

# SOFTEX INDUSTRIAL PRODUCTS PVT. LTD.

**AN ISO 9001:2000 CERTIFIED COMPANY**

8/1 LAL BAZAR STREET, "BIKANER BUILDING", 1<sup>ST</sup> FLOOR, R.NO.9A, KOLKATA-700001, INDIA

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## **"SOFTEX" VACUUM RUBBER BAGS**

"SOFTEX" Vacuum Rubber Bags are used for de-airing of the assembled "glass/interlayer/glass" during the pre-press phase of the production of flat or curved PVB/EVA laminated glass (automotive, safety, bullet resistant, architectural, decorative, etc).

### **Construction of Normal Bags**

- High tenacity fiber is used to ensure less wear and tear and thus increase working life of the bag.
- The use of a non-stick inner lining reduces to its minimum the vinyl pollution (contamination) inside the bag so that no marks are left on the laminates and avoids the residual PVB sticking to bag.
- Fitted with one or more vacuum connections to facilitate faster vacuuming.
- Improved closing systems designed to ensure that, when sealed, the bag is airtight. Specially developed rubber zipper for mouth opening/closing for better vacuum retention. We can also provide bags with YKK metal zippers.
- Bag opening can be provided on one/two/three sides to facilitate convenient loading/unloading
- Can insert one or more glass simultaneously in the same bag to increase productivity



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- Ducting is provided through Polyamide Rope & tube inside the bag, to ensure full & continuous removal of air and gases.

### **Properties**

- Flexible enough to follow any glass curvature. You can use the same bag for a range of glass, whatever is the size, the shape or the thickness of your glass.
- Resistant to high temperatures at continuous heating & cooling cycles
- High thermal conductivity to allow fast heat-transfer to the glass & cooling for subsequent use

We have developed separate bags for manual (batch process) & automatic (continuous line). These bags are molded instead of being bonded by special adhesives/solutions to significantly enhance working life of the bags.

### **Sizes of Vacuum Bags**

We can manufacture bags of any sizes. We have manufactured bags of sizes ranging from 0.5 mtr x 0.5 mtr to 3.50 mtr x 6.50 mtr. We can make any other smaller or bigger sized bags depending on your specific requirements.

### **Temperature Rating**

Our normal bags are designed to withstand 120<sup>0</sup> C continuous temperature but for short duration it can also withstand upto 140° C.

### **High Temperature Vacuum Bags**

These are made with Silicone Rubber Sheet with high Tear Strength & Tensile Strength. Specially designed Silicone Rubber zippers are molded on one/two/three sides to ensure perfect vacuum retention in the bag. They also offer extreme ease for removal/insertion of the laminate. These bags, if required, can also be placed in Autoclave i.e. one can connect bag with Vacuum Pump & do the autoclaving simultaneously.

All other processes of making PVB/EVA laminated glass in this bag remain the same as above.

These bags can be used upto 200° C for thick films.

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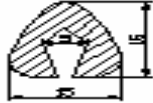
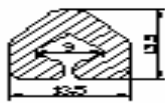
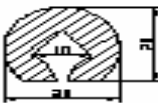

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15MMX15MM <5MM DIAMOND> SILICONE PROFILE	13.5MMX13.5MM <TEE PROFILE> SILICONE PROFILE	20MMX20MM <10MM DIAMOND> SILICONE PROFILE	30MMX40MM <TEE PROFILE> SILICONE PROFILE
			

## SILICONE VACUUM RINGS

### Sizes\*\*

We have four different size profiles:

1. 15mm x 15mm (5 mm diamond) - Suitable up to 8 mm thick laminates ( mainly for automotive glasses)
2. 13.5mm x 13.5 mm (Tree Profile) - Suitable up to 10mm thick laminates
3. 20mm x 20mm (10 mm diamond)- Suitable for 8 mm to 16mm laminates (mainly for architectural glasses)
4. 30 mm x 40 mm (25 mm diamond)- Suitable for 16 mm to 30 mm laminates

We can make 90° corner joints for sharp rectangular glasses. We can also make rings for D section/ Triangular/Trapezium/any other polygon shaped glass

\*\* Because of continuous R&D for better design, the given sizes may change without prior notice.

**Non Silicone Vacuum Rings:** We also manufacture non Silicone Vacuum Rings with connecting tube for certain specific applications where Silicone Vacuum Rings cannot be used.



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## PRICE LIST OF VACUUM BAGS & RINGS

(w.e.f. 1<sup>st</sup> Oct, 2008)

Item	Rate ( US \$ )
<b>Vacuum Bags</b>	
Normal bag	@ 300.00 per square meter
High Temp. bag	@ 350.00 per square meter
<b>Silicon Vacuum Rings (with 1 mtr Silicon tube)</b>	
13.5 x 13.5 (Tree)	@ 8.00 per running meter
15 x 15 (5 mm)	@ 9.00 per running meter
20 x 20 (10 mm)	@ 20.00 per running meter
30 x 40 (Tee)	@ 55.00 per running meter
<b>Silicon Vacuum Hoses/Tubes</b>	
3 mm ID X 8 mm OD	@ 2.50 per meter
6 mm ID X 14 mm OD	@ 7.50 per meter

Any other profile of Vacuum Ring / size of Vacuum Hose can be supplied against specific enquiry.

## Other Terms & Conditions

1. PRICES – F.O.B. Kolkata (India)
2. CARRIAGE & FREIGHT – Extra at actuals
3. DELIVERY – Within 2 Weeks after receipt of payment
4. PAYMENT – 100% Advance. For Order value greater than US \$ 10000 Letter of Credit (L/C)\* payment can be considered.

\* Irrevocable Letter of Credit at sight of any reputed bank



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## LIST OF CUSTOMERS

### Domestic

1. Art n Glass Inc.,NCR
2. *Asahi India Glass Ltd,( Bawal,Chennai,Roorkee,Taloja)*
3. Bangalore Safety Glass,Bangalore
4. Bharat Safety Glass, Jamshedpur
5. Chandra Laxmi Safety Glass Ltd, Delhi
6. GSC Toughened Pvt. Ltd, NOIDA
7. Gold Plus Toughened Glass Ltd
8. Gulati Glass Ind. Pvt. Ltd., Delhi
9. Impact Safety Glass Ltd., Bangalore
10. Kochar Glass, Bhopal
11. Maruti Glass, Kolhapur
12. *Saint Gobain Sekurit, Chennai*
13. Sejal Architectural Glass,Mumbai

### Export

1. 360 Glass BV, Netherlands
2. AGC Automotive, Belgium
3. AGP Industrias S.A.,Peru
4. Al Shehili Factory, Saudi Arabia
5. Al Shahar Industries(Alumco) Glass,Dubai
6. Aman Auto Glass, Egypt
7. ANZ Auto Glass Factory, Jordan
8. Arkiglass, Morocco
9. Chevron Glass,Australia
10. Corporacion Miyasato, Peru
11. Eastern Africa Safety Glass, Uganda
12. Edmond Anz & Partners, Jordan
13. Euroverre, Canada
14. Geamuri SA, Romania
15. Glass Manufacturing Group, Egypt
16. Hamza Amin Ajlouni, Israel
17. Hirschler Üvegipari Vállalkozás, Hungary
18. Intercomet, S.L., Spain
19. Lumi Glass,UAE
20. Marepleks, Estonia
21. MCIS Safety Glass, Malaysia
22. Mirodec Sarl, Lebanon
23. Musthane, France
24. National Finland Auto Glass Co., UAE
25. Omar Alshamian Glass Factory, Saudi Arabia
26. Pakistan Safety Glass, Pakistan
27. Phoenicia America-Israel Flat Glass,Israel
28. Prelco Inc., Canada
29. Rioglass, Spain
30. Samih & Sahir Istambulli, Syria





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31. Soliver N.V.,Belgium
32. System Res, France
33. T3 Glass, Italy
34. Tambest, Finland
35. Tecnomavi S.L.,Spain
36. Thai Techno Glass Co.Ltd.,Thailand
37. TOS d.o.o., Croatia
38. Tradepro N.V., Netherlands
39. Vivid Products LLC,USA
40. V.E.Lipponen Oy, Finland

## **Annexure: Process of making PVB/EVA Laminated Glass in Bag**

1. Normal/High Temperature Vacuum Bag with rubber zipper are to be placed horizontally on a trolley or directly in De-Airing Oven.
2. Rubber Zipper to be opened i.e. male & female zipper to be separated.
3. Glass laminates with PVB film placed on Polyamide Rope inside the bag. This rope acts as a conduit for gases to be removed. So the rope must touch the glass anywhere but atleast at one place.
4. Male zipper to be inserted in female groove & pressed so that no air can go inside the bag. Utmost care must be taken that no foreign dust particle gets inside the bag before it is closed. Also glass edges must be polished & be smooth so as not to damage/tear the fabric of the bag.
5. Silicone Tube/Hose 6 mm ID x 14 mm OD to be connected to nozzle which is then connected to Vacuum Pump.
6. Start the vacuum pump. Vacuum is then continuously created into the Vacuum Bag. This ensures that no air is trapped between the laminates during the production.
7. The bag and contents still under vacuum are then put in the laminating (De-airing) furnace at 95°C. It is kept at 95° C for 30-40 minutes. Then gradually the temperature of furnace is reduced to 50°C. The bag is then taken out of the furnace.
8. Once out of the furnace, the laminates are removed from the Vacuum bag. The Bag is allowed to cool down before it is loaded again.
9. The laminates are taken in autoclave for final removing of any air bubbles left at edges.