



# Romani Innovation Pvt. Ltd. LAXMI POLYMERS

# A Windshield and PVB recycling Company, working towards Circular Economy





- 1. Team of 75 peoples.
- 2. Sharvan Sharma Executive Director in Company
- 3. Roma Rathi Director in Company
- 4. Anil Rathi Managing Director in Company



# **Company History**

Recycle

- 1. 2004- Started EVA Compound manufacturing.
- 2. 2006- Eva/ Beach Sandal manufacturing.
- 3. 2009 Recycling of Rubber and Plastic.
- 4. 2014 Recycling of Windshield/Laminated Glass also.
- 5. 2015 PVB Scrap Compounding
- 6. 2017 Car mats from PVB Scrap





### Windshield/Laminated Glass

About 10% car windshield get damaged every year another we get big quantity after a vehicle complete its life cycle.



www.windshield-pvb-recycling.com





### Windshield Recycling Challenge

- 1. Separation Technology
- 2. Machine Investment
- 3. Running Cost
- 4. Quality of Glass Cullet
- 5. Quality of PVB Scrap
- 6. Final Uses of PVB Scrap







#### Windshield Recycling Machine Designed by our self













#### **PVB Cleaning Machine Designed by our self**









### **PVB Compounding/Pelletizing Plant**







### **Car foot Mats Manufacturing Plant**







# **Today Status of Company**

- Windshield Recycling- Total capacity 500 Tons/month of Windshield recycling our own and 1000 tons/month at different location of India.
- 2. PVB compounding: 2 compounding line in Bahadurgarh Haryana having capacity to handle 200 tons/ month PVB scrap. Mostly sale to shoe manufacturer.
- 3. Car Mats: 500 tons Injection Molding Machine in Bahadurgarh to manufacturer 4000 mats each month.
- **4. Weather resistance coat:-** Lab trial plant of 1000 ltrs per day capacity is installed.





#### **Recycled PVB Granules Successful Application**









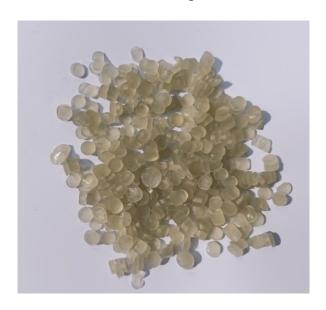


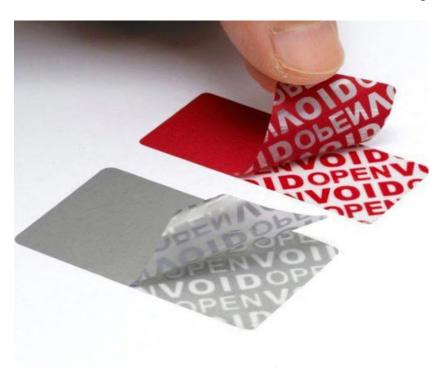
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#### Recycled PVB Granules recent successful development





In Temper Evident Sticker as PVB polymer replacement in ink manufacturing





Recycled PVB partial successful projects



Car foot mat

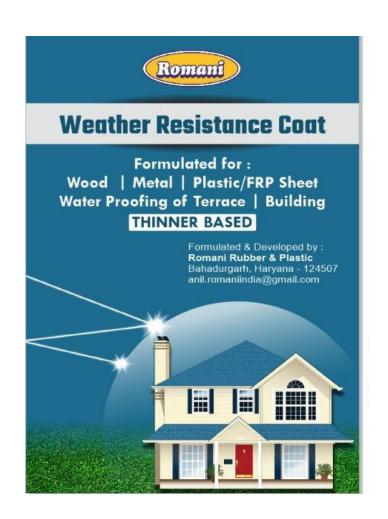
**Reasons of Partial Acceptance** 

- 1.PVB get hard at temperature less then 5 degree Centigrade
- 2. Plasticizer smell
- 3. Frequent Change of car model





Recycled PVB partial successful projects



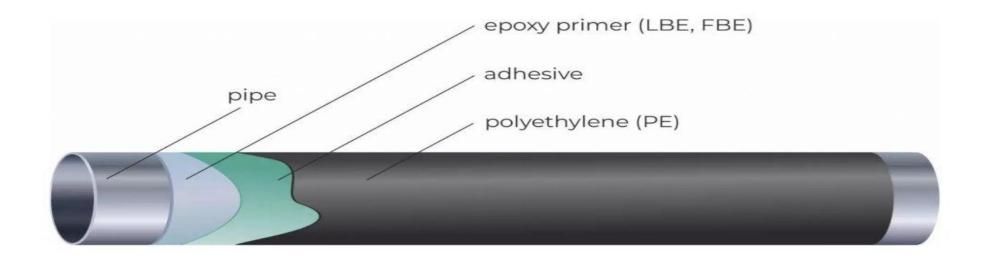
#### **Reasons of Partial Acceptance**

- 1. Competition with Big brand
- 2. Solvent/ Methanol Based
- 3. Need more investment for development





#### **Recycled PVB targeted Applications**



# PVB + Epoxy Blend used as coating on pipe and car chassis





# **Epoxy role in PVB Recycling**

- 1. Epoxy crosslink recycled PVB film and improve its weather resistance property
- 2. Different grades of Epoxy improve the Flexibility of recycled PVB film.
- 3. Epoxy improve the adhesion property of recycled PVB film.
- 4. Epoxy and PVB manufacturing company should come together to develop different grades of Epoxy for using Recycled PVB in different applications.





#### Recycled PVB+ Epoxy based Cow-mat and Rubber Flooring





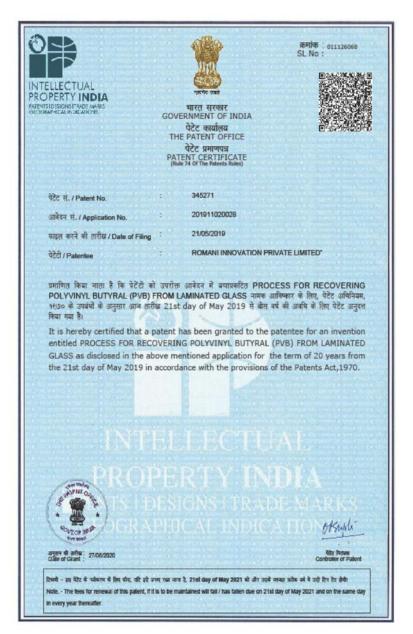


#### How we can use PVB film Scrap again in making PVB film

- 1. Removing fine Glass powder
- 2. Using some special chemical to wash the scrap which don't deteriorate the quality of PVB film scrap.
- 3. Developing a special grade of PVB film by blending PVB scrap with virgin polymer and other ingredient.
- 4. As per me we can make a special grade and can be used for lamination of Building Glass.

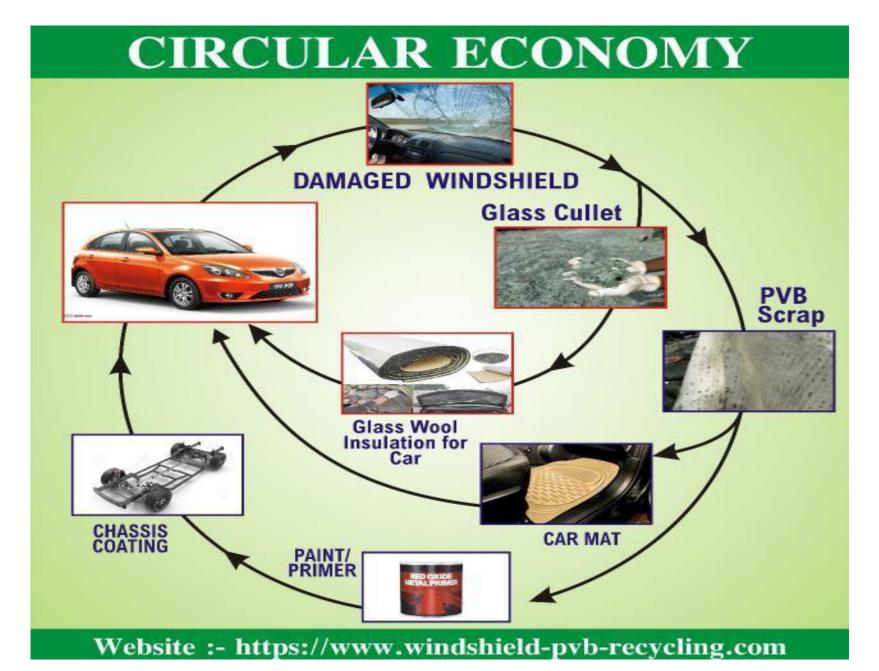
















# Research Solar Panel recycling







# **Our Goal**

To work on circular economy by recycling scraps going for landfilling and then making value added final products from the material recovered after recycling.





#### Final conclusion

- 1. All windshield and PVB recycler should come on a common platform to share each other experience and develop the better quality of PVB film from recycling.
- 2. Epoxy and PVB manufacturer should come together to develop different products from PVB film scrap.
- 3. PVB film manufacturer should develop a special type of PVB film made from maximum use of PVB film scrap for Building Glass lamination.
- 4. Romani Innovation is ready for all type of cooperation in PVB recycling.





# LAXMI POLYMERS Romani Innovation Private Limited

#### <u>A Windshield and PVB recycling Company working</u> towards circular economy

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Stage:- Growth stage

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