
*

(// : // :)

(/ /) NaOH ()

NaOH

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E-mail: rahmaninia@nrf.ut.ac.ir : : :

	* (%)
/	(%)
	** (%)
/	(%) DTPA
/ /	(%)
	(%)
	(° c)
	(min)
	()

*
**

	* (%)
	(%)
	(° c)
	(min)
	()

*

gr/m²
TAPPI

T 205 m-58
T494 om-96
T511 om-96

T441 om-98

T227 om-99

(gr/m ²)	(Km)	((%)	(CSF)	NaOH (%)	()
(de) /	(ghijkl) /	(def)	/			
(h) /	(hijkl) /	(def)			/	
(kl) /	(m) /	(defg)				
(efg) /	(fghij) /	(abc)	/		/	
(jk) /	(bcd) /	(a)	/			
(fg) /	(jklm) /	(efgh)	/			
(def)	(cde) /	(efgh)	/		/	
(d) /	(ijkl) /	(cd)				
(a) /	(lm) /	(defg)	/		/	
(hi)	(defg) /	(hij)	/			
(d) /	(cdef) /	(a)	/			
(gh) /	(ghijk) /	(hij)			/	
(fg) /	(ab) /	(defg)	/			
(h) /	(cde) /	(j)			/	
(c) /	(fghijk) /	(fghi)	/			
(d) /	(lm) /	(fghi)	/			
(b)	(fghij) /	(defg)	/		/	
(b)	(efghi) /	(cd)	/			
(def)	(klm) /	(ij)	/		/	
(def) /	(ghijkl) /	(bcd)	/			
(def)	(fghij) /	(ab)				
(ij)	(defgh) /	(cd)				
(h) /	(abc) /	(de)				
(l)	(a) /	(de)				

(gr/m ²)	()	(Km)	
**	**	**	(A)
**	**	**	(C)
**	**	**	(AC)

%

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NaOH

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Cross-sectional

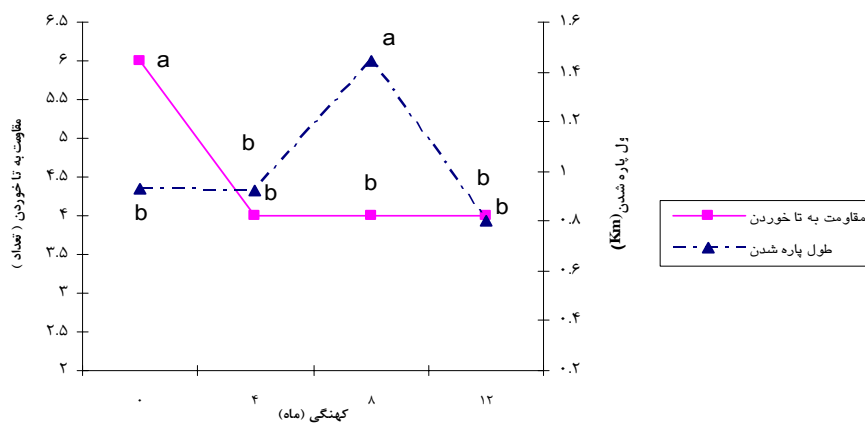
NaOH NaOH NaOH (

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()

)

(NaOH

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(



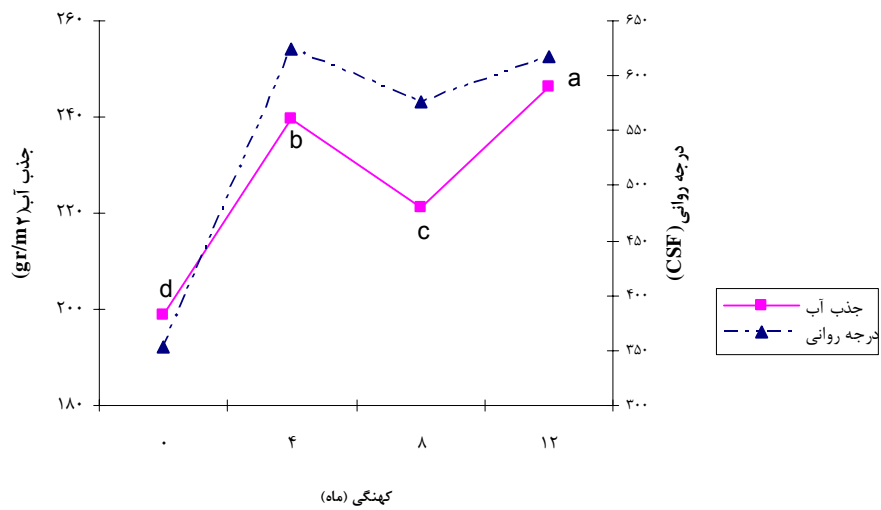
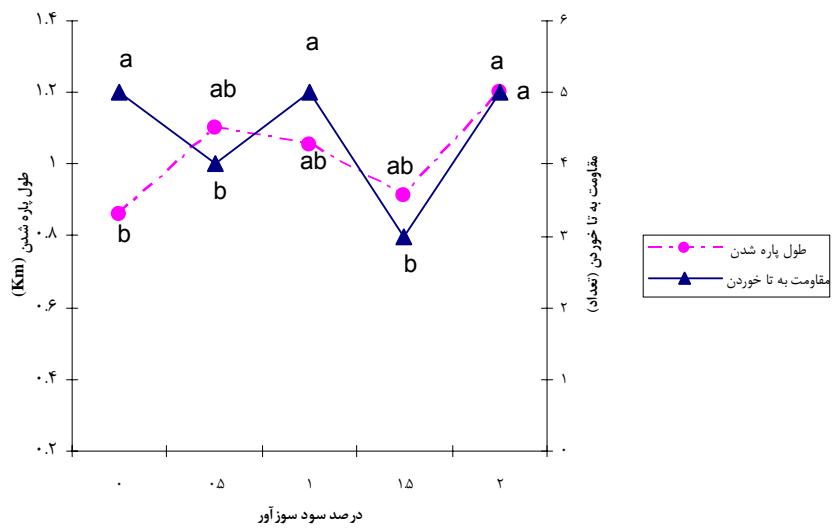
NaOH

NaOH

/

NaOH

NaOH



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The Effect of Newspaper Aging on some Physical and Mechanical Properties of Recycled Paper

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Abstract

Different factors influence physical and mechanical properties of recycled papers. This study investigates the effects of aging and sodium hydroxide on major physical and mechanical properties of recycled papers. For this purpose, four levels of aging (0, 4, 8 and 12 months) and five levels of the sodium hydroxide applied (0, 0.5, 1, 1.5 and 2%) were selected, and three important properties – "breaking length", "fold strength" and "water absorption" – were measured. The results indicate that aging has a negative effect on the strength but increases water absorption of recycled papers. In contrast to aging, higher amounts of NaOH used in recycling process increases both breaking length and fold strength but decreases water absorption. Also, the results indicate that floatation, followed by washing screens, has a negative effect on mechanical properties but increases water absorption as compared to blank samples.

Keywords: Newspaper, Aging, Recycled paper, Sodium hydroxide, Fold Strength, Breaking Length, Water Absorption, Floatation

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