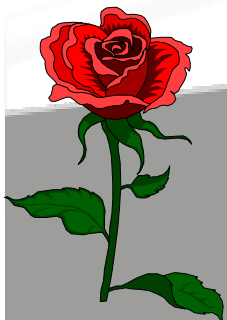




**Saint-Gobain SEVA Engineering India Ltd**

**Your Partner in Glass Processing**



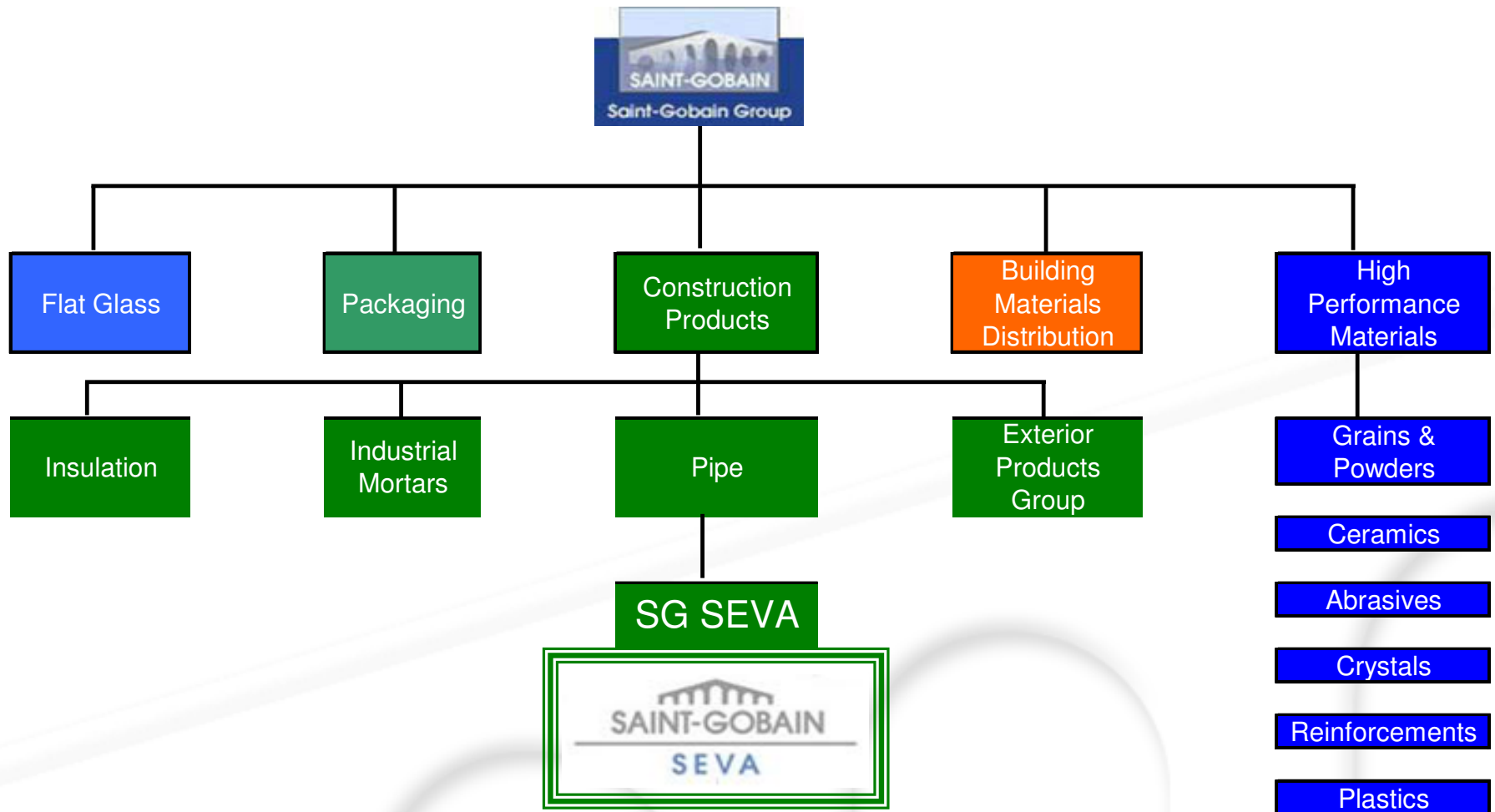
  
**SAINT-GOBAIN**

**CONSTRUCTION PRODUCTS**

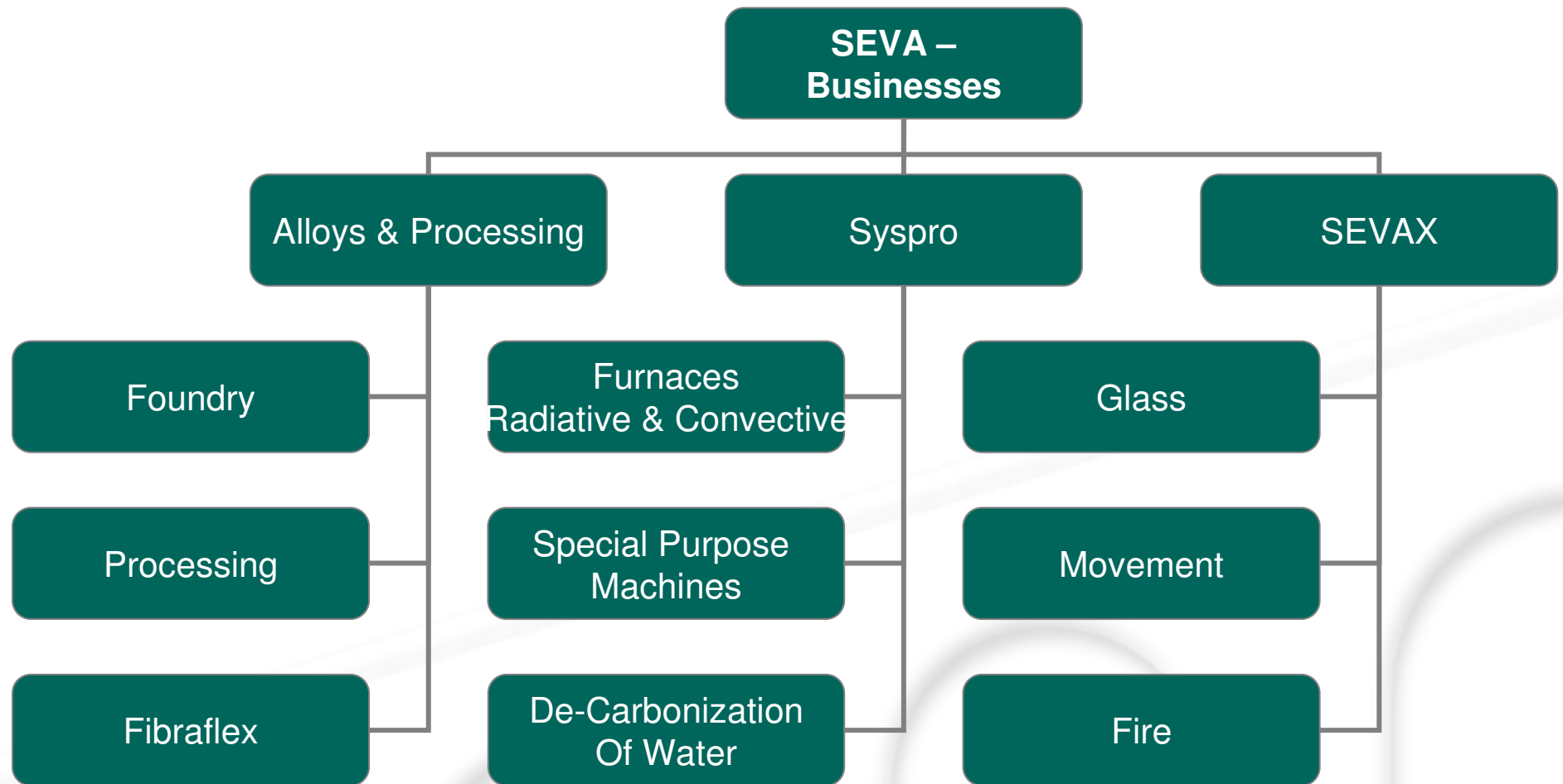
# SEVA

- 'SEVA' stands for Societe D'Etudes Verrieres Appliquees, meaning "Company specialized in applied glass studies"
- Started in the year 1926, as an integrated foundry and engineering workshop to manufacture machines and tooling
- Located in Chalon-sur-Saone – France
- In 1986 SEVA started design and manufacture of new generation furnaces for automotive industry
- Since then more than 100 furnaces have been supplied by SEVA and are working around the world.
- SEVA is part of Pont-a-Mousson under Construction Products of Saint-Gobain

# Saint-Gobain



# SEVA Business:

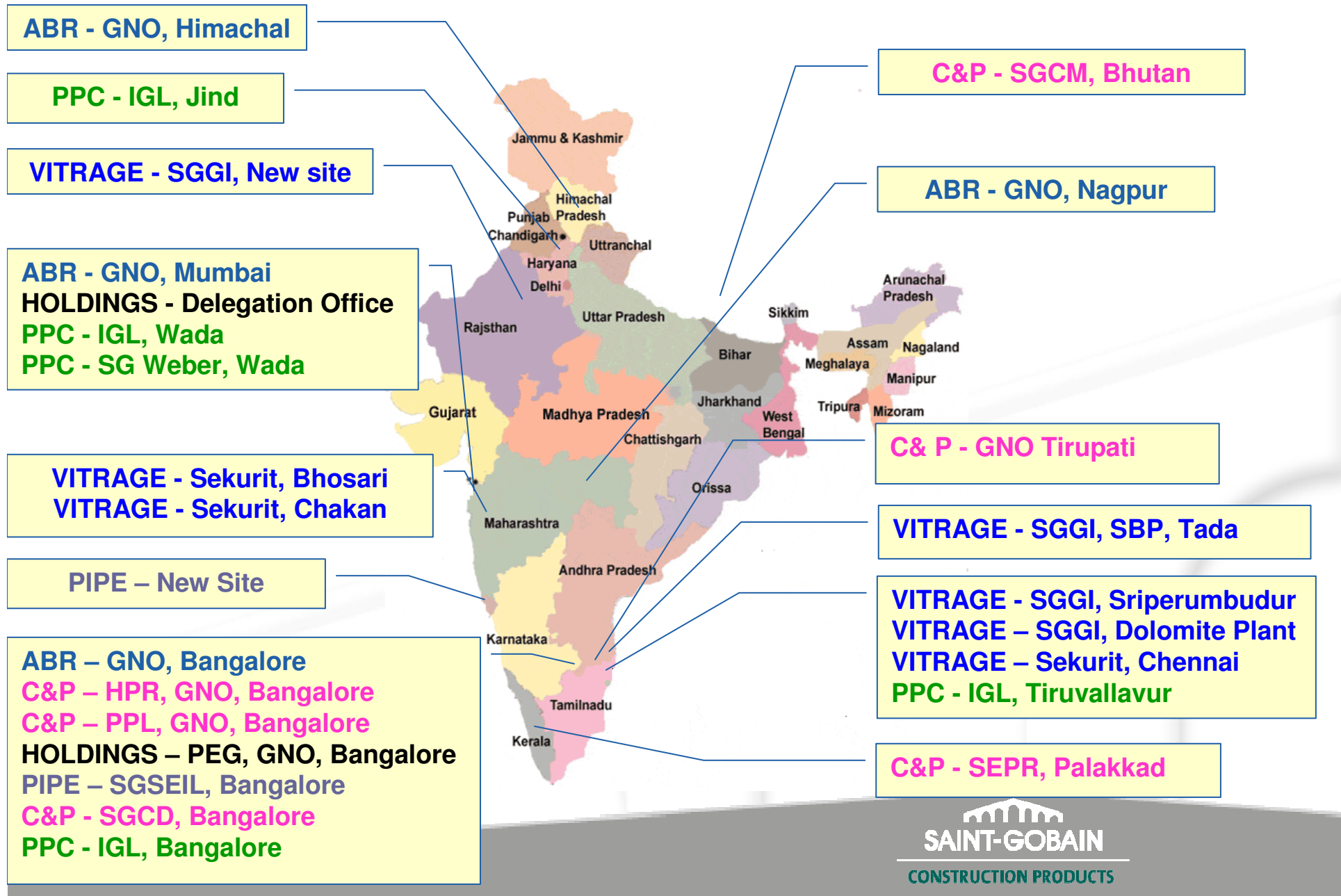






# SAINT-GOBAIN IN INDIA

# Saint-Gobain in India – Present spread





# EHS & Corporate Status

- TF1 = 0 & TF2 = 14
- Certified Quality System - ISO 9001
- Certified Environmental System - ISO 14001
- Certified Occupational Health and Safety System - OHSAS 18001
- Energy Policy Deployed
- Operational Excellence Model Rolled Out
- Corporate Governance – Internal Controls and Competition Law Compliance monitored across Group
- Principles and Code of Conduct & Action rigourously followed by one and all

# SG SEVA INDIA Mission

- To be a World Class competitive manufacturing base for SG Group proprietary equipments.
- To be design, engineering centre for SG SEVA and SG Group.
- To address the needs of the growing Indian, Asian, Middle East and European Glass Processing Market.
- To become a preferred supplier of Full Machines and Assembly lines for the construction products manufacture Ex: Tiles, Gypsum, Pipes, Glass, Plastics, Metalworking, Ceramics, Abrasives.
- To design and supply special purpose machines to light engineering and infrastructure sector

# Saint-Gobain SEVA India : Advantages

- 1) Manufactured in India to European design and standards
- 2) Fully Trained (abroad) Assembly and Installation teams backed by fast response service teams
- 3) Engineers trained abroad and operate out of Bangalore, Energetic young team to work with you
- 4) Design to Turnkey, all under one roof.
- 5) Work with Saint Gobain Project Engineering Group for complete solutions



# The Evolution of SEVA India



September 2005 - 1500m<sup>2</sup>



July 2007 Expansion - 2750 m<sup>2</sup>



January 2006 - 375 m<sup>2</sup>



July 2008 – 750 m<sup>2</sup>



# Seva India Top Rolls for Saint Gobain Glass



- Saint Gobain Chennai
- Saint Gobain Romania
- Saint Gobain Egypt



# SEVA Machines for Stonewool Sector



**Forming Line**

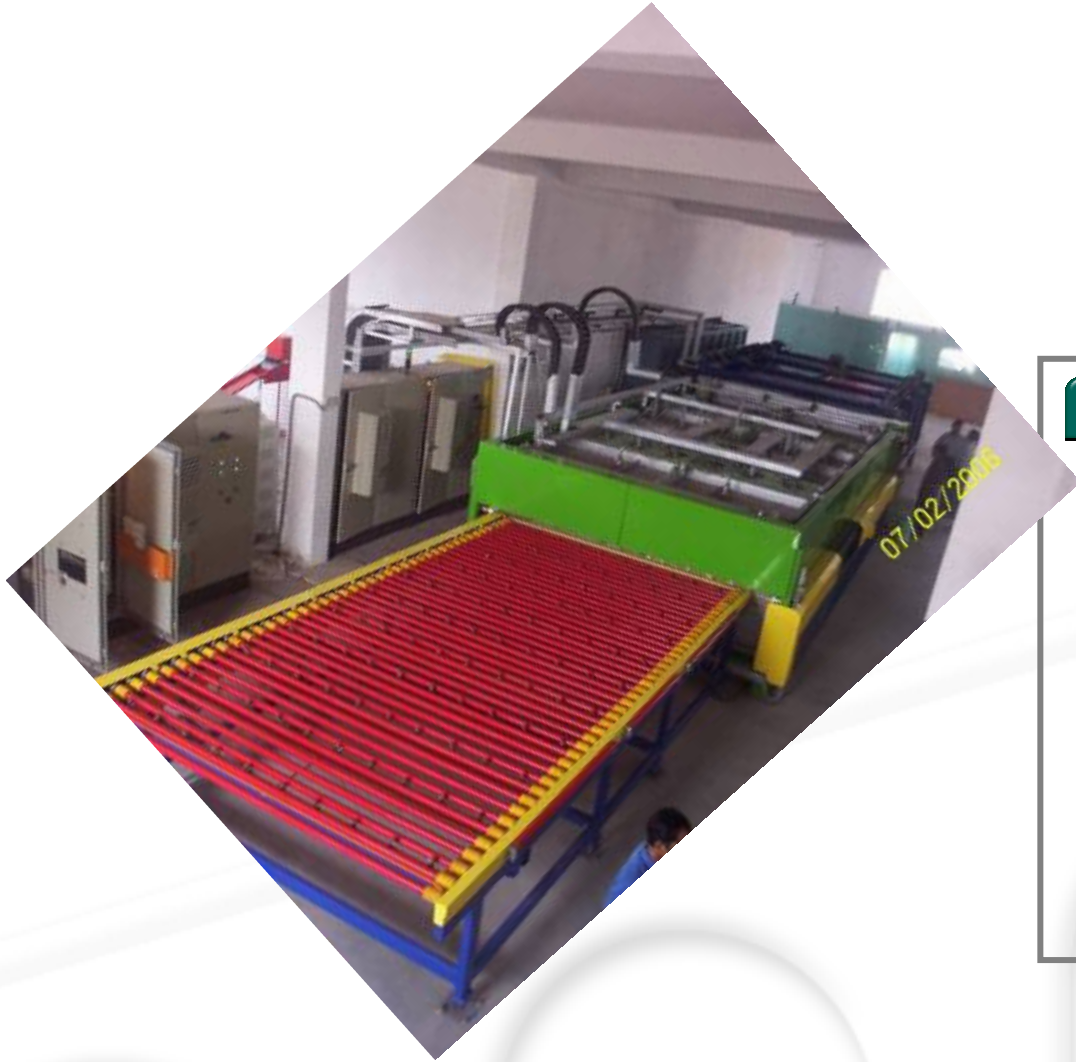


# SEVA Machines for Stonewool Sector



**Fiberising Machine - Crimping Machine**

# Saint Gobain SEVA Furnaces



Seva India has successfully built and commissioned Furnaces for glass Tempering for Architectural Glass in India & Abroad.

# SG SEVA India Architectural Furnaces

- Shiva Shakthi Glass – Roorkee (FTRC 3624) – Dec 2006
- ESBI Glasses Pvt Ltd – Kolkata (FTRC 4824) - 2005
- SGS Annecy – France (FTRC 3624) Nov 2006
- Crystal Brad – Romania (FTRC-4824) Sep 2007
- SGS Sivaq – France (FTRC 4824) Nov 2008
- National Glass – Dubai RAK (FTRC 4824) Dec 2008
- Swastik Safety Glass – Hosur (r-temp3624) May 2009
- Sunils Saafety Glass – Bangalore (c-Temp 3624) Plan Aug 2010
- Tough Glass India –Bangalore (c-Temp3624) Plan October 2010
- Shivshakti Glass Roorkee( c-Temp 4824) Plan October 2010



- *C-Temp : Convective :Versatile*
- *R-Temp : Radiative : low cost*
- *J-Temp : Large capacity*
- *D-Temp: Dual Chamber Hi Capacity*
- *B-Temp : Bending Furnace*
- *S- Temp : Solar Glass 3 mm small size*

**Products of SEVA**

- *E-Clean Horizontal Washing*
- *Single Edger*
- *Heat Soak Test*
- *Autoclave*
- *Double Glazing Line*
- *Lamination*

# Tempering Workshop



# FTRC3624 : Shiva Shakti Float Glass in Roorkee



# FTRC4824 : National Glass Industries - RAK UAE





# Full Tempering Plant .....2009



Images

  
SAINT-GOBAIN  
CONSTRUCTION PRODUCTS



# SEVA e-Clean GW 25 Washing Machine



SAINT-GOBAIN

CONSTRUCTION PRODUCTS

## *Enduring Images.....2009.*





## FTR 3624 : Swastik Safety Glass – Hosur



# Control System



- PLC Controlled and fully automatic
- Operations : WIN CC SCADA via PC
- Communication : Profibus
- Full fault diagnostics available locally and via WEB enabled device
- VFD helps in energy savings and precision
- Smooth changeover and synchronisation
- Flexible options ( Upto 1000 recipes)
- Upgradable



## USP of SEVA Furnace

- Patented Convection Technology – Deployed first time by Saint Gobain for **Low E Glasses** , now adopted by many others as the standard....
- Handles variety of Glasses especially Low E upto **0.02 emissivity**
- Excellent geometrical properties of Glass :  $\pm 1.5\text{mm}$  over 3 Mtrs
- Fragmentation tests has given  $\sim 130$  pcs / 2 Sq Inches (STD is 40 pcs / 2 Sq inch...) for 4 mm. (Better than European requirements)
- Temperature uniformity in Glass resulting in better optical properties  $\pm 1^\circ\text{C}$  in c-temp
- Possibly the **Lowest energy consumption** in Furnaces, between 0.75 and 0.95 kw/ mm /m<sup>2</sup> : Installed load may be 1250 KW, but average consumption is less than 700 KW normally.

## USP of SEVA Furnaces

- Distortion free tempered glass
- **CE Marked** Furnace
- **Fully Automatic** Furnace provides for **easy glass** changeover
- Backed by Service support **24 x 7**
- **Eco friendly materials ( end use disposal )**
- Glasses are compliant to all relevant standards:
  - BS EN 12150 Toughened Glass
  - BS EN 1863 Heat Strengthened Glass
  - ASTM C 1048 Tempered Glass
  - BS EN6206 Tempering Specifications

# Why SEVA Furnace ?

- We are people dealing with glass processing all the time
- We are a Saint Gobain entity and therefore up to date with developments in Glass
- Excellent Glass Quality at the end of Tempering
- Focus on Productivity of machines
- Focus on energy efficiencies
- European technology @ Indian Costs
- 24 x 7 Service

# Why SEVA Furnace ?

- Affordable Prices
- More than 100 Furnaces working around the Globe
- SEVA - a Single stop solution provider for glass processing
- Experienced Team backed with excellent manufacturing capabilities
- Certified Quality Systems
- CE Marking/ Compliance to standards



# Working With SG SEVA INDIA

- Located in Bangalore, a well known hub for availability of resources in the field of solid / FE modeling, thermal analysis, fluid flow analysis, civil structure analysis etc.
- Wide range of Manufacturing facilities for machine building.
- Benefit of Economical cost for European technology
- Mark of a reputed Group

# SEVA India - Team



**M R Ramarathnam**  
Managing Director



**Samuel Jacob**  
Head - HR



**R G Krishnan**  
Head - Operations



**M Sureshkumar**  
Manager – F & A



**THANK YOU.....**