

Safe transport of troop securing systems

Custom design, cost-effectiveness and reusability were just a few of the demands when Clip-Lok was contacted by Permali to design packaging.

Permali was awarded the contract to supply bullet and blast resistant armoured panels for Nexter for their armoured personnel carriers and contacted Clip-Lok to design a box to transport them in. The armour system consists of over 100 components of greatly varying sizes, which are both heavy as well as sensitive to compression due to bonded foam layers.

Nexter required the armour systems to be delivered in cost effective boxes which could be flat-packed, returned and reused. The individual components would need to be packed in a specific order and be easily accessible so the boxes could be an integrated part of the lean production line.

Once on the production line, the workers needed easy and sequential access to the parts direct from the box without unnecessary handling.

Due to the armour panels' construction and materials, the components could not be stacked vertically or horizontally. Permali's original thought was therefore a transport box with various shelves on which to place the components. This, and alternative suggestions were though unworkable.

Using computer-generated drawings of each component, the engineers at Clip-Lok were able to design a solution where each component is hung in the correct order on specially designed protective racks within the box. This solution saves space and offers excellent support and protection to the A-class surfaces. Upon arrival to the production line, one side of the box can be opened within seconds giving the workers easy

and sequential access to the parts, which are hanging for more ergonomically correct lifting and mounting on the vehicle.

When the Clip-Lok box is emptied, it can then be quickly and easily packed flat for space-saving and cost effective return shipping and reused time and again.

CLIP-LOK BEGAN PRODUCTION OF THE CUSTOM TRANSPORT BOXES FOR PERMALI THIS YEAR.

COST SAVING STRONG PACKAGING SYSTEMS FOR MILITARY EQUIPMENT

Clip-Lok SimPak provides collapsible, reusable, cost-saving packaging systems which are strong, versatile, and easy to assemble with strong steel clips.

Clip-Lok SimPak
www.clip-uk.com

Return to Permali
Retourner au Permali



Clip-Lok plywood boxes and strong spring steel clips have been tested exhaustively by official institutes around the world and have met the most stringent of standards and tests

Despite being erected with clips, the Clip-Lok boxes are very strong and stable. The heavy duty boxes can take a 15 ton compression making them perfect for military usage. The boxes can be stacked without the need for racking and they can be reused on average 100 times.

Transport of ammunition is connected with several risks and the requirements for ammunition boxes are high. They have to withstand dropping, vibration, shock etc. and the dunnage has to give maximum protection for the ammunition.

TESTED AND UN APPROVED

Clip-Lok is a supplier to the world's largest defence contractors including BAE, Raytheon, GD, Rafael and Airbus. Over the years Clip-Lok has amassed experience and obtained accreditation within NATO and various sectors of the armed forces in countries including South Africa, Israel, Spain, Portugal, United Kingdom, Sweden, Norway, Denmark, Finland and the US.

Various boxes have passed tests including MIL-STD-810; environmental test methods and engineering guidelines, ICAO standards for use in

the airline industry, **ADR/RID test requirements and Standard Liquids**; and a UN Transport of Dangerous Goods Model Regulations. The Clip-Lok plywood boxes and strong spring steel clips have been tested exhaustively by official institutes around the world and have met the most stringent of standards and tests, including:

- UN approval for the transport of dangerous/hazardous goods group II & III
- Armed forces accreditation in a number of countries
- 12mm case proved to withstand 15t pressure
- Liquid boxes tested successfully up to 1000L
- Stacking up to ten high when loaded, without racking
- Vibration, stacking, impact and pressure tests passed on numerous occasions
- Official drop tests repeatedly prove the stability of box and clip
- Rain tests confirm that the rebated panels are weatherproof

Multi-national corporations have also conducted exacting in-house research, with the Clip-Lok boxes reaching a standard well above that which was required.

DESIGNED TO MATCH MILITARY NEEDS - WITH LOWER COSTS AND LESS IMPACT ON THE ENVIRONMENT

Clip-Lok boxes are custom designed for each specific purpose. The quality and design of the box and dunnage is of high importance in order to achieve safe and sustainable packaging while reducing costs. With its unique and advanced 3D design technology, **CATIA**, Clip-Lok customise the boxes according to the exact specifications as well as to the method of shipment.

Collapsible boxes reduce return logistics costs since they take up less space, allowing companies to transport more in a single return shipment. Once unpacked, the collapsible boxes can then be flattened, or flat-packed, loaded onto a truck, plane or any other means of transportation and shipped back to their point of origin for re-use. They can be made to measure to accommodate, for example, Hercules transport or 20" or 40" containers.

Using the Clip-Lok reusable boxes is an active decision towards a greener society without compromising company standards. Research made by the independent consultancy company Ramböll shows that the environmental impact is less using reusable Clip-Lok compared to using expendable boxes. Clip-Lok boxes only use plywood certified by FCS or PEFC.=

