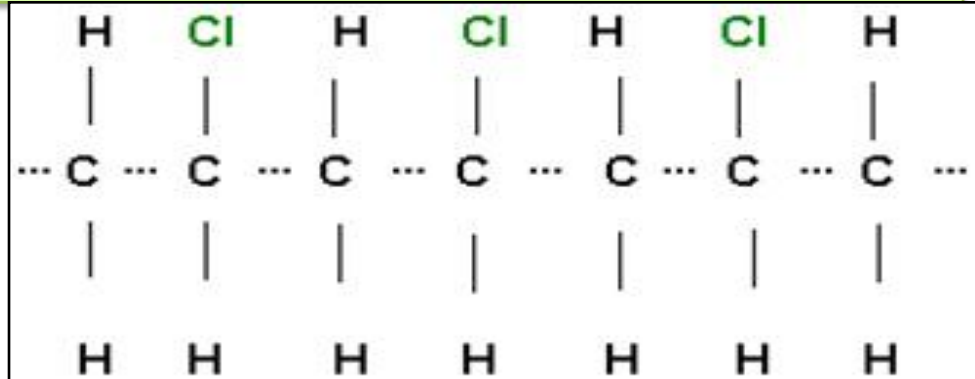
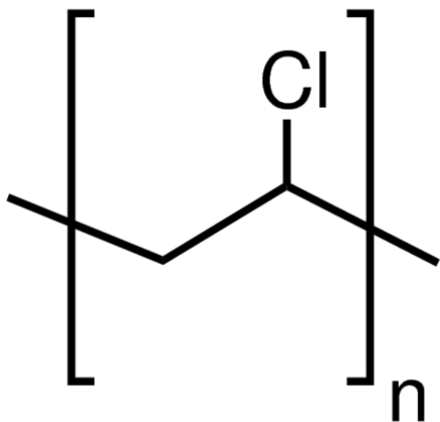


Objective of the Project

- ❖ **Cheap, readily available flex banners are the pure source of environmental hazards if it is not disposed properly. The results consequences from improper disposal of such flex banners are intolerable to the surrounding environment and human health.**
- ❖ **Aim of this work is to explore and develop the basic eco-friendly recycling methodologies for polluting Flex banners waste. Recycle and reuse principle was successfully applied for finding the eco- friendly recycling possibilities for flex banners waste.**
- ❖ **Utilization of flex banner wastes to make eco friendly ECO-FRIENDLY bricks (FLEXEY-BRICK) for construction purpose.**
- ❖ **To make a prototype manufacturing unit for flexey brick and to send the same proposal to various R&D departments**

Properties of PVC

- ❖ Flex banner is a combination of PVC material and optical fiber mesh.
- ❖ PVC or Polyvinyl chloride banners are commonly referred to as vinyl banners
- ❖ PVC has an amorphous structure with polar chlorine atoms in the molecular structure.
- ❖ PVC, having the molecular structure where the chlorine atom is bound to every other carbon chain, is highly resistant to oxidative reactions, and maintains its performance for a long time.



Methodology and Testing Process



1



2



3

1. Collection and cutting
2. Grinding
3. Mixed with fly ash and cement
4. Molded into shapes
5. Curing for different days



5



4

COMPOSITION OF THE BRICKS

- PURE BRICK:(RATIO)

CEMENT	SAND	M SAND	FLEX BANNER WASTE	AGGREGATE
1	2	2	0	4

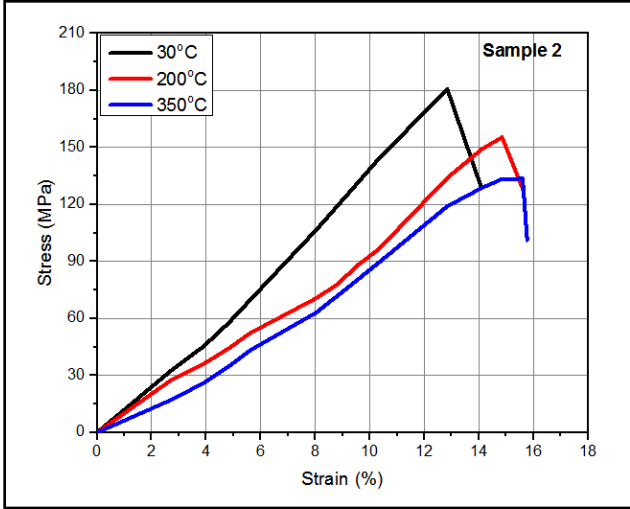
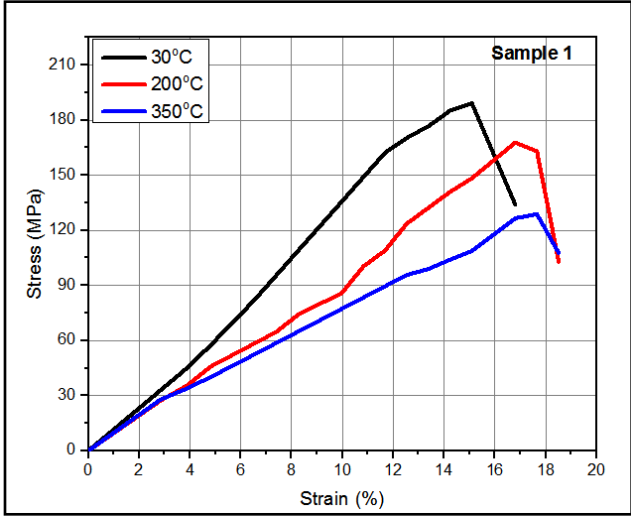
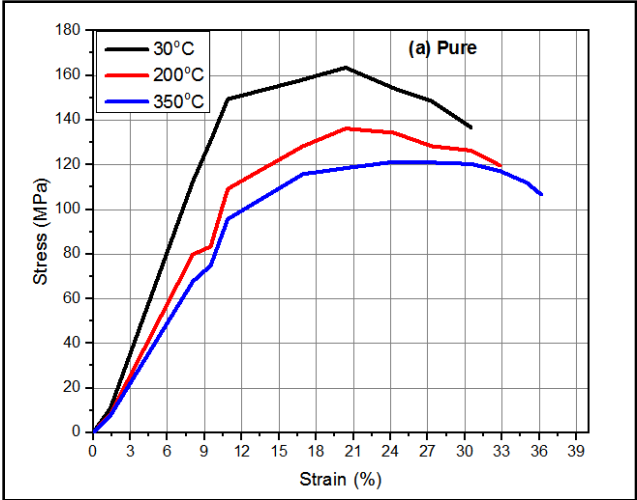
- SAMPLE 1:(RATIO)

CEMENT	SAND	M SAND	FLEX BANNER WASTE	AGGREGATE
1	2	2	0.5	3.5

- SAMPLE 2:(RATIO)

CEMENT	SAND	M SAND	FLEX BANNER WASTE	AGGREGATE
1	2	2	1	3

Stress strain measurement curves



30

strain	Stress		
	pure	1	2
8.05958	112.5153	122.2575	134.2642
9.49026	130.7213	135.5929	138.0752
10.87133	149.3809	148.9284	175.8863

200

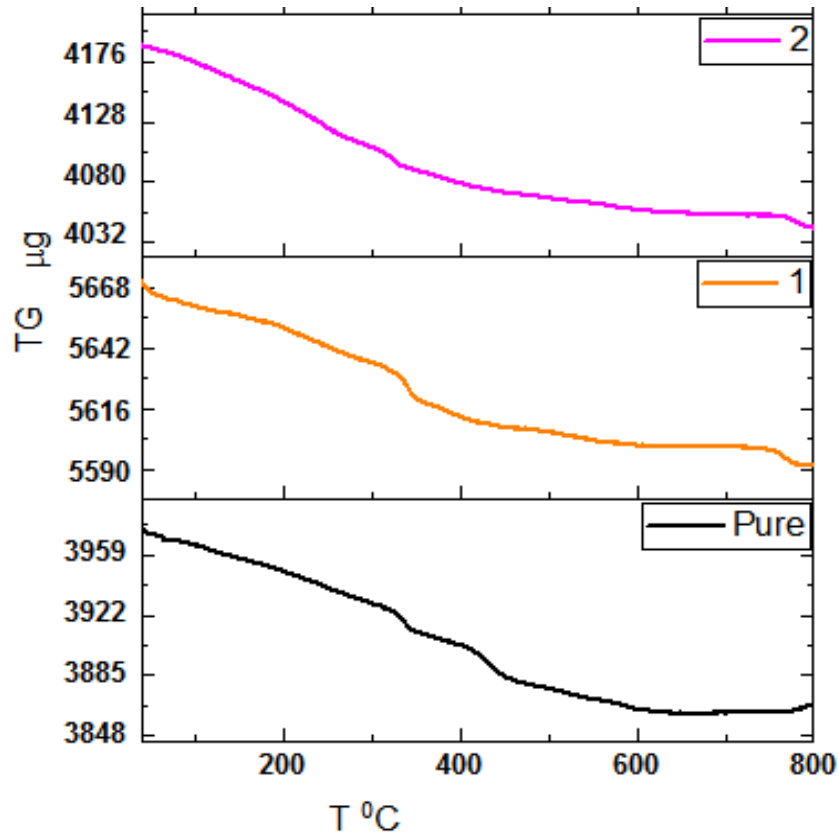
strain	Stress		
	pure	1	2
8.05958	79.86488	79.99084	223.0642
9.49026	83.32453	85.65551	235.2331
10.87133	109.2024	100.3202	247.402

350

strain	Stress		
	Pure	1	2
8.05958	67.75654	71.05095	172.2331
9.49026	74.79171	77.21982	178.402
10.87133	95.72587	83.3887	185.5708

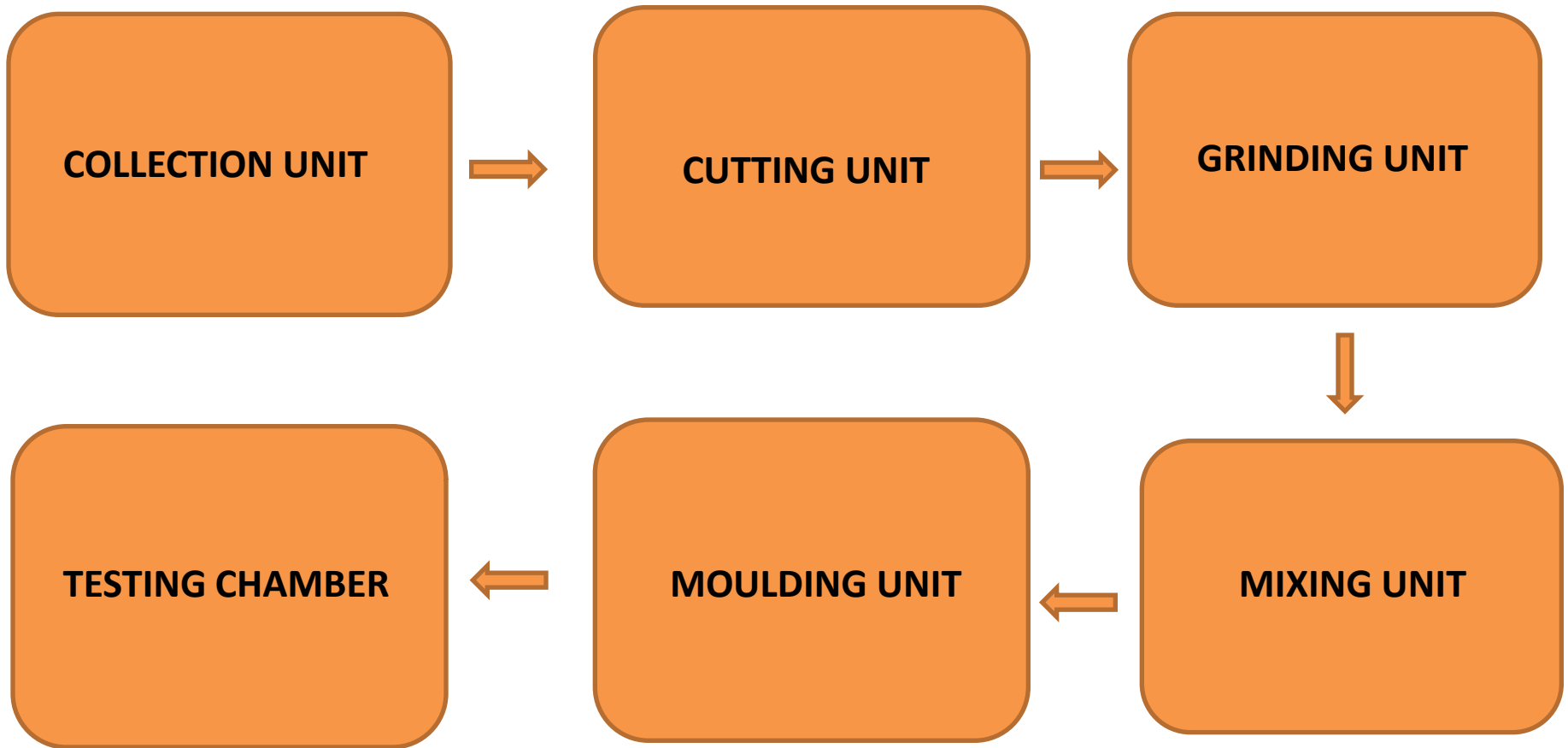
- ❖ The test done in room temperature, 200 ° and 350 ° C.
- ❖ From the graphs sample 2 with stands maximum stress in all temperatures.
- ❖ This reveals that sample 2 can be used for construction applications like compound wall, pavement bricks etc.....

Thermal Analysis



- ❖ All the testings were carried out from room temperature to 800
- ❖ Sample 1 and pure bricks are having prominent decomposition in between 300-350
- ❖ But sample 2 that is very little or it can be negligible .

FLEXEY BRICK MANUFACTURING PLANT



OTHER WAYS TO REDUCE PLASTICS

- Political parties are the ones who use these flex banners the most.
- The government can ban the use of these flex banners by political parties during elections. This is one of the ways of reducing the usage of flex banners.
- Cotton banners and poly-ethylene banners as an alternative for pvc banners.
- Even if these flex banners are banned the flex banners produced before in millions of numbers would again leach the soil and cause harm to the soil.
- So these flex banners can be reduced by the way we have discussed before.
- Also we can make purse, decorative items, carry bags, temporary tent etc.



Conclusion

- ❖ Flex banners are the unavoidable canvassing tool of today's modern technology.
- ❖ They cannot be totally altered with any kind of similar tool. But, same time they can be effectively reused and recycled .
- ❖ Many more untold possibilities of reuse and recycle of such flex are there. Those have to be explored by consecutive research efforts.
- ❖ By doing so, we can minimize the growing threat of plastic pollution on sustainability and environmental health.

Acknowledgement

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Every problem has a creative, eco-friendly solution

Thank
you!