Kenaf Glass

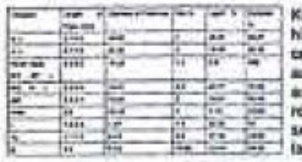
Environmentally Friendly Glass Curtain

Research Question:
The question we would like to pose is - can glass be more environmentally and socially responsible?

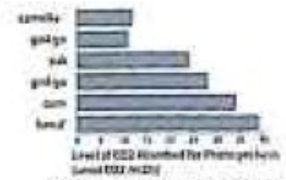
Glass manufacturing has considerable negative impacts on the environment, considering the abundant consumption of O2 and release of CO2 during glass melting combustion, and the non-renewable fuel used in fired furnaces and other devices. Moreover, CNN News' research (2004) indicates that up to 1 billions birds died by crashing into glass window every year in any developed country. Glass-skinned skyscrapers are estimated to "kill" appropriately 200 birds every day.

It is self-evident that numerous transparent glass windows in residential and commercial buildings remain closed with the use of curtain most of the day. People need privacy - particularly in Tokyo where houses and office are in an unimaginable close proximity.

Kenaf is a member of the hibiscus family, grows to heights of 3.5 - 5m in 4 to 5 months, with , its maximum height could be 6.5 m. The outer fiber "bast" has long fiber with 2.6mm.

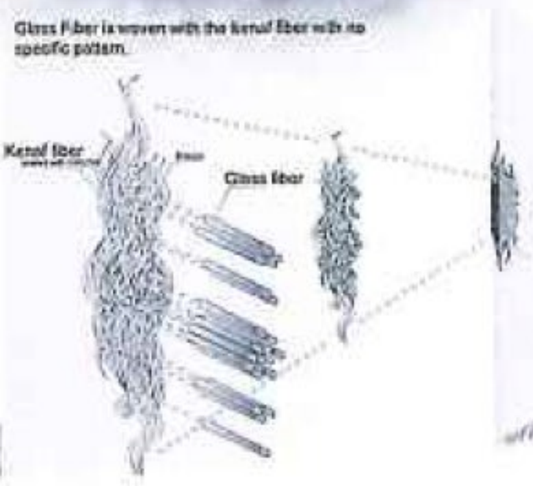


Kenaf's bast contains a high content of cellulose, and its fiber is among the longest among natural fibre, results in great elasticity something glass is lacking.

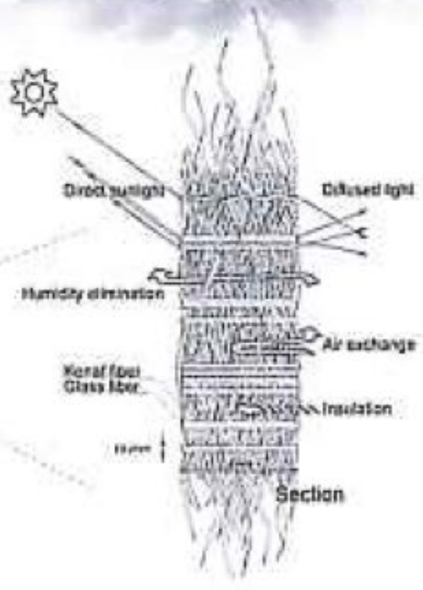


Kenaf removes the most CO2, NO in the air than other plants in the world. 1722 bunch of kenaf could be planted to eliminate all the CO2 produced by a vehicle in a year.

Kenaf has traditionally used to make Japanese paper, provoking the virtue of Japanese culture.



Glass Fiber is woven with the kenaf fiber with no specific pattern.



Kenaf + Glass Fiber
Glass fiber provides transparency and heat/water resistance essential to window
The low cost Kenaf provides the elasticity and Washi-like texture along with the environmental benefits.

The essential objectives of the concept are outlined clearly and definitely:

1) Collecting scientific findings and technical perceptions on the production of glass, paper, membrane, plasterboard and fabric production.

2) Developing an advanced understanding regarding the nature of kenaf and glass

3) Attempting to find objective criteria and to formulate rules, and applying all this to the design and manufacturing processes of Kenaf Glass

The porous kenaf structure facilitate the air exchange between the interior and exterior space.