

# PIQUANT

## Packing Management



### Overview

PIQUANT creates packing plans for a range of products within a warehouse. Several thousand products may be planned. PIQUANT can be used to produce;

- **single tessellations** (*how many boxes can I load on this pallet?*),
- **multi-level tessellations** (*what is the carton and pallet that will give me the maximum overall packing efficiency?*) or
- **total warehousing plans** (*what storage units should I use for each product in the range to make the best use of my warehouse?*).

PIQUANT can pack **box**, **cylinder** or **cup** shaped products into rectangular storage areas (cartons, pallets, bays, trailers etc). Tailored versions of PIQUANT can be produced to handle other shapes. PIQUANT allows you to create and compare multiple scenarios when planning new storage or warehousing options.

### The Warehouse Areas

Currently two areas are supported by PIQUANT, the picking area and the background storage area. For each product you can specify the minimum number of product items that must be stored in that area. For each storage unit (i.e. carton, pallet, etc) you can specify the maximum number of a storage unit that is available in the picking area and the maximum number that is available overall.

### Storage Units

PIQUANT supports multi-level storage planning. Each storage unit is designated as a primary unit (for initial storage of the product) or a secondary unit (for storage of primary units) or a tertiary unit (for storage of secondary units) and so on. Any level of packing can be specified. A storage unit may have a **weight** limit and a maximum **overhang** when items are being stored into or onto it. The **orientation** of a storage unit when it is itself being packed into a higher level unit can be restricted (e.g. *this carton can only be packed on its base*).

### Products

PIQUANT can handle products whose basic shape is a box, a cylinder or a cup. The number of product items required in the various warehouse areas can be specified. The **orientation** of a product when it is being packed into a storage unit can be restricted (e.g. *this product can only be packed on its base or its larger side*).

### Tessellating

PIQUANT will produce a packing plan for any product and storage unit combination. The packing plan is made up of at most **two** different repeated **layers**. Packing patterns are displayed graphically showing the number of units packed and the packing efficiency. PIQUANT will, on request, select the most efficient storage unit for a product. PIQUANT can calculate;

- The most efficient primary storage unit.
- The storage units (all levels) resulting in the most efficient total packing.
- The storage units (all levels) resulting in the most product items being packed.

PIQUANT can also select the most space efficient overall plan for several thousand product units taking into account the stock holding levels required for each product and the limited availability of storage units.

### Reports & Exports

Printed tessellations can be produced for all products or for a selection of the product line. Printed tessellations take the form of one clear A4 graphic plan for each product.

A summary report is available showing the packing selections and efficiencies of the whole product line. This report may also be exported into a comma separated file suitable for use by standard spreadsheet software.

The system will also produce a summary report showing the availability, usage and average packing efficiency of the storage units broken down by warehouse area.

### Versions

PIQUANT versions are available for both single workstations (Windows 2000/NT/XP) and network use. PIQUANT Lite is an entry version of the software that provides a single level tessellation calculator.