

- AFRICAN COUNTRIES
- EUROPEAN COUNTRIES

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