

Rice Husk Waste Processing

Raw material



Rice husk



Rice straw

Composition :
Cellulose 50%
Lignin 25% - 30%
Silica 15% - 20%
Moisture 10% - 15%

Particle resizing (milling)



Milling rice husk with
Disk mill



Rice husk coarse mill
(40 mesh)



Rice husk medium mill
(150 mesh)



Rice husk fine mill
(400 mesh)

Particle rice husk board (Heatpress)



Mixing with additive
(starch glue / tree sap glue)



Particle rice husk board
(coarse mesh)



Particle rice husk board
(medium mesh)



Particle rice husk board
(fine mesh)

Paper rice husk



Pulping
(Alkaline solution)



Screening paper



Rice husk paper



Rice husk paper
(back light)

Possibility exploration material

- The cellulose content in rice husks can be extracted using the pulping method and can be used to make paper, particle board and bioplastic cellulose acetate.
- The silica content in rice husks can be extracted using combusting, leaching and alkali extraction methods to make mineral additives and desiccants.
- Rice husks can be mixed with various adhesives to make composite materials. This type of adhesive is divided into starch glue which is made from wheat flour and tapioca. Another option is to mix with sap glue which is made from a mixture of tree sap and charcoal. Products that can be produced from this method are: briquettes, incense, particle board, etc

Design exploration sketches

