HEAT-TREATED WOOD
VACUUM OVEN
150°C - 230°C

TermoVuoto

PATENT PENDING

WOOD DRYING ENGINEERING WDE

MATPELL

50 YEARS | 90 PATENTS | 6000 MACHINES

ONE CELL: TWO FUNCTIONS

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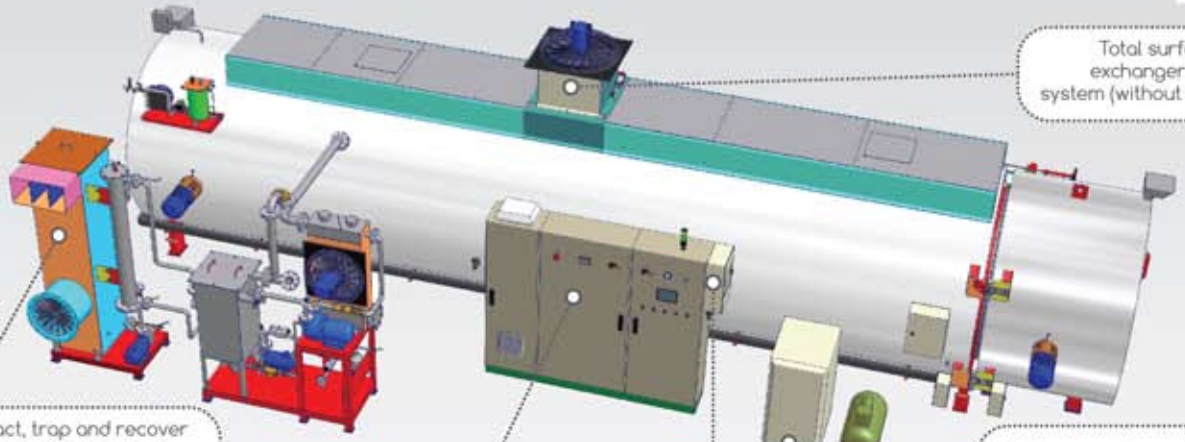
MASPELL



Overview Capacity: 8 m^3

ECO-FRIENDLY VACUUM OVEN

Eco-friendly vacuum drying cell → Eco-friendly vacuum heat treatment oven

COMPLETE CYCLE

01 Loading a wood stack
02 Vacuum drying the wood
03 Temperature increased, between 150 °C and 230 °C, under vacuum
04 Treated wood stabilization period
05 Cooling the treated wood

ITALY Capacity: 6 m^3

GERMANY Capacity: 8 m^3

FRANCE Capacity: 12 m^3

IL TERMOVUOTO

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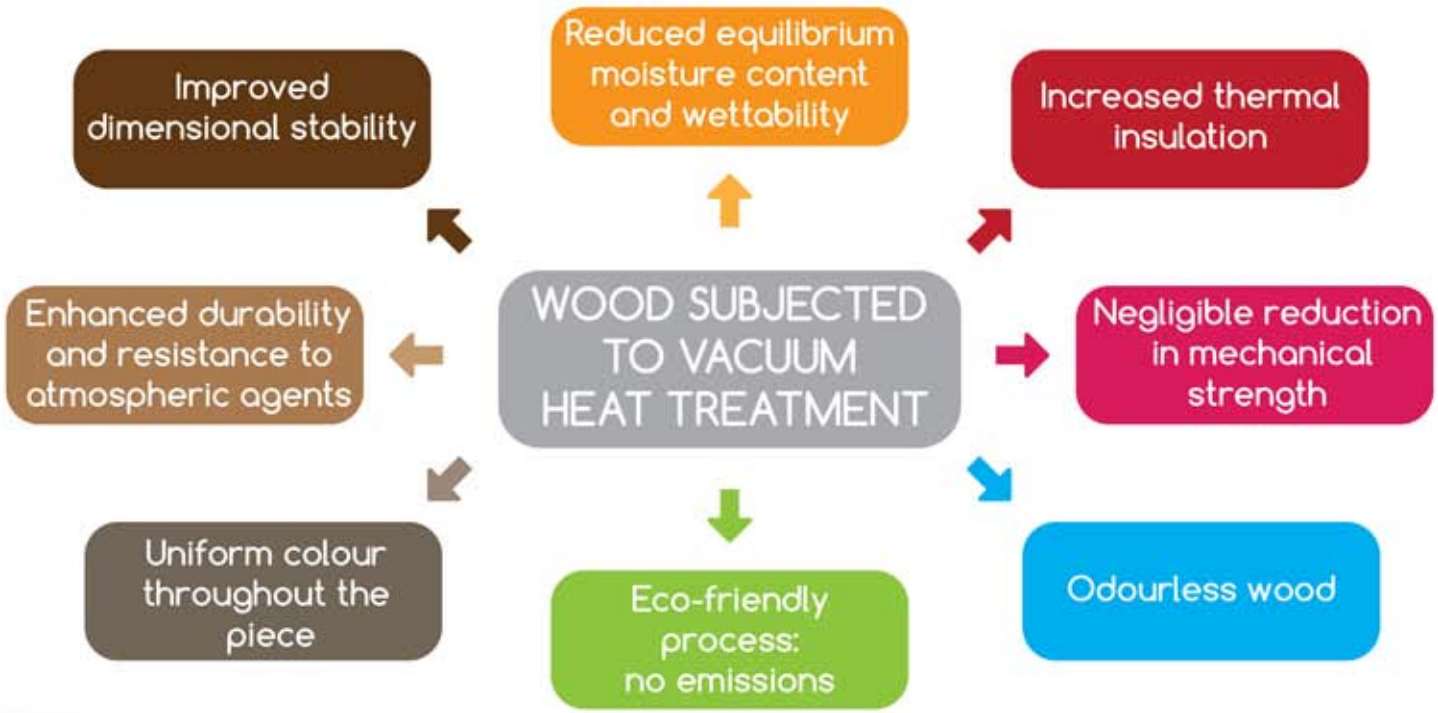
It's been well-known for centuries that subjecting wood to very high temperatures, close to combustion (180 °C – 230 °C), changes its chemical structure. This also alters the colour of thewood, increasing its dimensional stability and durability while enhancing protection against attacks from fungus and exogenous agents.

Therefore, soft woods such as conifers (e.g. pine and spruce) and broadleaf trees (e.g. poplar and birch) may become quite dark. Their durability may also increase and to such an extent that they can be compared to what has always been considered more valuable types, such as teak, acacia and Iroko which if treated in the same way may cause them to darken while also improving their intrinsic characteristics.

Our company, in collaboration with the CNR-IVALSA Trees and Timber Institute of San Michele all'Adige (Trento, Italy), has developed an innovative combined high temperature and vacuum treatment, without additives, gas and/or steam, that achieves standards of absolute excellence thanks to its treatment temperature and pressure modulation capabilities.



IVALSA research centre

Samples: before and after

Stacks: before and after

COLOUR FROM HEAT

By subjecting the wood to high temperatures its colour can be changed (from light brown to black) without adding chemical products. Users truly appreciate the wide range of available colours that varies based on the type of wood as well as on treatment pressure and temperature.

ASH

Overhead view

Cross-section

WHITE FIR

Overhead view

Cross-section

POPLAR

Overhead view

Cross-section

TULIPIER

Overhead view

Cross-section

RED OAK

Overhead view

Cross-section

CHESTNUT

Overhead view

Cross-section

OKUME

Overhead view

Cross-section

HACKBERRY

Overhead view

Cross-section

YELLOW PINE

Overhead view

Cross-section

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