SavvyPack®
Intelligent Packaging Analysis

User Guide
SavvyPack® System
Structure Assistant™

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Section I
User Guide Introduction

Section I:
User Guide Introduction

The Introduction to the User Guide explains the organization of the User Guide, the organization of the SavvyPack® System, and the organization of the Structure Assistant[tm].

A. User Guide organization

The User Guide is organized in several sections:

- Introduction
- Control features
- Structure Assistant[tm] screens description
- Comparison tool

B. SavvyPack® System organization

The SavvyPack® System has three functional units that each have their own entry drop down menu of modules:

- The SavvyPack® Analytical System
- The SavvyPack® Market Data System
- The SavvyPack® Participant Profiles

1. SavvyPack® Participant Profiles

The SavvyPack® Participant Profiles modules can be searched to source packaging resources.

2. The SavvyPack® Market Data System

The SavvyPack® Market Data System modules can be searched for highly granular packaging market data for any country in the world.

3. The SavvyPack® Analytical System

The SavvyPack® Analytical System modules can be used for package design and analysis. The SavvyPack® Analytical System is a highly rigorous analytical system that includes structure design (Structure Assistant^{tm}), economic analysis, value chain analysis, life cycle analysis, and physical properties analysis.

There are four modules that form the SavvyPack® Engine, the heart of the SavvyPack® economic, value chain, and life cycle analysis system. The four modules of the SavvyPack® Engine are distinguished by the type of analysis they perform (economic or environmental) and by their position in the supply chain (package production or product packaging). The SavvyPack® Engine modules are defined as the following:

- Econ1 module – economic analysis of package production
- Econ2 module – economic analysis of product packaging
- Sustain1 module – environmental impact analysis of package production
- Sustain2 module– environmental impact analysis of product packaging

C. Structure Assistant^{tm} organization

The Structure Assistant^{tm} is a part of the SavvyPack® Analytical System and is one module among many modules (including the SavvyPack® Engine above) available within the SavvyPack® Analytical System.

The Structure Assistant^{tm} has two main screens. One screen is for designing structures and the second is managing those structures.

1. Structure management

The Structure Manager includes three spaces:

- The public library of structures
- A company proprietary library (optional)
- An individual proprietary workshops

The public library can be searched and structures in the public library can be copied into the individual proprietary work space. The structures cannot be changed in the public library, but once they are copied into the individual proprietary work space, the structures can then be changed.

The company proprietary library is optional. If initiated, only company employees can access the proprietary library. Structures in the company proprietary library can be copied into the individual proprietary space to be worked on, but structures in the company proprietary library cannot be changed.

Structures in the individual proprietary space can be shared with other company employees.

2. Structure Designer

The Structure Designer is used to view public library structures and company proprietary structures. The Structure Designer is used to design Individual proprietary structures.

D. Login procedure

Entry into the SavvyPack® System is obtained by accessing the member entry page on our main website (www.allied-dev.com), which is started by clicking on the SavvyPack® Login link.

After logging in, the Universal Manager is the first page of the SavvyPack® System. From the Universal Manager, the user selects the module to enter from the SavvyPack® Analytical System menu. To access the Structure Assisant^{tm}, select the Structure Assistant^{tm} option in the dro down menu and click start.

E. Software and content updates

Allied Development updates the software and content in the SavvyPack® system on a regular basis. New software features and new content are added automatically, without requiring action from the user.

Section II
Control Features

Section II:
Control Functions

The Structure Manager is the first screen you see after selecting and starting the Structure Assistant^{tm} module from the Universal Manager screen. It contains the highest level control features, and you should leave it open during your entire session in the Structure Assistant^{tm} module. If you close the Structure Manager, you will no longer have the ability to change and to manage structures.

There are two primary courses of action available to you on the Structure Manager screen:

- You can search and start the structure design process
- You can manage structures and groups

These and other actions are described in more detail in the following paragraphs.

A. Search and start the structure design process

One of the most important features provided by the Structure Manager is the ability to search and start a structure

1. Starting a public library structure

Begin by selecting a structure from the drop down menu located in the gray box labeled "Select from Available Base structures." Once you have selected the base structure you'd like to start, submit your choice

by clicking the "Start a Base structure" button just below the dropdown menu. When you start a structure in this manner, the structure Manager appears in a new browser window with all the links necessary to examine your selected structure.

2. Starting a proprietary structure

Begin by selecting a structure from the drop down menu located in the second gray box from the top labeled "Select from Available Proprietary Client structures." Once you have selected the proprietary structure you'd like to start, submit your choice by clicking the "Start a Proprietary structure Analysis" button just below the dropdown menu. When you start a structure in this manner, the structure Manager appears in a new browser window with all the links necessary to examine your selected structure.

B. Manage structures and groups

The Structure Manager also provides access to tools for managing structures and groups of structures. The management tools are only available in the individual proprietary space. The tools can be used to create new structures, copy existing structures, delete structures, share structures, and others.

These tools are accessable through the manage structures and manage groups buttons.

1. Copy function

The copy function creates a new structure (the target structure) in your proprietary space then copies all of the data from another structure (the source structure) into the new target structure. You select the source structure, which can be a base structure or one of your proprietary structures. The system automatically creates and numbers the new target structure.

Once the copy function has completed, a new window will open with a message verifying that the copy completed successfully and providing the structure ID number of the new proprietary structure.

2. Transfer function

The transfer function transfers all of the variables from a source structure to an existing target structure. The transfer function is similar to the copy function in that the copy and transfer functions move the same set of variables from one structure to another. You select both the source and the target structure for the transfer function.

Once the transfer function has completed, a new window will open with a message verifying that the transfer completed successfully and identifying the source and target structure numbers.

You can use the transfer function to transfer data to a target structure that is blank (a brand new structure) or one that is completely populated with data. In either situation, the data from the source structure will be transferred to the target structure. As a result, you MUST double check the target structure you have selected to ensure you do not copy over an existing structure that you wish to keep.

3. Create function

The create function creates and automatically numbers a new proprietary structure. All of the data, including the structure name and description, will be blank or zero for this new structure.

Once the create function has completed, a new message window will open verifying that a new proprietary structure was created successfully and providing you with the number of the new structure.

4. Delete function

The delete function deletes the proprietary structure that you have selected. As a result, you MUST double check the target structure you

have selected to ensure you do not delete an existing structure that you wish to keep.

Once the structure deletion function is completed, a new message window will open verifying that the proprietary structure was deleted successfully.

5. Rename

The rename function provides the capability to change the name and description of proprietary structures. You select the target structure.

Once the rename function is finished updating, a new message window will open verifying that the structure descriptions were successfully updated and identifying the structure effected.

6. Share function

The share function provides the capability to share access to a proprietary structure or to share a copy of a proprietary structure with a colleague. You can share your proprietary structures with other licensed users at your company.

Share access

The share access function allows you to share access to your proprietary structures. Shared access means all users are accessing the same structure. Changes made by one user to a structure shared by access are changed for all users.

Once the share access function has completed, a new message window will open verifying that the structure has been shared successfully and identifying the user that received access.

Share copy

The share copy function allows you to share a copy of your proprietary structures with other licensed users at your company. Shared copy means all users receive their own copy of the source

structure. Changes made by one user to a structure shared by copy are changed in their copy only.

Once the share copy function has completed, a new message window will open verifying that the structure has been copied successfully and identifying the user that received the copy.

Section III
Structure Designer Instructions

Section III:
Structure Designer Instructions

This section of the User Manual provides instructions for the screens of the Structure Designer. The instructions are presented in a sequence similar to the sequence on the screens of the Structure Designer.

The input variables for each screen are defined in this section. Typically, each input variable requires several entries arranged in one column on the input screen. For example, up to ten layers of materials can be selected on the Structure Designer screen, and these ten selections are positioned in one column.

A. Structure Preferences input screen

The Structure Preferences input screen of the Structure Designer is examined in the following paragraphs.

INPUT VARIABLE	DEFINITIONS
UNITS	You select the units (English or metric) for the active structure.
PERMEABILITY DATA DATE	You select the date for the permeability data that you want to use for this structure. Typically, the latest date that contains the latest permeability data is used.

NOTE: The Structure Designer screen must be closed when changing preferences, which will automatically be done by the software.

B. Structure Designer input screen

The Structure Designer input screen of Structure Assistant^{tm} is examined in the following paragraphs.

INPUT VARIABLE	DEFINITIONS
PRIMARY MATERIALS	In the materials column you select the material and grade used in this product. Material choices are provided from those in the materials database.
GRADE	Information on the grade of material selected is displayed in this column.
THICKNESS	You input the thickness of each material in the cross section of the product.
WEIGHT PERCENT	The weight percent of each layer is displayed in this column, which is based on the material thickness and specific gravity.
OTR - SUGGESTED	The OTR is calculated and displayed for the material and thickness specified.
OTR - PREFERRED	You may enter an OTR in the preferred price column that will replace the suggested OTR in all calculations.
WVTR - SUGGESTED	The WVTR is calculated and displayed for the material and thickness specified.
WVTR - PREFERRED	You may enter a WTR in the preferred price column that will replace the suggested WVTR in all calculations.
SPECIFIC GRAVITY - SUGGESTED	The suggested specific gravity of each material is maintained in the SavvyPack® database and is displayed in this column.
SPECIFIC GRAVITY - PREFERRED	You may enter a specific gravity that in the preferred specific gravity column that replaces the suggested specific gravity in all calculations.

SUPPLIER GRADES	You can click this link and see technical data sheets provided by sponsors that correlate to the material you specified in the material and grade columns.

C. Compare Structures function

The Structure Designer has an icon in the header bar that links to a Structure Comparison tool. This tool provides the capability to compare the results of up to ten different structures. The Comparison tool is described in detail in the following section.

Section IV
Tools

Section IV:
Tools

This section of the User Manual provides instructions for the special tools contained within the Structure Assistant^{tm}. The Structure Assistant^{tm} has a special tool named the Comparison Tool.

You can use the Comparison Tool to compare up to ten structures from the public library, your company library, or your proprietary space. Very few inputs are required in the Comparison Tool. You simply select the structures you want to compare and save them as a comparison.

The are two primary screens in the comparison tool are the:

- Comparison Manager
- Comparison Viewer

A. Comparison Manager

There are two primary courses of action available to you on the Comparison Manager screen:

- You can search and start comparisons of structures
- You can manage comparisons

The Comparison Manager screen works in a nearly identical way as the Structure Manager screen. You can search and select a comparison from a library of comparisons that you create. You also have comparison management functions that allow you to create comparisons, copy comparisons, share comparisons with colleagues, and others.

B. Comparison Viewer

The input variables for the Comparison Viewer screen are presented in a sequence similar to the sequence on the tool screen.

INPUT VARIABLE	DEFINITIONS
STRUCTURE DISPLAY	You can dynamically select or de-select the structures you included in the comparison.
MATERIAL LAYER DISPLAY	You can dynamically select or de-select the input assumptions and results for each structure in the comparison.
COLUMN WIDTH	You can change the width of the display columns.