
(*Fagus orientalis*)
(WPG)

IB MOE MOR

)

(

(a,b Larsson)

)

(

(Larsson , Rowell ,)

Hill) % (,)

(

(Larsson

(Matsuda ,)

(WPG)¹

$$\text{WPG (\%)} = \frac{(W_1 - W_0)}{W_0} \times 100$$

()

()

=WPG

=W₁

=W₀

Weight percentage gain

Sander .

(IB)

()

(MOR)

(Youngquist)

(PF)

(Rowell ,)

(Rowell ,)

(Rowell

(Youngquist ,)

()

(Takahashi)

...

(Kelly,) ()

(*Fagus orientalis*)
()

() Durst Stegmann

Pallmann X 430-120 PHT

(Chips)

Pallmann

(Ring flaker)

(Flake)

pz8

()

Narayanamurti & Ranganathan 1941,)

(Wangaard 1940, Maclean 1941

()

%

:

Autonics-

T4WI

)
(

(¹MUF)
%

x x

(WPG)

Burkle LA160

.()

x

	()	()

)
(± ±

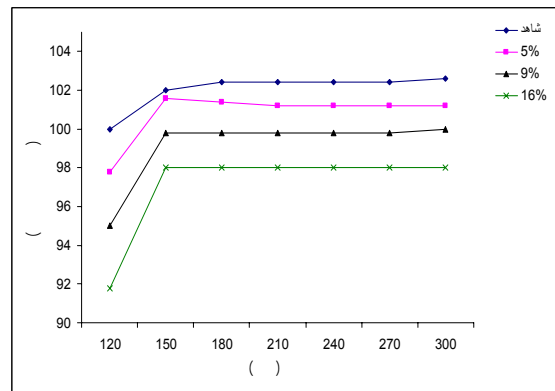
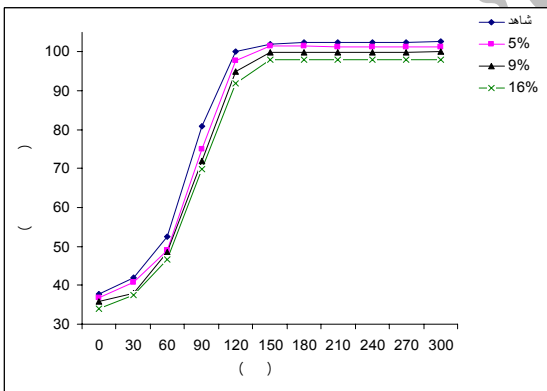
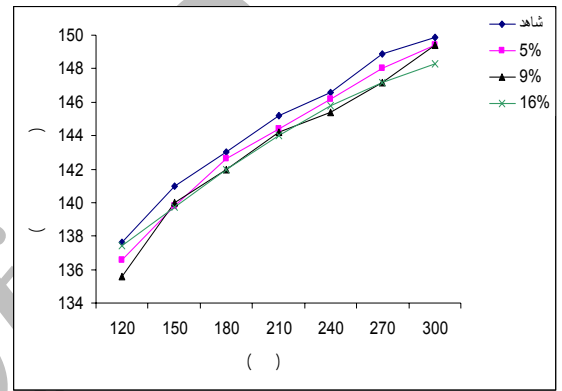
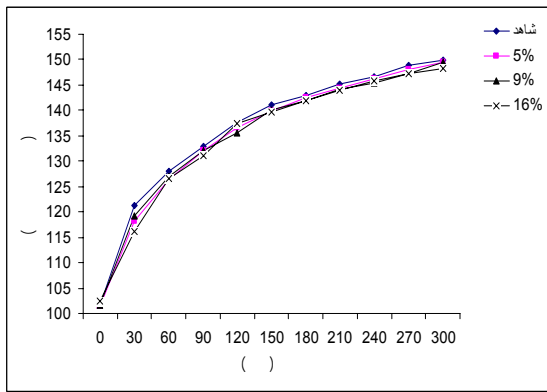
(MOR)

DIN- 52360

(IB)

(MOE)

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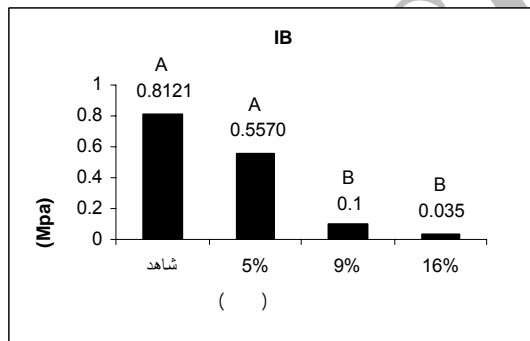
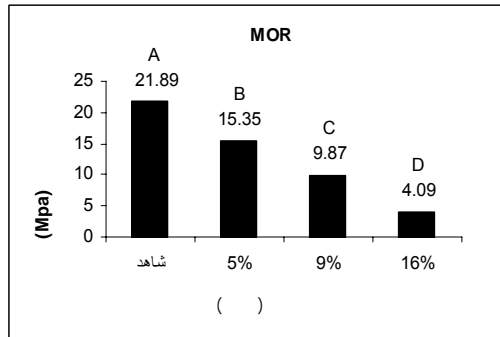
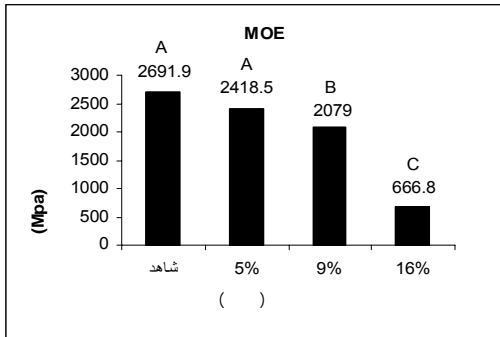


P	F				
/	/	/	/		(A)
/	/ ***				(B)
/	/	/	/		(A*B)
		/	/		
			/		

P	F				
/	/ ***	/	/		(A)
/	/ ***				(B)
/	/ ***	/	/		(A*B)
		/	/		

MOE

MOR



P	F				
/	/ ***	/	/		
		/	/		
			/		

P	F				
/	/ ***	/	/		
		/	/		
			/		

P	F				
/	/ ***	/	/		
		/	/		
			/		

()

)

(Sander

()

Militz

() Becker

Vick Rowell

()

(Conduction)

(Convection)

() Rowell.

Archive of SID

Rowell)

(Kumar)

(MOE)

(MOR)

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Investigation on the effect of wood particles acetylation on heat transfer during press and mechanical properties of particleboard

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Abstract

This research was conducted to investigate the effect of acetylation on the heat transfer of pressing plate to the core of wood particles cake during hot pressing and mechanical properties in particleboard made of acetylated particles from *Fagus orientalis*. After 12 hours soaking in acetic anhydride, in order to achieving three weight gains, 5, 9 and 16%, particles were heated in oven at 120°C for 30, 90 & 240 minutes, respectively. During pressing operation of particles, heat transfer was measured by thermocouple wires connected to thermometer. Results showed that by increasing the wooden particles acetylation severity, heat transfer decreases. Also, by increasing acetylation percent, mechanical properties decrease.

Keywords: Chemical modification, Acetylation, *Fagus*, Particleboard, Heat transfer, Pressing time, Mechanical properties

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