

# **STORAGE AND HANDLING OF CORRUGATED AND SOLID FIBERBOARD PACKAGING MATERIALS**

The **Fiber Box Association (FBA)** and the **Packaging Machinery Manufacturers Institute (PMMI)**, recommends the following practises, for the storage and handling of corrugated and solid fibre packaging, including knocked-down (KD) boxes, scored and slotted sheets, and inner packaging pieces.

These guidelines ensure, to the greatest extent possible, that the packaging:

- Is usable and can fulfil its intended function,
- Protect the product against damage, leakage or other loss.
- Set up easily by hand or
- Run smoothly on the automatic set-up, filling and closure equipment for which it was designed.
- When filled and set up, will stack squarely during palletization, storage and shipment.

## **BACKGROUND**

Corrugated and solid fiber packaging is shipped to the user in knocked-down or flat form, so that it requires a minimum amount of storage area. Banding, bundle twine, strapping, shrink/stretch film or another method may be used to unitize and stabilize the load, which may be delivered on slip sheets or pallets.

Like any other material, corrugated and solid fiber packaging can be damaged by its storage environment or by handling practices. Once damaged, the packaging loses some of its effectiveness.

To store and handle corrugated and solid fiber packaging, take a few simple precautions.

**High humidity or direct contact with water** may adversely affect the performance of the packaging material. Excessive moisture may:

- **Soften or dissolve the adhesive leading**, in extreme cases, to delamination.
- **Increase the coefficient of friction of the linerboard**, causing packaging to stick in automatic equipment or on conveyors.
- **Alter the dimensions**, resulting in equipment jams.
- Uneven moisture absorption may **cause warp**, making it difficult to run the packaging on automatic equipment or to square the packaging by hand.
- Extremely low humidity, high heat or extreme cold can **reduce the moisture content of the packaging material** and may alter the dimensions or make the paperboard or adhesive brittle.

**To avoid adverse effects caused by moisture and temperature extremes and fluctuations, the following practices are recommended:**

- Use flat dunnage or other material to protect the top and bottom of the unitized packaging. If the packaging is placed directly on the floor, trapped moisture can accumulate and damage the material.
- The height of stacked KD boxes or packaging components, or of unitized bundles or pallet loads of KD boxes or components, should be governed by “safe warehouse management practices.”
- ***Store packaging inside, away from sources of moisture and heat.***
- Keep packaging away from outside doorways that remain open or that might be opened frequently.
- When it is impossible to store packaging under approximately standard conditions, bring the packaging to the packing line for a period of time before being used. If both the storage area and the packing area are subject to extreme conditions, it may be necessary to condition

packaging in a third area to assure proper operation of the packing line.

- Follow the practice of “first in, first out,” using the oldest inventory first.
- The ideal storage conditions are at 23 C and a relative humidity of 50%

This will ensure a shelf life of between 6 months and 2 years (depending on the storage conditions)

## **STORAGE PRACTICES**

The flute structure in corrugated board provides stacking strength and a cushion for the packaged product. Any damage to the flute structure prior to use - either from crushing, puncture or tears - reduces the packaging's effectiveness.

Torn, bent or scuffed edges can affect the packaging's proper erection or runnability on automatic packaging equipment. To avoid physical damage, the following practices are recommended:

- Packaging should be stored horizontal (flat), in a knocked-down form, from the time it is received until it is used or fed into the automatic machinery hopper. Never stack or store packaging on its end.
- Packaging should be stored on clean, flat surfaces.
- When pallets are used, all deck boards should be in place and undamaged in order to distribute the weight evenly.
- Leave the banding, bundle twine or other unitizing device in place until the packaging is ready for use.
- Use caution when handling stacks of unitized KD boxes. There may be some inherent instability, especially when there are sealed manufacturer's joints or other partial areas of multiple thickness.
- Avoid placing any uneven weight on stored packaging. Don't stand, sit or climb on stacked packaging or place other heavy objects on it.

- Always lift and set down packaging carefully when it must be moved. Do not use the unitizing/bundling device(s) for lifting, carrying or otherwise transporting the stacks of boxes. Don't drop unitized loads into place, or drop, or throw bundles or individual packaging pieces. To avoid damage to edges and corners, don't drag packaging or strike it against a hard surface.

## **HANDLING PRACTICES**

Seyfert is confident that packaging that is stored and handled in accordance with these recommendations will set-up and run satisfactorily through automatic forming and loading equipment.

If, for any reason, packaging does not run (or erect) satisfactorily, save the packaging material, record all relevant information and contact your sales representative.

