

Alternative Approach to Use Banned Plastics

[NILA –ELECTRO-PLASTIC-INSULATION]

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Abstract: Plastics plays a major role in our day to day life in various forms like polyethylene bags, polypropylene straws, and polystyrene plates etc and plastic contribute 25% of the plastic producing countries GDP. Now due to the environment balance schemes by many government has banned the use of major varieties of plastics. This has caused severe decrease in the GDP of the nation and also it has resulted closure of many Plastic producing Industries Forming Jobless situation in many Individual lives. Hence to overcome this alternative approach can be made is that the use of produced banned plastics as the insulators for Electronic wires, Fiber Reinforced plastics, Asbestos sheet productions. The article put forth the method of using the banned plastic to make re birth of plastic industry in the plastic banned nations.

Keywords: Reuse of banned plastics, Plastics Ban affects GDP, Plastic Insulation, Re-Birth Of plastic companies.

1. INTRODUCTION

Plastics are the organic polymer materials derived from petrochemicals and it is designed into variety of shapes such as plates, tubes, bottles, boxes etc. Due to their low cost, ease of manufacture, versatility, and imperviousness to water, plastics are used in a multitude of products of different scale, including paper clips and spacecraft. They have prevailed over traditional materials, such as wood, stone, horn and bone, leather, metal, glass, and ceramic, in some products previously left to natural materials. In developed economies, about a third of plastic is used in packaging and roughly the same in buildings in applications such as piping, plumbing or vinyl siding. Other uses include automobiles (up to 20% plastic, furniture, and toys. In the developing world, the applications of plastic may differ — 42% of India's consumption is used in packaging. Most plastics are also excellent **insulators** of **electricity** due to their **high resistivity**. The **valence** electrons in the outer atomic band of plastics have **low energy** and no '**free**' electrons as found in metals. They will therefore not allow the transfer of current through them from an external source. This, coupled with the **malleable/ductile** properties of plastic, make it ideal for insulating copper **electrical wire**. **PVC** is commonly used where electrical conductivity must be restricted for **safety** or to prevent **short circuits** within a product. This could be likened to **electrical resistance** as insulators restrict current flow hence the banned plastic Materials can be used as the Insulation covering for low voltage wires.

2. REASON FOR PLASTIC BAN

As the world's population continues to grow, so does the amount of garbage that people produce. On-the-go lifestyles require easily disposable products, such as soda cans or bottles of water, but the accumulation of these products has led to increasing amounts of plastic pollution around the world. As plastic is composed of major toxic pollutants, it has the potential to cause great harm to the environment in the form of air, water and land pollution. Put simply, plastic pollution is when plastic has gathered in an area and has begun to negatively impact the natural environment and create problems for plants, wildlife and even human population. Often this includes killing plant life and posing dangers to local animals.

Plastic is an incredibly useful material, but it is also made from toxic compounds known to cause illness, and because it is meant for durability, it is not biodegradable. So every nation decided to reduce the use of plastic bags and other plastic covers, straws, etc later on Many Governments started to ban the use of the plastics.

3. CONSEQUENCES OF PLASTIC BAN

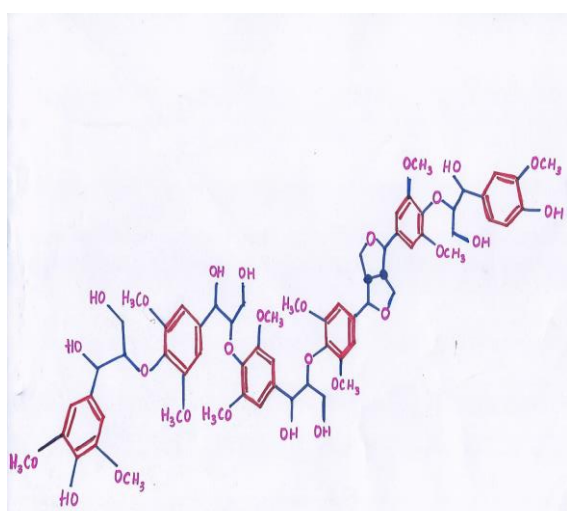
The Plastic industry in many countries employs about 50 lakhs of people which include more than 31,000 processing units. Around 86-91 percent of which are small and medium – sized enterprises. A ban on the plastics could easy affect industry, posing question on the trade and employment. A piece of plastic bag will cost you no more than 10-15 paise which is much cheaper than a paper bag costing 20-25 paise per piece. This means that purchasing plastic bags in large quantities will be beneficial for small business and improves profit margins. Plastic bags are easy to open, pack and transport. That is the reason why they are used widely in logistic and retail industry. In contrast, reusable cloth bags consume more space and are quite heavy. But due to the ban of plastic we are in urge to search an alternative for the plastic bags and also on the other side we are not even ready to think about the plastic industries which is affected due to the new regulations .Considering in India its about 25,925 tons of made plastics is now totally made useless and they are now stocked in godowns.

4. AFTERMATH OF PLASTIC BAN

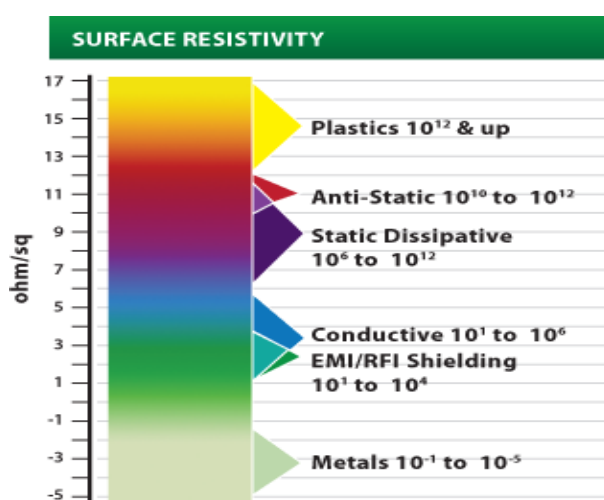
Accordance with a statistics In India there were around 40 lakhs of people were employed in plastic industries as the result of plastic ban it caused loss of employment among them. As per the report, Maharashtra’s plastic ban in 2018 ended with loss up to Rs.15,000 crore and nearly 3 lakhs of employees were jobless. Another statistics states that Indian plastic industry contributes around 7.1% GDP in 2017. Thus the plastic ban results in decline of GDP since it affects the packaging industries which is one of the fastest growing industry with Country Annual Growth Rate(CAGR) of 15% in over last five years. This ban hits end user market where plastic products are primarily used for domestic purposes loko;mjouilike Printing business logo and company name which is more suitable in plastic bags due to its low cost whereas printing cost is higher in paper and cloth bags which is a tedious way. Purchasing plastic bags in large quantities will be beneficial for small business and profit margins which is affected by plastic ban. Over all plastic ban affects India’s trade, GDP, employment etc.

5. ALTERNATIVE WAY TO USE STOCKED PLASTICS

As we already discussed about the nature of plastics and its properties of resisting electricity we can use the stocked plastics as a insulating material in low grade wires like telephone cables, charger cables etc.



STRUCTURE OF PLASTIC

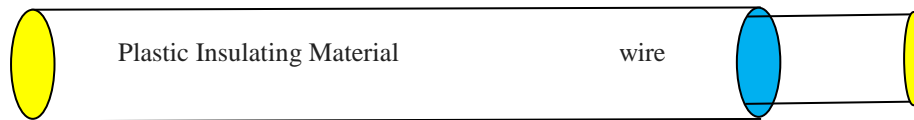


RESISTIVITY OF PLASTIC

5.1. Procedure to convert polymers as Insulators:

1. Initially the polymers are to be heated until they reach the state of instability.
2. Low grade unbounded wires are chosen.

3. Then these low grade wires are introduced inside the instable polymer chamber.
4. Then it is introduced inside a condensation chamber to make instable polymers stable.
5. Once entering the condensation chamber the instable polymers gets condensed to bound around the low grade wires.
6. Thus the polymers get converted into Insulating bound materials for low grade copper wires.



5.2. Merits

1. This insulation Method reduces the loss Faced By the Plastic Industries
2. Promote the economy of the country suffering from plastic ban
3. Reduces the need for the Import of Insulation. Materials.
4. Can be used For Manufacture of Insulation Tapes etc.

5.3. Demerits

1. Cannot be used as Insulating covering for high Grade wires.

6. CONCLUSION

Thus concludes The Process of conversion of the polymers into insulation materials is an alternative approach to use the stocked polymers to save the economy of the plastic banned nation. If This conversion of polymers into insulators happens it reduces the need for the insulating materials for electrical industry and also it prevents the life of the stocked and banned plastic industries along with their employees.

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