A LIGHTWEIGHT, HIGH-STRENGTH, AND MULTI-PURPOSE LAMINATED BAMBOO LUMBER (LBL) FREIGHT CONTAINER AND MANUFACTURING METHOD THEREOF

ABSTRACT

The present invention discloses a lightweight, high-strength, multi-purpose laminated bamboo lumber (LBL) freight container and a manufacturing method thereof. The freight container comprises LBL corner posts, LBL side posts, LBL longitudinal side beams, LBL or glass fiber reinforced plastics (GFRP)-steel transverse short beams, LBL or GFRP-steel longitudinal middle beams, corner fitting-GFRP-steel plate-steel sleeve-bolt integrated connections, LBL diagonal braces, GFRP-steel composite square cylinders for forklifts, GFRP-steel sleeve bolt connections, GFRP-steel bolt connections, diagonal T-shaped GFRP-steel filling plate bolt connections, portal-shaped steel plate integrated welded connections, doors, a "K"-shaped structural system, and peripheral plates. The freight container of the present invention possesses the advantages of light dead weight, high strength, structural safety and reliability, corrosion resistance, impact resistance, fatigue resistance, and freeze-thaw resistance. Furthermore, the present invention reduces the use of mineral materials such as steel and aluminum alloys, thereby being low-carbon and environmentally friendly.