

Multi-functional polymer composites and design for the 463L pallet replacement



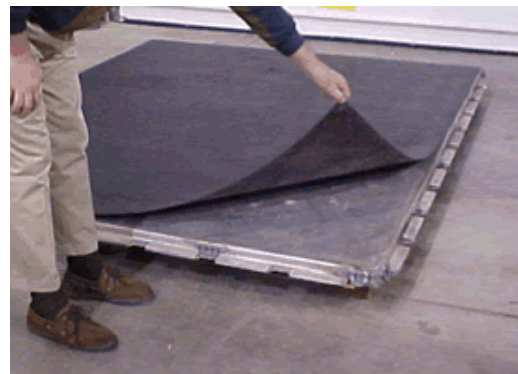
Overview

A major element of the US Army mission is to provide materiel to distant theaters of operation in sufficient quantity and timeliness to permit effect conduct of the mission and performance of the troops. Wood pallets are unacceptable since they rot and can harbor pests and pathogens. Metal designs, such as the current 463L pallet is extraordinarily expensive, particularly considering that it often makes just three trips and does not have secondary uses in the field. The AMIPP Center is working with DoD and ARDEC to develop a lightweight and inexpensive polymer composite pallet that will have multiple uses in theaters of operation worldwide

Progress

Composite materials have been developed based on PS/HDPE composite technology that have the necessary strength, stiffness, and surface texture to be used in 463L applications aboard transport aircraft and on ARDEC transfer equipment. Pilot pallets have been fabricated at Polywood, Inc. in Edison, NJ [Above, right] that are currently under test at Picatinny ARDEC. In addition to new composite technologies, novel adhesive and bonding technologies have been applied to give exceptional performance to these structures.

Tables and Figures



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