

AURELIE DROUET

100% PALLET

from freight to furniture

21 DIY DESIGNER PROJECTS



Photography
JÉRÔME BLIN

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SCRIPTUM
EDITIONS



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CONTENTS

- 5 Introduction
- 7 Tips and pointers
- 9 A potted history of the pallet
- 12 A pocket glossary
- 14 Tool guide
- 16 How to dismantle a wooden pallet

DESIGNS

- 18 *The Sandman* child's bed
- 26 *Man's Best Friend* floor lamp
- 32 *Charles-Edouard* armchair
- 42 *Cinchas* sun lounger
- 50 *Invader* coffee table
- 58 *Theatre* bed head
- 66 *'Where is Brian?'* coat stand
- 76 *Miss Table* garden table
- 86 *Michel* desk
- 92 *Grand Large* corner shelf
- 100 *Upholsterer's* pouffe
- 110 *Sunday* kitchen shelves
- 116 *Peace and Light* wall lights
- 124 *Charlotte* shelf unit
- 132 *Petula* picnic tray
- 142 *The Suitcase* floor lamp
- 148 *Lizard Garden* Seat
- 156 *Lisette* bedside table-light
- 164 *Biblio'Pal* bookcase
- 174 *The Shadow's Share* N° 2 standard lamp
- 180 *Line Up* dining table

DESIGNER PROFILES

- 40 Nina Tolstrup
- 48 M&M Designers
- 64 Fabrice Peltier
- 84 Philippe Daney
- 108 Le Fourbi Créatif de Macha
- 122 Karl Zahn
- 140 Mr&Mlle™
- 154 MODULOPAL™
- 172 Philippe Besnard
- 188 MOST Architecture

- 190 Contacts and websites

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The plans and instructions presented here are intended for private use only.

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- 116 *Peace and Light* wall lights
- 124 *Charlotte* shelf unit
- 132 *Petula* picnic tray
- 142 *The Suitcase* floor lamp
- 148 *Lizard Garden* Seat
- 156 *Lisette* bedside table-light
- 164 *Biblio'Pal* bookcase
- 174 *The Shadow's Share N° 2* standard lamp
- 180 *Line Up* dining table

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INTRODUCTION

While pallets have frequently inspired visual artists of all persuasions, over the past few years they have excited a particular interest among interior designers, and especially among furniture designers.

Recycling pallets to make furniture is a manifestation of the 'eco-design' movement that has made this everyday packaging the raw material of choice for anyone wanting to make their own distinctive and original furniture, simply and at little cost. Easy to dismantle and to stack, pallets offer a multitude of opportunities for making your own bespoke furniture.

This is the concept that unites and inspires the designers in this book, who have brought together an array of furniture that is practical, functional and simple to create. The techniques of construction and assembly they use are clearly thought out and explained with care in order to make the process as accessible as possible. None of the projects featured here requires any specialist skills or materials; all of them by contrast –

thanks to handy technical tips, plans and illustrated step-by-step instructions – are simple to understand and easy to make.

It is an approach that echoes the work of the great Italian designer Enzo Mari (who in 1974 embarked on his *Proposta per un'autoprogettazione*, later published as *Autoprogettazione?*): 'I thought that if people were encouraged to build a table with their own hands, they would be in a position to understand the thinking that lay behind it.'

From a child's bed to an armchair, via a sun lounger, wall lights and much more, the projects here encompass all the fundamentals of pallet furniture, encapsulated in ideas that are designed to be borrowed and adapted to suit any taste and every setting.



TIPS AND POINTERS

To make the designs

For each design you will find a list of the tools and materials required to make it. As the basic toolkit is not repeated each time, here is a list of the tools that you will need to keep to hand:

- a metre rule
- a good carpenter's pencil
- a metal rule and square
- gloves, safety spectacles and mask
- a slotted screwdriver and Phillips screwdriver
- hammers (various sizes)
- pliers (various)
- paintbrushes: round, sash, flat, mini-roller
- a power sander (various grades of sandpaper)
- a power drill (various drill bits)

Measurements concerning the size of nails, screws and nuts is for guidance only, to be adapted according to the thickness of the boards you are working with.

In each case an indication of the type and dimensions of the pallets used is given, but every design can also be

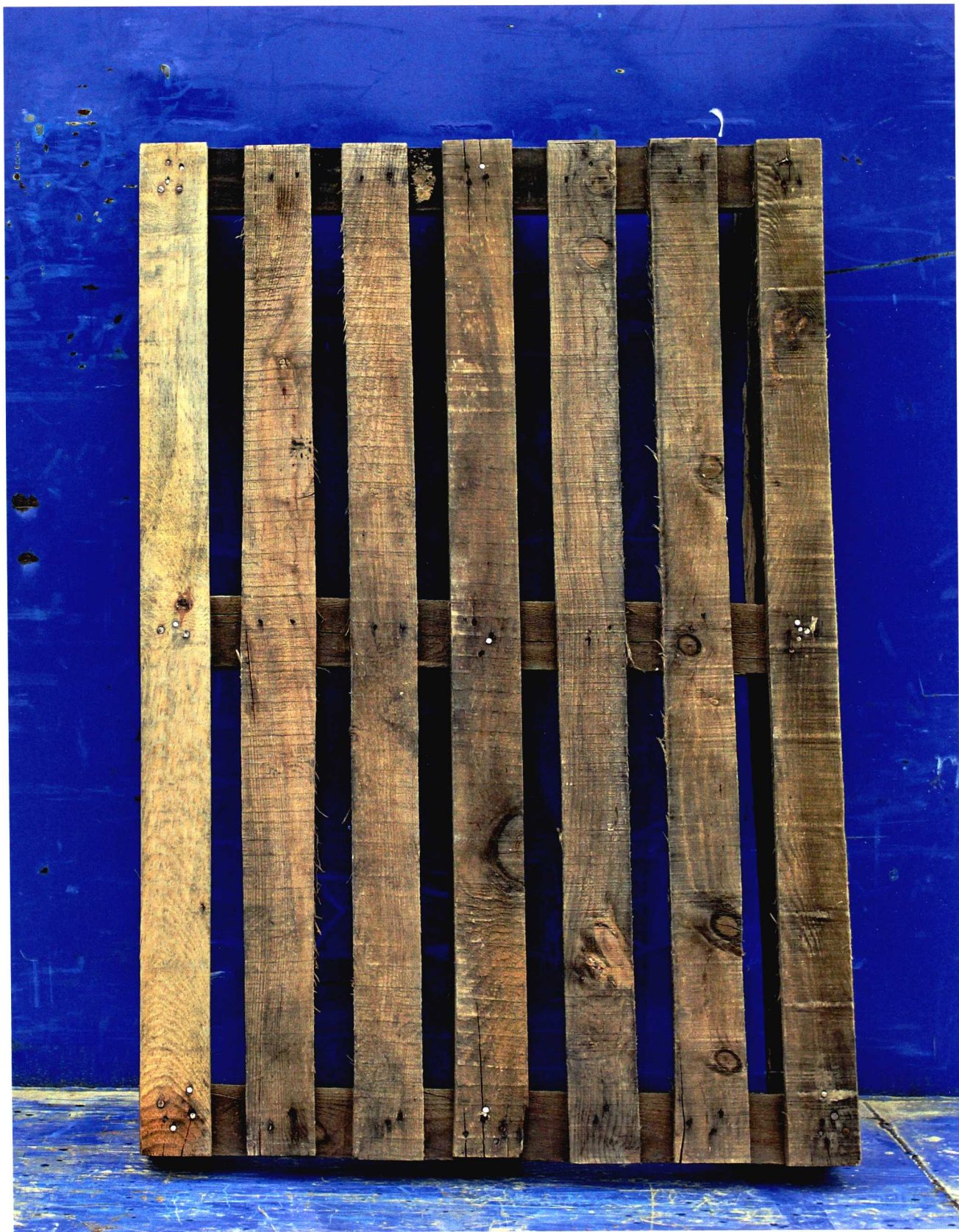
made using different sorts of pallet. The plans are designed to be adapted to whatever type of pallets you happen to find.

Safety warning: electrical installations of all kinds require special care, especially on wooden supports. For your safety, always check the product specifications with your retailer, and when in doubt seek professional advice.

To create your own designs

Each design proposed here is a basic model from which you can improvise your own designs. Use them for inspiration to create your own variations.

Readers are invited to send photos of their own designs inspired by this book to the author at:
aureledrouet@free.fr



A POTTED HISTORY OF THE PALLET

Where can you find pallets? What type of pallets should you look for? Returnable or single-use? Treated or untreated?

Jean Dossin, President of the Syndicat de l'Industrie et des Services de la Palette (Sypal), and Patrice Chanrion, Director of Marketing and Communications of the PGS Group answer these questions and more.

What is the story of the wooden pallet?

The pallet came into being in America in the 1930s. During the Second World War, the US government encouraged and greatly expanded their use for the transportation and storage of equipment in vast quantities. By the late 1940s, many American industries used them in order to remain competitive and successful. European industry took a while longer to grasp the advantages of using palettes, and although a handful of pioneers started using them in the 1950s, they did not reach their full potential until the 1970s. The reconditioning of pallets is a more recent development, by contrast, emerging only in 1975–80, in response on the one hand to the fact that users want to be free of the constraints of returnable pallets, and on the other

to the need to economize on raw materials in the wake of the first oil crisis.

What are the main kinds of pallet? Are there standard types?

The wooden pallet has become an indispensable tool throughout the supply chain, for the assembly, stacking, storage, handling and transportation of goods and merchandise. It is used in every sector of industry, including food processing, engineering, chemicals, construction, pharmaceuticals and automobiles. In response to the varied needs of their clients, pallet manufacturers make a number of different types, divided into groups according to their use:

- **Four-way (heavy or 'block') pallets:** designed to be re-used and built to last, these are more robust than pallets for limited use.
- **Two-way (light or 'stringer') pallets:** designed for limited use, these pallets are in theory disposable. In practice, many are re-used several times and repaired as necessary. These pallets are often 'made to measure', to answer a client's specific needs.

- **Standard pallets:** built to French, European or international standards, in practice these pallets are exclusively four-way.
- **Euro pallets:** developed in 1950, on the initiative of international rail freight companies, these pallets measuring 800 x 1200mm were designed according to highly precise specifications. Subsequently adopted by 18 European rail networks, they became known as the 'Euro pallet'. Until 1995, the SNCF was one of the bodies enforcing these standards. Since then, the European Pallet Association (EPAL) has taken over responsibility for the EUR-EPAL brand.
- **Other pallets:** other commonly found standard pallets include CP pallets, used by the chemical industry; VMF pallets, used by the glass industry; cement pallets; and galia pallets, used by the car industry.

What is a 'returnable' pallet?

This description may mean several things. First, a pallet is returnable if it forms part of a pool that defines legal appurtenance (such as ecoPGS pallets, relocalisation systems of the PAKi type, or hired pallets). This is also the case with exchangeable Euro pallets, and with pools dedicated to a single industry (such as VMF – Verreries Mécaniques de France – pallets). All of these pallets are distinguished by their colour, initials or a variety of other markings. In theory, they should all be returned to their owners after use.

What is the life cycle of a pallet?

Used pallets go through a number of different processes. According to their condition, some may need repairs and others will be beyond repair; most, however, will not need

repairing. When a pallet is damaged, on average two or even three elements are replaced; beyond this, the cost of the repairs outweighs any potential profit from putting it back into circulation. In 60 to 70% of cases, repairs are carried out with 'new lumber'; for the remainder, repairs may be carried out using wood salvaged from pallets that are broken beyond repair and moulded wood blocks.

Which woods are used to make pallets?

In the absence of any particular specifications, standards or legislative constraints, most common types of wood may be used in packaging. In practice, however, the number of species used remains small. Five are used for the manufacture of pallets: poplar, maritime pine, Scots pine, spruce and Douglas fir.

Where can you find pallets for personal use?

There are many possibilities, but since in normal circumstances they should never be abandoned on the public highway, you will always need to apply to the holder, whether this be a major DIY store, supermarket, convenience store, building site, market, exhibition centre or pallet reconditioning firm.

In order to recycle pallets to make furniture you need to take certain precautions, especially with regard to any treatments. How can you tell the difference between treated and untreated pallets?

In climatic conditions that encourage the development of mould and for species of naturally low durability, it may be necessary to apply a preservative. The treatments are selected according to the intended purpose of the pallets and their effectiveness is



recognized by official regulating bodies. These will accept only treatments that respect the quality of the food chain, health requirements and environmental factors. In France, the Direction Générale de la Concurrence, de la Consommation et de la Répression des Fraudes publishes a summary of treatments permitted for wood that will come into contact with fruit and vegetables. In order to avoid using chemical treatments, manufacturers are now developing successful artificial drying techniques.

Some pallets may have been treated in the past by fumigation with methyl bromide (MB), a toxic gas that was banned in 2010. Pallets marked MB are therefore to be avoided. To be on the safe side, use pallets marked with an ear of corn and the letters HT (Heat Treatment), indicating a natural, non-adjuvant treatment in which, before it can be exported to certain countries, the wood is heated to a minimum core temperature of 56°C for at least 30 minutes. Pallets that do not need to be treated for their intended use are left unmarked.

In order to be sure that the pallets you are salvaging are clean and wholesome, avoid any that are stained with paint or any other hard-to-identify products. Choose your source with care, and if possible go to a firm that reconditions pallets and will be able to advise you. Finally, furniture made using pallets is usually sanded or even planed, which all helps to get rid of any treatment that might be present.

A POCKET GLOSSARY

Block or stringer, reversible or double-face? Standard or otherwise, pallets come in numerous different variants. Without getting too technical, here is a concise rundown of pallet terminology.

Block: squat deck-spacer, rectangular or cylindrical in section, positioned beneath the top deck or between the top and bottom decks, leaving room for the passage of fork truck tines or for pallet jacks.

Bottom board: board forming part of the bottom deck of the pallet.

Bottom deck: flat horizontal surface formed by arrangement of deckboards and spreading the load on the ground.

Crosspiece: horizontal board joining the blocks to the top deckboards.

Double-deck pallet: flat pallet with upper and lower decks.

Four-way entry pallet: pallet allowing entry to fork truck tines on all four sides.

Non-reversible pallet: flat double-deck pallet of which only one deck can be loaded.

Notch: section cut out of lower part of the stringer to allow entry for the fork truck tines, perpendicular to the stringers.

Notched stringer pallet: pallet with stringers notched to allow entry of fork truck tines.

Reversible pallet: flat pallet with identical top and bottom decks that be loaded on either side.

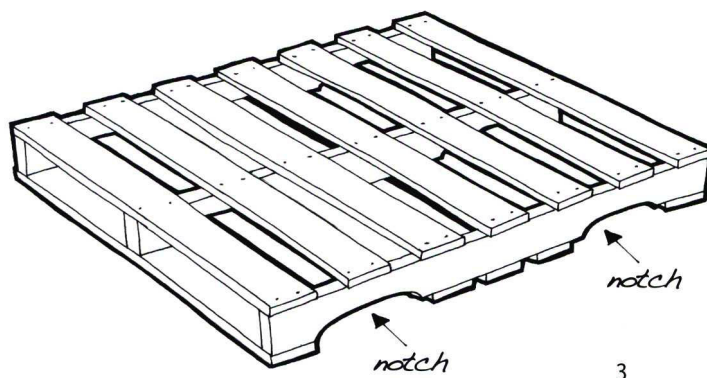
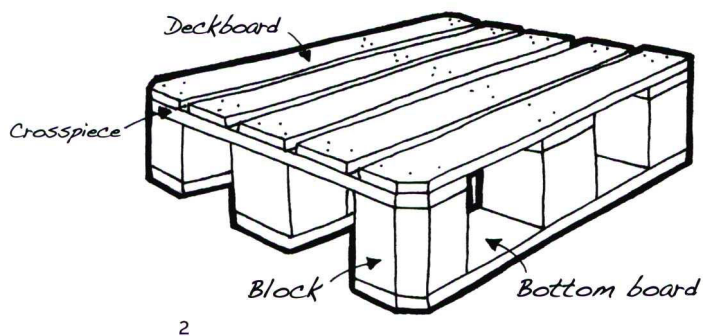
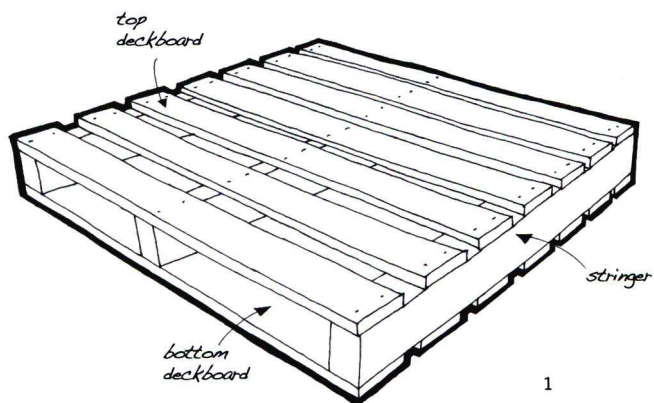
Single-deck pallet: flat pallet with a single deck.

Stringer: continuous longitudinal beam-component of the pallet supporting the top deck or positioned between the top and bottom deck.

Top deck: flat surface consisting of an arrangement of deckboards and forming the upper load-carrying surface of the pallet.

Two-way entry pallet: pallet allowing entry to fork truck tines from the two ends only.

Wing: part of deckboard(s) overhanging the outside edge of the stringers or blocks, designed to aid lifting by cranes.



1. Stringer pallet
2. Block pallet
3. Notched stringer pallet