Tutorial – using the demonstrator

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INNVENTIA

Contents

- Graphical User Interface of the ModelPACK demonstrator
- Board properties
- Two Box Types
  - RST box of 0201-type ↔ 3 plies of corrugated board
  - Fruit tray ↔ 5 plies
- How to predict a RST box of “0201” – type 
- How to predict a box of a “Fruit Tray” – type 
- Customised fluting geometry and paper grade(s)

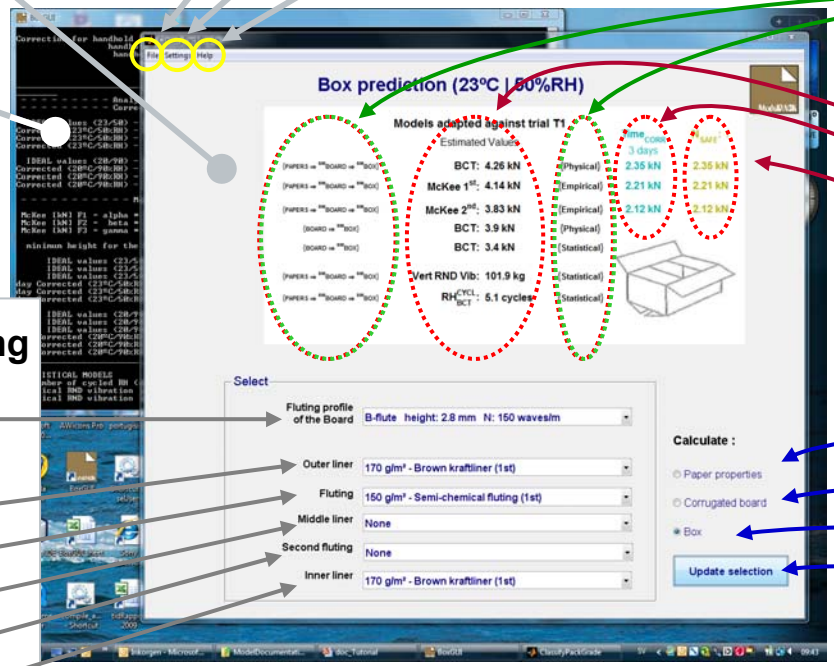
GUI of the ModelPACK demonstrator

the GUI

CMD that works in the background

Dropdown menus on the toolbar

- File – terminate the program
- Settings – basic model input
- Help – about the program



Model information

Predicted Box values

- Idealistic level
- Time corrected
- With a safety factor

Dropdown menus specifying

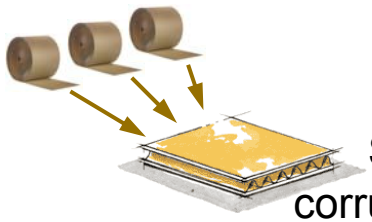
- Fluting Geometry
- outer Liner
- first Fluting
- middle Liner
- second Fluting
- inner Liner

Calculate a prediction

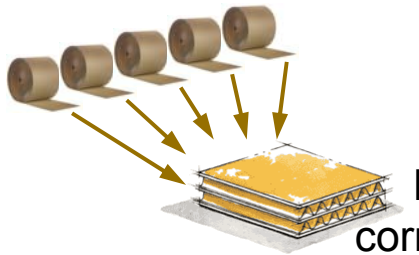
- Paper qualities
- Corrugated Board
- Box properties
- Update and evaluate

Board properties

Paper descriptors



Single walled corrugated board



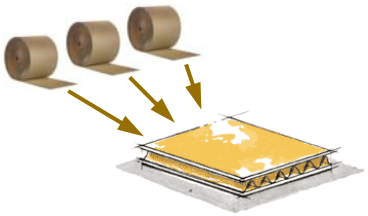
Double walled corrugated board

Modelled Board properties

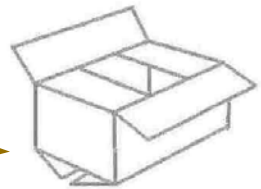
- **Thickness**
- **Basis weight**
- **Tensile stiffness**
- **Bending stiffness**
- **ECT**
- **FCT**
- **Bursting strength**

Models are adapted for ambient relative humidities of 50% RH and 90% RH

Two Box Types / paths in the demonstrator



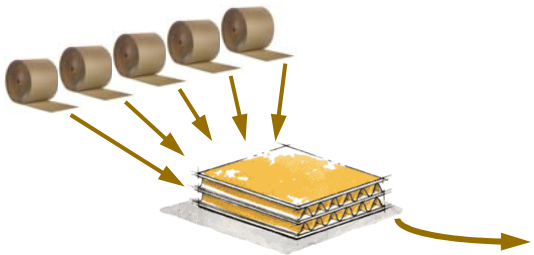
Single walled corrugated board



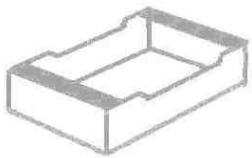
Regular slits box "0201" – type

Predicted characteristics

- BCT – physically, empirically or statistically
- Vertical Random Vibration (**1 h**)
- Cycled humidity (**50% ↔ 90% RH**)



Double walled corrugated board

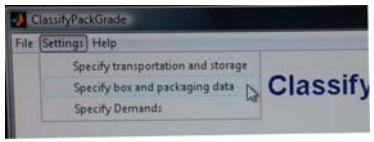


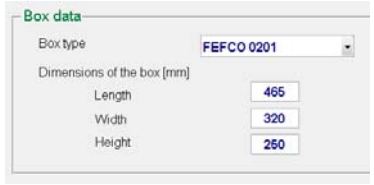
Fruit tray

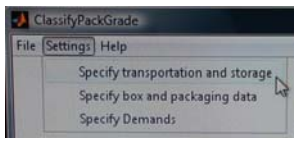
Predicted characteristics

- BCT
- Static Stacking Test (**24 h**)
- Bottom Deflection (**10 min**)

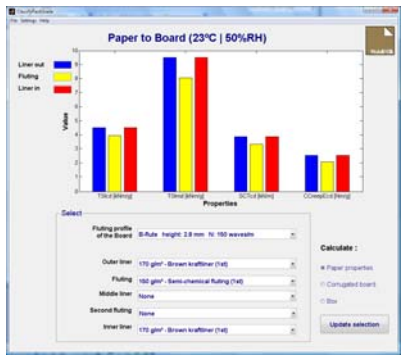
How to predict a RST box of “0201” – type

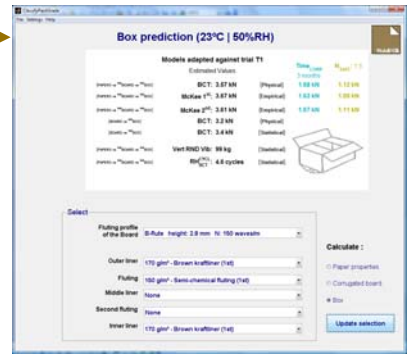




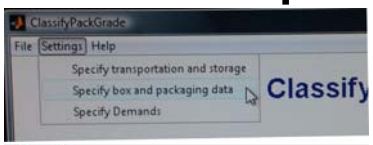


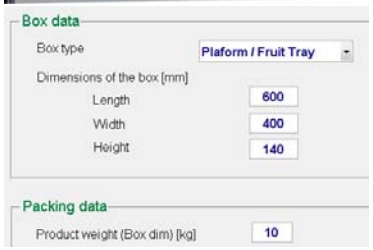
1. Settings → Specify box and packaging data
   1 – Box type: FEFCO 0201
   2 – Length, width and height of the box
2. Settings → Specify transportation and storage
   1 – Safety factor N: 1.5
   2 – Duration of storage: 3 months
3. 1 – Specify fluting geometry (**A, B, C, E or F-type**)
   2 – Specify paper quality on liners and fluting
4. Verify paper data obtained from the DB
5. Verify the board data obtained from the prediction
6. Analyze predicted box characteristics

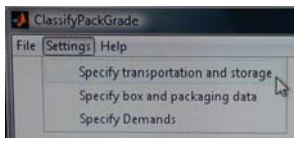


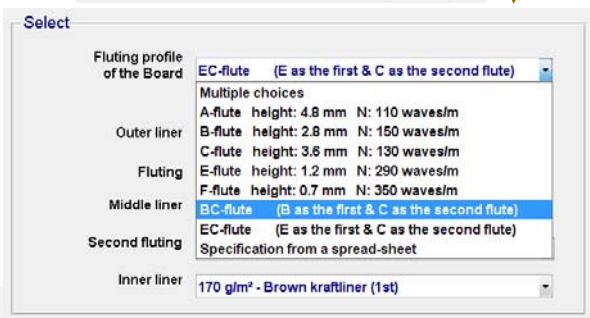


How to predict a box of a “Fruit Tray” – type

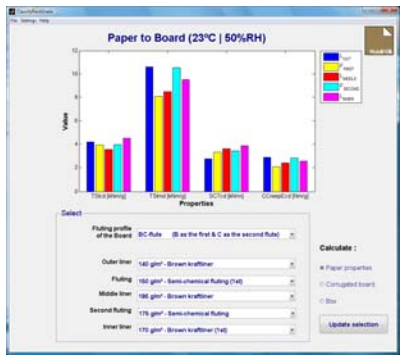


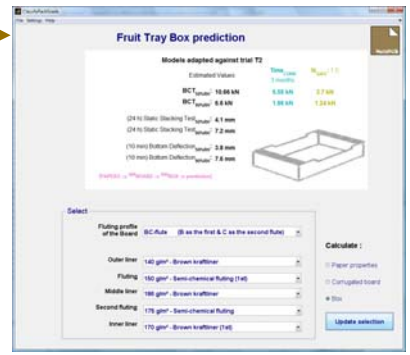






1. Settings → Specify box and packaging data
   1. – Box type: Plaform / Fruit Tray
   2. – Length, width and height of the box
   3. – Max loading weight (box degned)
2. Settings → Specify transportation and storage
   1. – Safety factor N: 1.5
   2. – Duration of storage: 3 months
3. 1. – Specify fluting geometry (**BC or EC-type**)
   2. – Specify paper quality on liners and fluting
4. Verify paper data obtained from the DB
5. Verify the board data obtained from the prediction
6. Analyze predicted box characteristics





“all models are wrong, some are useful”

George Box

industrial statistician