IMPROVING BUSINESS. IN YOUR WORLD

Reference Cases
ENERGY: INVERTERS AND CONVERTERS

Reducing cost via intelligent packaging solutions

Background
- The customer manufactures power converters and inverters that are sent to customers globally in cleated plywood crates
- Nefab to develop packaging solutions that protects customer products and save costs in packaging and logistics

Requirements
- Nefab engineering team to redesign current packaging solutions in order to reduce cost without compromising quality
- Nefab packing onsite team to execute packaging operations
- Improve health and safety in customer packaging workshop

Outcome
- Optimization of transport, less cost of logistics
- Reduced packing time
- Improve handling and installation on site
- Reduce total cost (46% cost savings)
ENERGY: INSTRUMENTAL TRANSFORMERS

Switching from ExPak to CratePak-O

Background
- The customer manufactures high voltage instrumental transformers that are sent to customers in ExPak boxes with cut-outs for visual inspection
- They were looking for an alternative packaging solution that would allow them to achieve savings in their logistics costs

Requirements
- Reduce packaging cost, while keeping an easy-to-assemble system
- See-through crate to allow for visual inspection

Outcome
- 25% lower packaging cost
- Reduced packing time by 38%
- Easy-to-inspect packaging solution
- Reduce total cost of logistics by 25% ($48k a year)
ENERGY: LEVEL MEASUREMENTS
Reducing cost via improved packaging solutions

Background
- The customer manufactures various Level Measurements for Oil and Gas
- Instruments are made to order and shipped by courier to remote locations
- Due to the rough handling in transportation and not optimized packaging, the customer experienced big problems with damaged products

Requirements
- Nefab engineering team to redesign current packaging solutions in order to reduce cost without compromising quality
- High level requirements for packaging that should be stored and handle in rough environments
- Nefab packing onsite team to execute packaging operations
- Improve health and safety on customer packaging workshop

Outcome
- Reduce product damage
- Optimization of transport, less cost of logistics
- Reduce total cost (20% cost savings)
VEHICLES: AXLES FOR TRUCK TRAILERS

Nefab solution to streamline logistics flow for axles

Background
- Producing a range of axels for truck trailers
- Request for streamline from customer
- Nefab to provide solution due to design competencies and project management skills

Requirements
- Optimizing transportation ratios and minimizing the time used for packaging
- Provide a new container solution
- Customer to be actively involved

Outcome
- One container instead of three different constructions
- Reduced packing time (up to 60%)
- Shorter logistic cycles and reduced Logistic costs
- Customer implemented similar solution to sister companies
TELECOM: OUTDOOR CABINETS

Reducing packaging and logistics costs

Background
- The customer is a leading supplier of telecommunication infrastructures and manufactures steel racks for Mobile Bay Outdoor Cabinets
- Being a global supplier with a capacity to identify savings Nefab was approached to analyze the cost take-out possibilities

Requirements
- Stretch film and corner damping
- Nefab packing onsite team to execute packaging operations
- Reduce the fixed cabinet unsatisfactorily high packaging and logistics costs

Outcome
- Nefab ExPak S with 6mm plywood was the best solution
- Reduced cost due to replaced wooden pallets with Oriented Strand Board (OSB) and Phytosanitary regulations could be met
- A total cost reduction of 20-28% in packaging and logistics
REFERENCE CASE: TELECOM

TELECOM: BASE TRANSCEIVERS

Complete packaging solution and minimized total cost of product protection

Background
- Customer is a major global player in the supply of mobile systems in the telecom industry and is in need of packaging for a component of their telecom equipment

Requirements
- The packaging to be ESD protective and extra humidity protective
- High level knowledge about sensitive products with complex logistic situations
- Provide complete packaging solutions and minimize the total cost of product protection for the customer

Outcome
- ESD-protective cushioning and a barrier as well as desiccants inside the packaging that was extra protection from humidity
- Optimized customer’s packaging design and enabled them to concentrate on their core products
- Nefab provided additional support with product drawings, packaging instructions and with necessary environmental documents
ENERGY: SOLAR PANELS

Nefab solution to reduce cost and reduce damages

Background
- Customer is manufacturing solar panels, stacked in triple walled corrugated cardboard boxes and an unsatisfying space utilization
- Nefab to provide a solution to improve space utilization

Requirements
- Optimize warehouse storage
- Improve storage handling
- Reduce damage

Outcome
- ExPak S provide short side loading
- Stacking ability of 8 instead of 3
- Increased amount of solar panels per box with 50%
- Reduced total costs (11% cost savings)
- No damages detected
AEROSPACE: MRO - KLM

Improve MRO service provided for stations worldwide

Background
- Responsible for maintenance of their own air fleet and also service for others all over the world
- This involves several, complicated flows of spare parts
- Nefab to provide a Complete Package Solution

Requirements
- One contact point
- One communication interface
- Fast answer to new packaging requests
- Reduce or eliminate storage area

Outcome
- Single point of contact
- Reduced number of packaging items
- Nefab provide storage of all items that needs to be on stock
- Transparency in the supply chain, ability to trace items
- Reduced cost

REFERENCE CASE: INDUSTRY

Improve MRO service provided for stations worldwide

NEFAB Solutions
AEROSPACE: HELICOPTERS

Nefab solution to increase warehouse space and increase speed of production

Background

- Large part of the helicopters are shipped on exports and needs to be assembled and disassembled at the facility
- Nefab to develop packaging solutions in order to improve the disassembling and packing of the helicopters

Requirements

- Provide warehouse space
- Increase the speed of production
- High level knowledge about packaging and logistics of aircrafts

Outcome

- Nefab dedicate warehouse space for the customer close to their facility
- Provide a complete disassembling and packing solution for the helicopters
- Provide storing goods for shipment
VEHICLES: PLASTIC LAMINATE

Nefab solution to supply packaging in five countries and reduce logistic costs

Background
- Customer manufactures a plastic laminate used in automotive and architectural glass applications
- Needed a global supplier that could accommodate manufacturing at six sites in five countries

Requirements
- Nefab engineering team to develop ExPak nail less system that could be reproduced in five countries
- Lowered total cost with ease of assembly and a 33% increase in shipping density
- Vendor Managed Inventory at the two biggest production sites; Trenton, MI and Gent, Belgium

Outcome
- Saved $450,000 in transportation cost
- Developed a standard package used worldwide
- Reduced handling time and increased the safety of the works assembling packaging

NEFAB Solutions
**HEALTHCARE: MEDICAL SOLUTIONS**

Reusable solution for Medical Equipment

**Background**
- The customer is one of the largest suppliers of healthcare equipment in the world, one of the best known product is the mammography equipment
- Nefab to develop packaging solutions that protects customer products and saves costs

**Requirements**
- A team of Nefab specialists to redesign current packaging solutions in order to reduce cost without compromising quality
- High level knowledge about weight products with complex logistic situations
- Eliminate the high damage rate

**Outcome**
- A team of Nefab specialists to redesign current packaging solutions in order to reduce cost without compromising quality
- High level knowledge about weight products with complex logistic situations
- Eliminate the high damage rate
MINING: CONVEYOR ROLLS

Packaging solutions for conveyor rolls in the mining industry

Background

- The customer manufacturing facility is mainly producing components for mining industry

Requirements

- Nefab was asked to redesign current wooden packaging solutions in order to reduce total cost
- It is needed to have access to products while packed and in storage
- Current packaging is taking too much space in warehouse, before goods are packed

Outcome

- The new Nefab solution could fulfill all requirements – total cost was reduced
- With redesign, more rolls could fit into one box and they were also accessible from outside while packed and in storage
- New Nefab design required much less warehouse space
A COMPLETE PACKAGING SOLUTION

Plywood lid with the edge-board fixes the sleeve into position and gives an extra strength to the package to increase stacking properties.

Molded EPP (Expanded Polypropylene) foam is a moisture resistant and resilient material with good multiple drop cushioning performances. Molding demand more complicated tooling but is often an economically preferable choice for large quantities.

An antistatic bag is a bag used to protect electronic components from damage caused by electrostatic discharge (ESD).

A corrugated sleeve has a good strength-weight ratio, serves as dust cover and reduce visibility of the product inside the package.

Light Weight Pallet equipped with profile plates to keep the over-pack in position. Plywood & Steel -> no phytosanitary threats according to IPPC - ISPM15. Dimensions are optimized to enable fork lift handling.

Corrosion protection; when the storage time is short or the level of humidity in the environment is low, a combination of a plastic bag and desiccants can offer enough corrosion protection.

PET strap is used to stabilize the packaging. The material width and thickness can be optimized so that the necessary characteristics will be achieved for each application.

Complete Packaging Solution
- Lightweight – saves air transport costs
- Easy assembly – saves handling time
- Flat pack – saves storage space (inbound)
- Corrugated sleeve – low material cost
- Dimensions – optimized to mode of transport
AMERICAS: SERVICE AND SUPPLY

- 600 People Employed
- 24 Packaging Engineers
- 13 Production Facilities

as of December 2015
NEFAB FOOTPRINT

- +2,400 People Employed
- 124 Packaging Engineers
- 48 Production Facilities

as of December 2015
NEFAB FACTS

- 400 Million USD turnover (2015)
- 2,400+ People employed world-wide
- 130+ Design engineers
- 5 Certified test labs around the globe (1 Located in San Jose)
- World leader in engineered packaging solutions
- Well positioned in all major industrial markets
- Present in more than 31 countries
- Strong focus on customer segments
- America’s Headquarters in Dallas