



EU-HARDWOODS

WP4 – Glulam made of hardwoods or mixing hardwoods and softwoods

Program update

Frédéric SIMON – Kick-off meeting, HFA, 13th of March, 2014

Aims WP4...

WP1:
Hardwoods Supply Chain

WP2:
Hardwoods strength data

WP3:
Adhesives for structural bonding

WP4: Glulam made of hardwoods or hardwoods & softwoods

**To define the glulam beam build-ups, mixing simulations and experimental data
To propose economically and technically competitive solutions**

Aims WP4... Mechanical performances & Production process

- literature study on previous projects on hardwoods at FCBA & MPA – extraction on data for glulam beams:

Chestnut (2014)

Oak (2011)

Beech (2014...)

at FCBA

Oak

Beech (

at MPA

- simulation of mechanical beams properties from MPA model developed for softwoods and extended to hardwoods

lamella strengths (WP2)

FJ strengths (WP3)

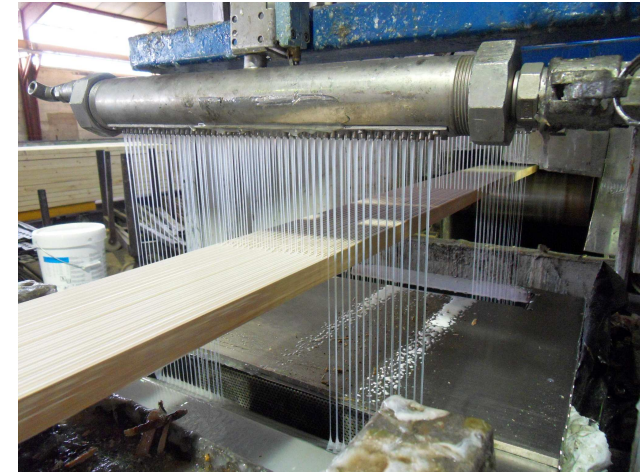
- mixing hardwoods qualities in glulam beams

- mixing wood species.... Reinforcement, aesthetic... Mixing lamellae or beams bonding...

Aims WP4...



+



+ numerical simulations & FE calculations

Prototype beams production (oak) in SIMONIN SAS (France)

-1st set for hardwoods beams

-2nd set for hybrid beams



To feed the new version of EN14080-2 standard for hardwoods

Timeschedule... mainly 2015

Task	2014			2015			2016			P1	P2	P3	P4	P5	P6	P7	P8	P9
0										X	X	X	X	X	X	X		
1.1												X	X	X	X			
1.2												X		X	X			
1.3														X				
2.1										X		X	X					X
2.2										X		X	X					
2.3										X								
3.1											X	X						
3.2										X	X	X						
4.1											X	X	X				X	
4.2										X	X	X					X	
5.1											X					X		
5.2																		
5.3											X					X		
6										X	X	X	X	X	X	X		

HFA, MPA, FCBA, Univ. LJ & Simonin SAS

Some proposals to discuss

WP	content	2014												2015												2016											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
4	WP4 - Glulam made of hardwoods or hardwoods and softwoods																																				
4.1	extraction of data from previous projects on hardwoods																																				
aims	survey on existing results from previous studies on hardwoods for glulam use mechanical strength process, working conditions,...																																				
4.2	simulation of glued laminated hardwood timber: - homogeneous - inhomogeneous - hybrid																																				
aims	input the previous data in MPA model for hardwood																																				
4.3	production & testing of glued laminated hardwood timber: - homogeneous - inhomogeneous - hybrid																																				
aims	produce and test oak hardwood glulam based on the selected data to strenghten the model validation testing for assortment of build-ups (produced under factory conditions) for hardwood glulam validation testing for assortment of build-ups (produced under factory conditions) for hybrid beams																																				
4.4	input of experimental data to fit the model, FE calculations																																				