Welcome

Sustainable Inspiration

Short introduction: process & product

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TEI of Larissa – Greece (12 May 2011)

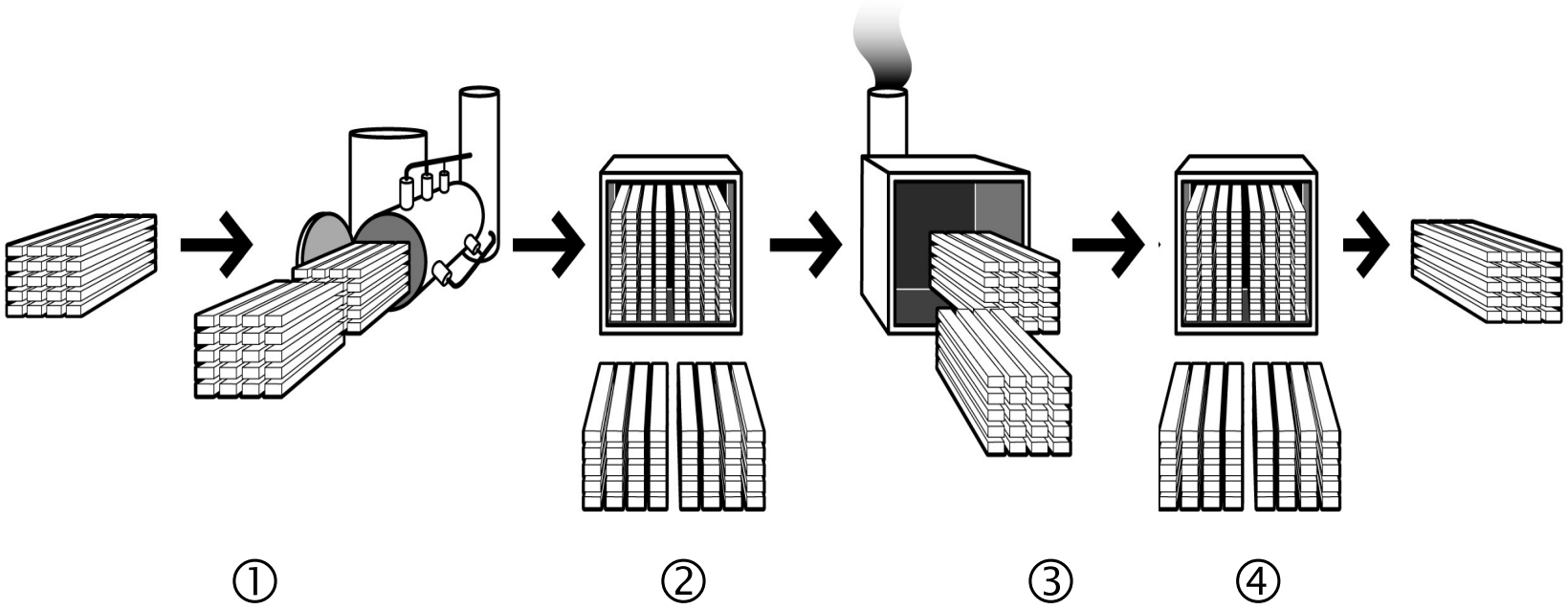
The Presentation

- **Modified wood**
- **The Plato process**
- **Plato®Wood and Plato products**
- **Dealers and Plato International**
- **Examples**
- **Questions**

Modified Wood

- **Native wood: wood species, wood structure as it is**
- **Preservative treated wood: native wood + additive**
- **Chemical modified wood: native wood with a changed wood structure by additive**
- **Thermo modified wood: native wood with a changed wood structure by temperature**

The Plato® process



1. Hydro-thermolysis (cooking)
2. Drying
3. Curing (baking)
4. Conditioning

Phase 1: Hydro-thermolysis

Wood is heated to ca. 165°C in aqueous environment at superatmospheric pressure.

Converting of hemi cellulose and lignin into reactive intermediates (e.g. aldehydes)

Cellulose remains intact (crucial for mechanical properties).

Phase 2: Drying

Kiln dried to ca. 8% moisture content.

Necessary to avoid internal cracks in third stage.

Phase 3: Curing

Wood heated to ca. 180°C under dry conditions.

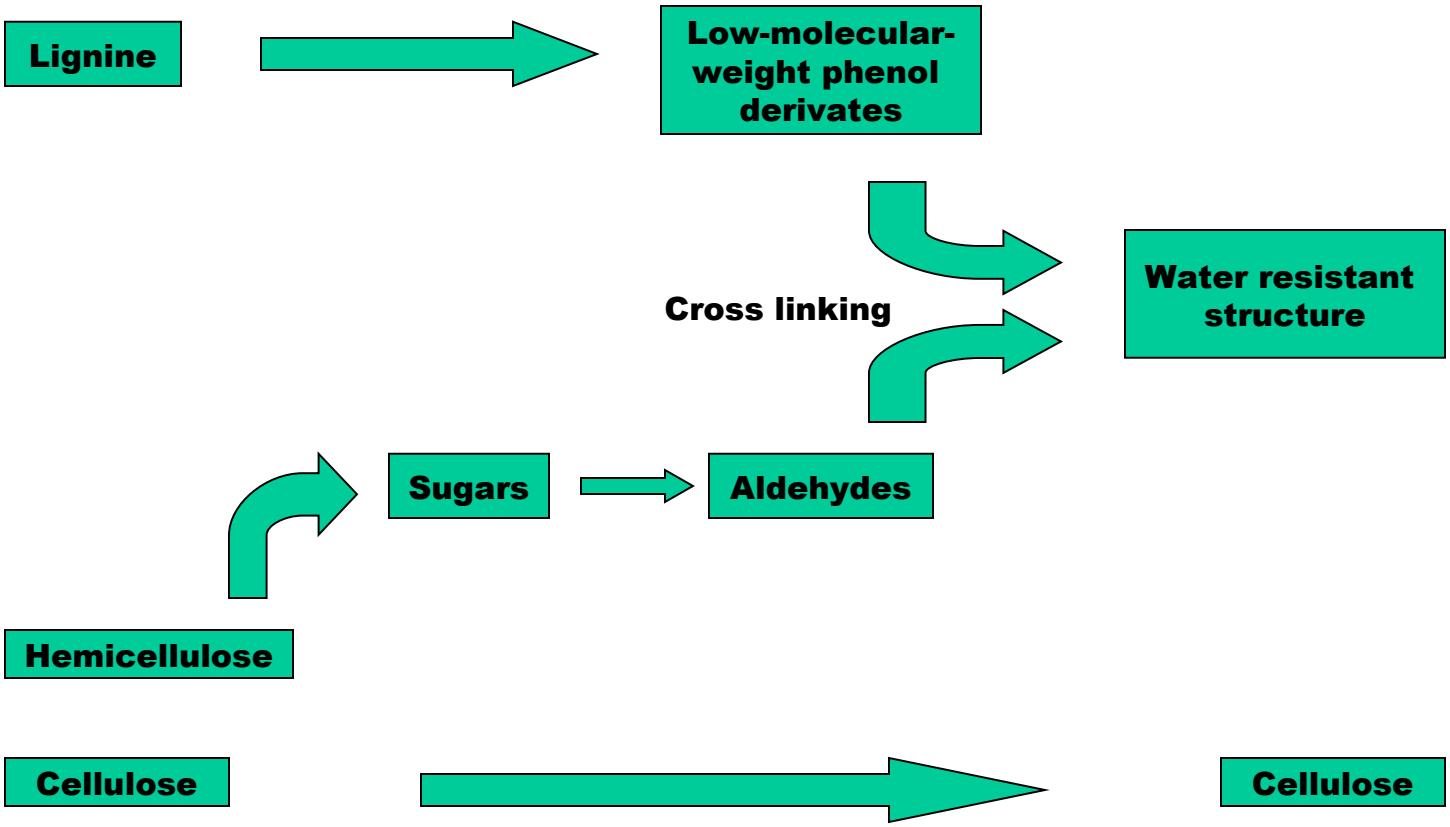
Reactive intermediates are joined again (cross-linking).

The result of this process step is obtaining durability and dimensional stability.

Phase 4: Conditioning

Restore the moisture content from 1% (after curing) into the more suitable 4 – 6% (necessary for manufacturing).

The chemistry



Unique !
Advantages of Plato Process

- **Low energy consumption**
- **No addition of chemicals**
- **Environmentally friendly, favourable LCA**
- **Upgrading of underestimated and lesser known woodspecies**
- **Socially responsible**

Unique !
Advantages of Plato®Wood and Plato Products

- **Dimensionally stable**
- **Durable and service-life**
- **Preserving most of the mechanical properties**
- **Durability through and through**
- **Low maintenance**
- **Good manufacturing and easy to handle**

Unique !
Advantages of partnership between Dealer and Plato International

- **Leading and Innovative**
- **Knowledge driven and Scientific partner**
- **Visiting/ guiding architects and prescribing authorities**
- **Complete project supervision and installation**
- **Using internet: www.platowood.com**

Winchester United Kingdom Restaurant
2008 140 m3 Plato®Wood FSC Spruce cladding
Principal: Marwell Zoo

Why:

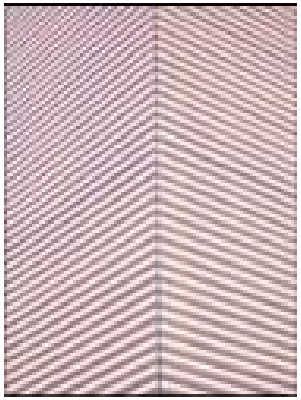
- **Size and lenght variation**
- **Low maintenance**
- **Dimensional stability**

Slochteren The Netherlands Townhall
2005 60 m3 rough Plato®Wood Spruce Open-cladding
Principal: City Council

Why:

- **Dutch product**
- **Low maintenance**
- **Dimensional stability**

Oldenzaal The Netherlands Municipal works
2005 90 m3 rough Plato®Wood Spruce Open-cladding
Principal: City Council



Why:

- **Dutch product**
- **Low maintenance**
- **Dimensional stability**

Ronse Belgium **Passive House**
2007 60 m3 rough Plato®Wood FSC Spruce Open-cladding
Principal: private

Why:

- **Low maintenance**
- **Dimensional stability**
- **Also vingerjoint/ laminated beams**

Zeist The Netherlands Head-office Triodos Bank
2006 80 m3 rough Plato®Wood FSC Spruce cladding
Principal: Triodos Bank

Why:

- **Dimensional stability**
- **Durability**
- **Tridos Bank recently choosen as most sustainable bank of the world**

Aalsmeer The Netherlands House-boat
2007 20 m3 Plato®Wood Poplar vertical-cladding
Principal: private

Why:

- **Woodspecie Poplar (normaly only suitable for wooden shoes)**
- **Low maintenance**
- **Dimensional stability**

Tervuren Belgium Lake Royal Park
2004 800 m3 Plato®Wood Spruce Sheet-piling
Principal: Region Flanders

Why:

- **Environmentally friendly**
- **Alternative tropical hardwood (wood for 98% under the waterline**
- **Socially responsible: public place**

Otterloo The Netherlands Wildlife observationpost
2003 80 m3 Plato®Wood FSC Douglas-Fir
Principal: National Park Hoge Veluwe

Why:

- **Environmentally friendly**
- **Use of local woodspecie (Douglas fir growing in the park)**
- **Socially responsible: public place**

A35 Highway near Almelo The Netherlands Soundbarrier
2006 600 m3 Plato®Wood Spruce
Principal: Rijkswaterstaat

Why:

- **Dimensional stability**
- **Availability one dimension one lenght**
- **Mechanical properties extreemly tested**

Duiven The Netherlands Apartment block
2009 80 m3 Plato®Wood FSC Frake
Principal: Municipal Duiven

Why:

- **Dimensional stability**
- **Upgraded tropical softwood as an alternative on Western Red Cedar and Louro**
- **Fire safety regulation: Frake with fire retardent is approved Euroclass B-S1,d0**

Berlin Germay Haus der Begenung
2004 70 m3 Plato®Wood Spruce open-cladding
Principal: Ideal lebensversicherung

Why:

- **Dimensional stability**
- **Availability one dimension one lenght**
- **Low maintenance**

Breda The Netherlands Summerhouse/ Studio
2009 20 m3 Plato®Wood Spruce open-cladding
Principal: Private Architect

Why:

- **Dimensional stability**
- **Low maintenance**

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Revealing the best!

Thank you for your attention