Agro-Forestry and C&D Waste Based Fly ash Bricks For Partition Walls

Technology in Brief

Crop residue management is a massive problem in the agriculture sector. Agriculture waste in the form of stubble, mainly rice straw is usually burnt on the farm fields, causing severe air pollution and poses severe threat to the environment. The present technology demonstrates the effect of rice straw as agro-waste and dry leaves as forestry waste along with construction and demolition (C & D) waste in fly ash bricks for non-load bearing partition walls. Various compositions viz., agro-forestry waste (up to 5 wt. %) in fly ash brick samples have been studied for compressive strength, thermal insulation, sound transmission loss, and elevated temperature compressive strength. Addition of agro-forestry and C & D waste promotes waste materials, cost savings, waste utilization and circular economy in construction, thereby saving fertile soil in production of burnt clay bricks.

Salient features/Advantages

- Compressive Strength**:** 5-10 MPa.
- Water absorption**:**< 20%.
- Sound Transmission Loss**:**40-45 dB
- Thermal conductivity: 0.4-0.5 W/m. K.
- Waste utilization, conserve natural resources, sustainable, reduced energy consumption Process flow chart, Waste materials, Developed Bricks, Testing and prototype building.

End Product(s)	Agro-waste fly ash bricks
License/Commercialization	01
TRL	07
Environmental Impact	Eco-friendly, sustainable
Setup - Equipment required	Brick making machine, casting yard
Linkedin Video Link	**https://www.linkedin.com/posts/csircbri_csir-india-pradeep-kumar-ramancharla-csir-cbri-activity-7338599039816429568-twDb?utm_source=share&utm_medium=member_desktop&rcm=ACoAAE1ijyABshTzQUwK7Dj8mksi4yko5dgW6LA**
Linkedin Video Link	**https://www.youtube.com/watch?v=pdIuuADc3jk**