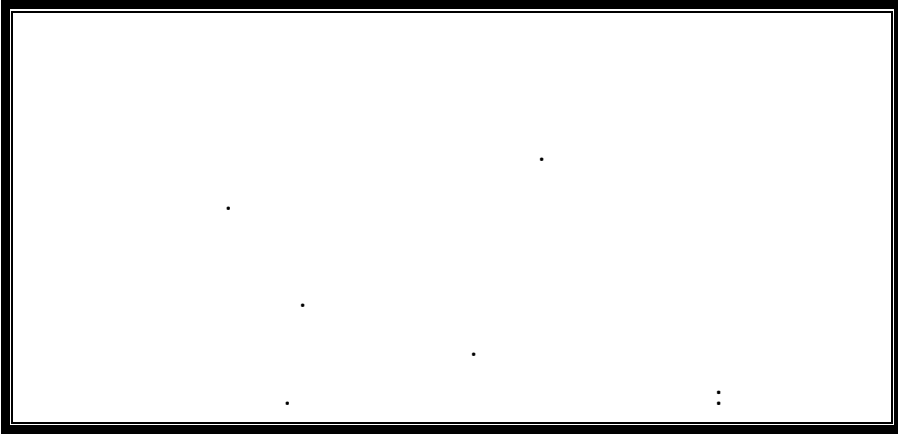


1

3

2

4



1

2

3

4



:

.....

XLPE

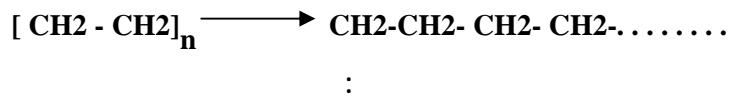
PE

:

**-1**

" " Polymer  
Macromolecules  
Monomer

(Plastic Materials)  
(Resins)



- Electrical ) (1
- $E_d = 100 \text{ (Kv/Cm)}$  (Strength
- $(10^9 \Omega \text{cm})$  (2
- $tg \delta = 0.001$   $\xi r = 2.3$  (3
- (4
- .(Creepage Current Strength) (5
- (6
- (7

(8

[1,3] .

(9

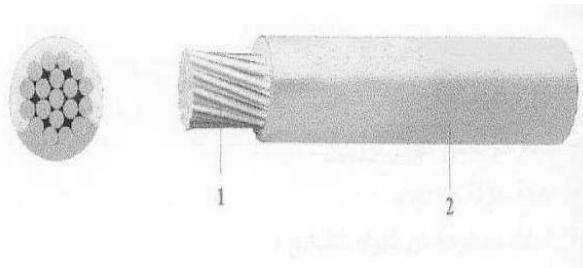
:(1)

<b>0.96</b>	<b>0.945</b>	<b>0.925</b>	<b>0.91</b>	
<b>127</b>	<b>123</b>	<b>118</b>	<b>104</b>	<b>(C°)</b>
<b>20%</b>	<b>100%</b>	<b>300%</b>	<b>500%</b>	
<b>70</b>	<b>60</b>	<b>50</b>	<b>42</b>	<b>(HRC)</b>

PE

(1)

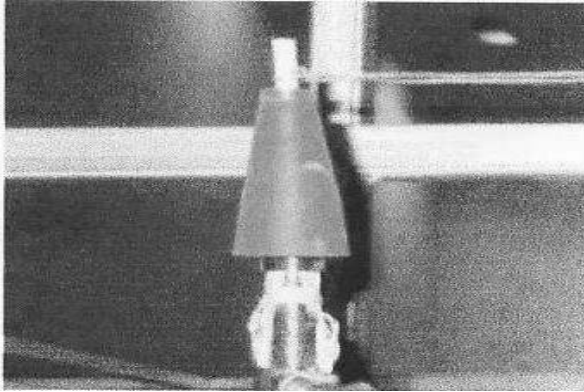
.(1)



PE

(1)

(2)



PE

(2)

:

-2

( )

:

: 1-2

)

(LDPE

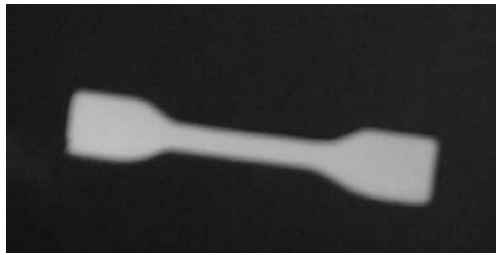
(Strain%)

(Stress )

---

: (3)

Width (mm)	5.000
Thickness (mm)	2.3500
Spec gauge len (mm)	30.500
Grip distance (mm)	57.850



(3)

: :2-2

:

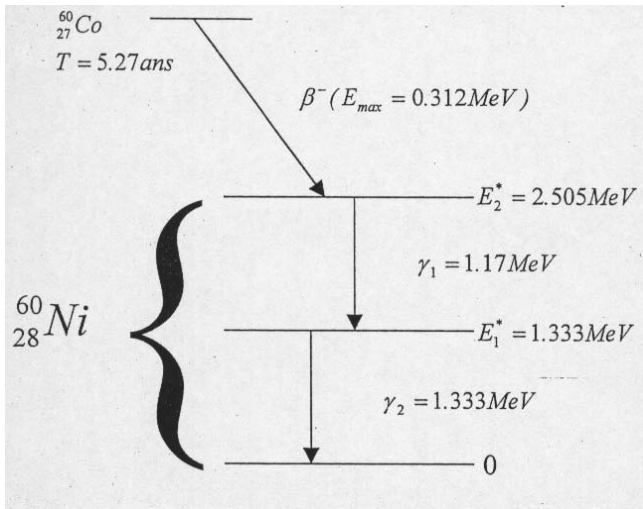
:( ) :1-2-2

Co<sup>60</sup>

(3.3kGy/h)

(75kCi)

(4)



(4)

(FT/IR -

)

:2-2-2

(300E)

(FT/IR -300E)

( )

. [2,6]

( )

( )

---

: : 3-2-2

( Instron Model (1011) Testing System ) : (

Electromechanical

( Moving Crosshead)

( )

0 (N)

10 (mm/min)

(Asker , Type D ) : (

[8]

Asker, Type D

.Rackwell

: -3

:( ) ( ) :1-3

( ) (2)

(PE)

at )

(at maxload)

.(break



Dose (KGY)	Stress at maxload (Mpa)	Strain at maxload (%)	Stress at break (Mpa)	Strain at break (%)
0	12.29	386.25	11.13	378.8
50	12.92	365.3	11.74	331.5
100	13.55	352.14	12.15	315.25
150	14.52	339.54	12.73	309.58
200	14.94	325	12.95	305.98
250	14.22	287.9	12.55	261.59
300	13.59	268.36	11.89	239.78
350	13.15	255.36	11.26	216.9

(PE)

(2)

:

:2-3

(PE)

(3)

.Asker

( KGY)	(HRC)
0	44
50	45.78
100	46.11
150	46.69
200	47
250	46.22
300	46.09
350	45.38

PE

(3)

:(FT/IR -300E)

:3-3

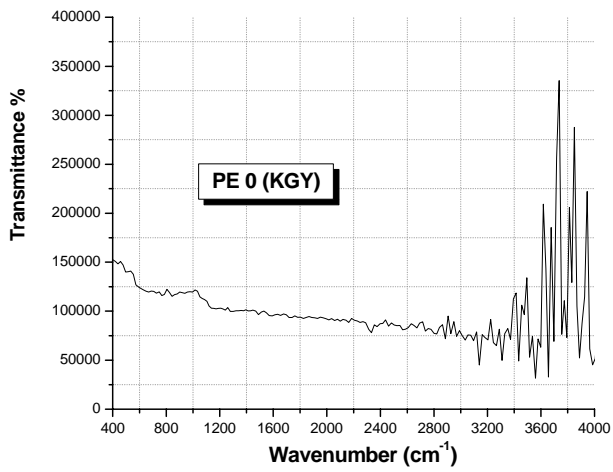
(PE)

350(KGY) (0) KGY

:

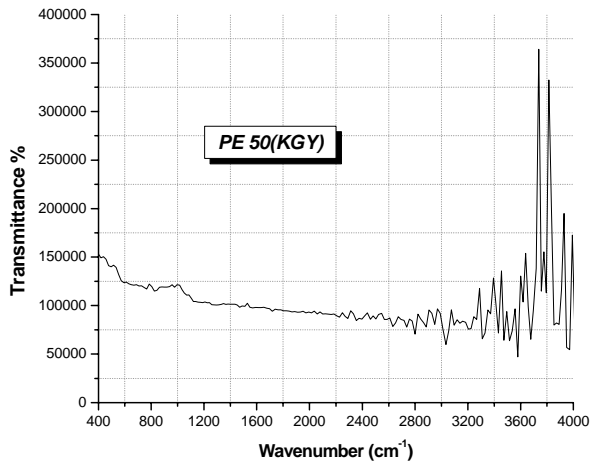
[7]

(IR)



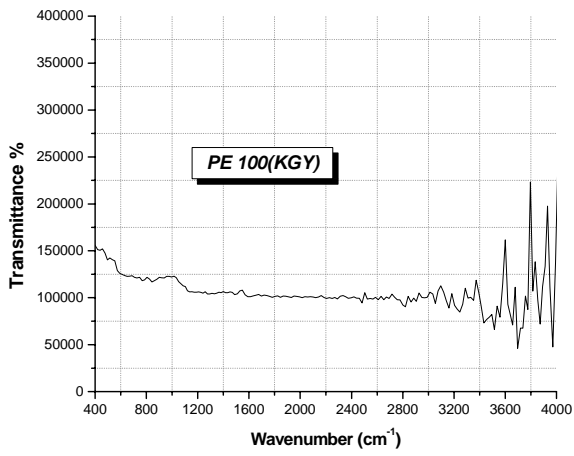
**0 (KGY)**

**(6)**



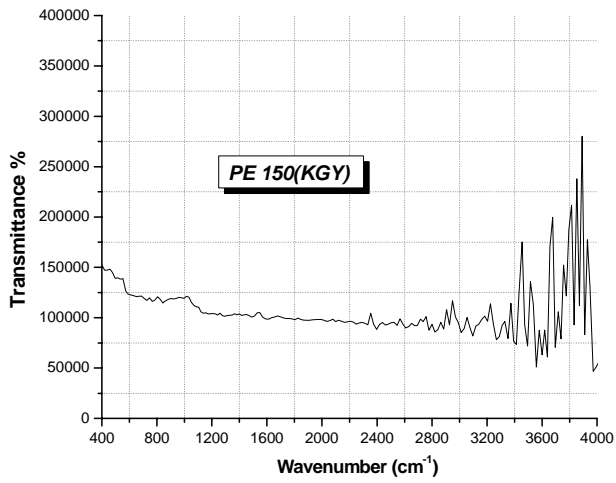
**50 (KGY)**

**(7)**



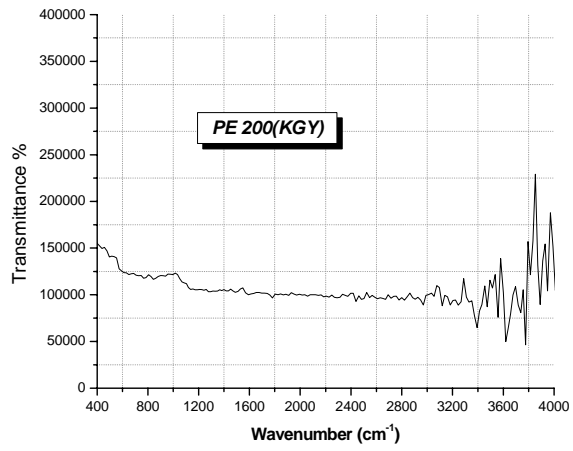
100 (KGY )

(8)



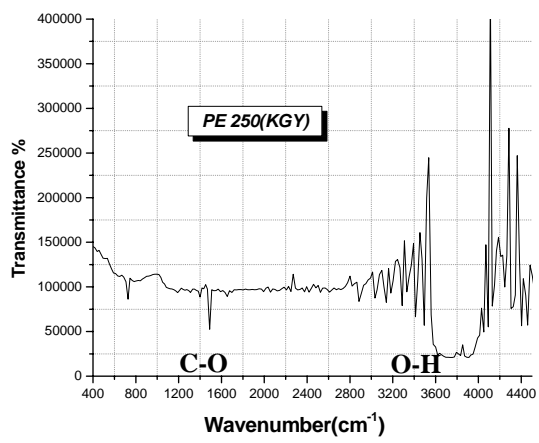
150 (KGY)

(9)



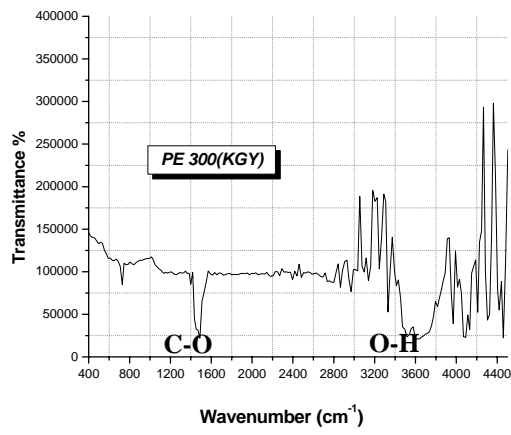
200 (KGY )

(10)



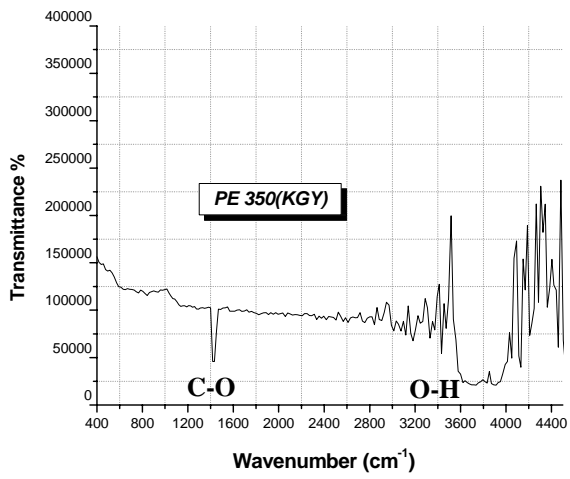
250 (KGY )

(11)



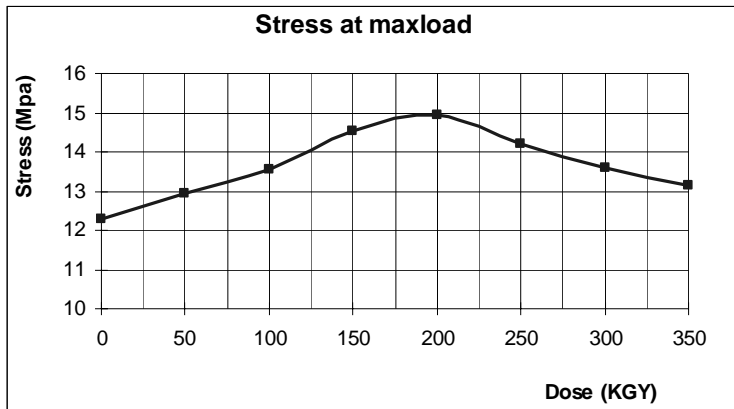
300 (KGY)

(12)



350 (KGY)

(13)



(14)

(14)

(Maxload)

PE

15(Mpa)

200(KGY)

PE

(Cross-Linking)

200 (KGY)

200 (KGY)

( Degradation )

( Peroxide)

( C-O )

( PE )

( O-H )

PE

(IR )

200 (KGY)

( O-H ) ( C-O )

(7) (6)

(10) (9) (8)

(13) (12) (11)

50(KGY)

(15)

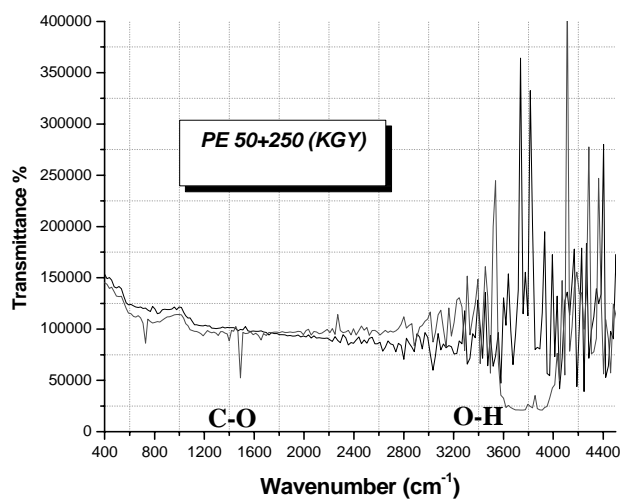
250(KGY)

( O-H )

$3700\text{cm}^{-1}$

( C-O )

$1550\text{cm}^{-1}$



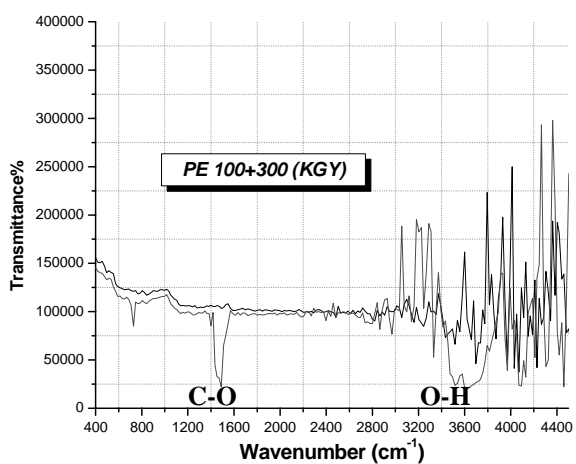
(50-250) KGY

(15)

: 300(KGY)

100(KGY)

(16)

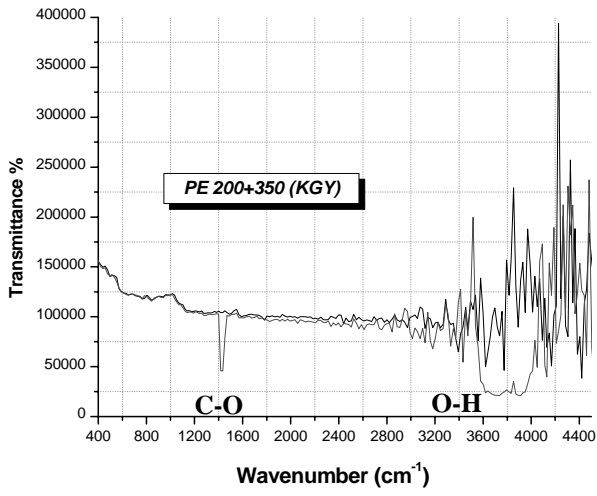


(100-300KGY)

(16)

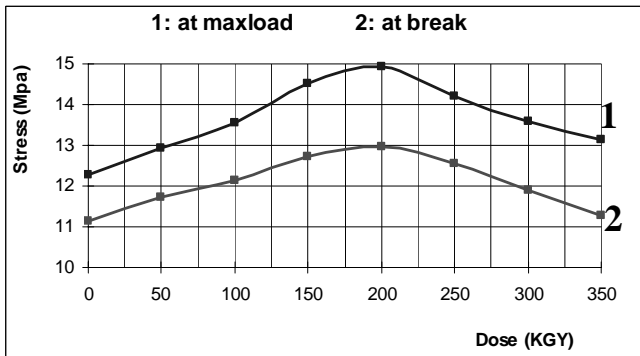


: 350(KGY)      200(KGY)      (17)



(200-350KGY)      (17)

:



(18)

(18)

للحمولة at maxload

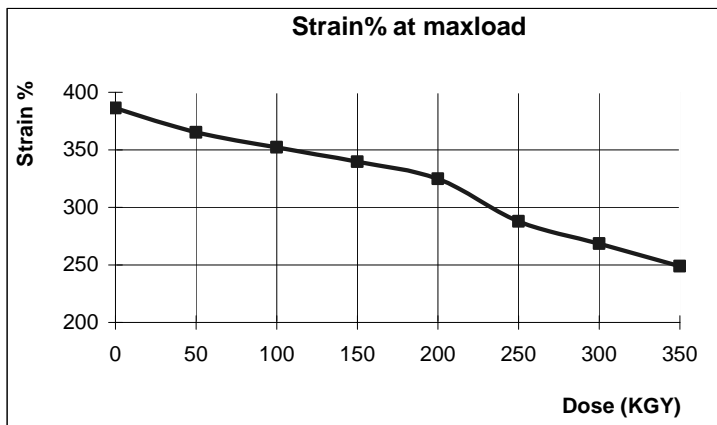
.at break

15(Mpa)

200(KGY)

. at break

13 (Mpa) at maxload



(19)

(PE)

(19)

(Strain %)

386.25%                      .200 (KGY)  
200 (KGY)                      325%                      0 (KGY)

(Cross-Linking)

200 (KGY)

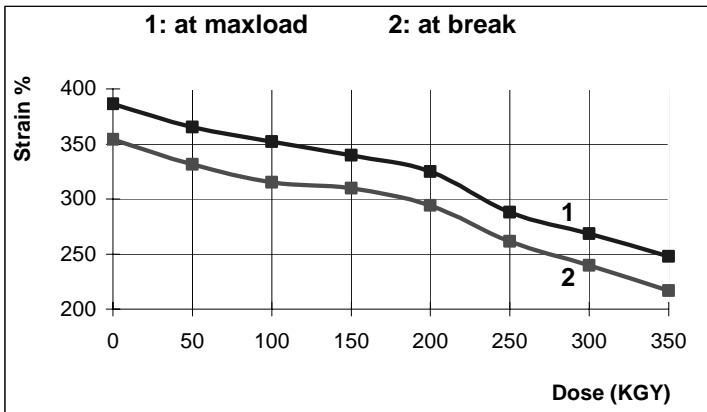
(PE)

)

(

)

:(

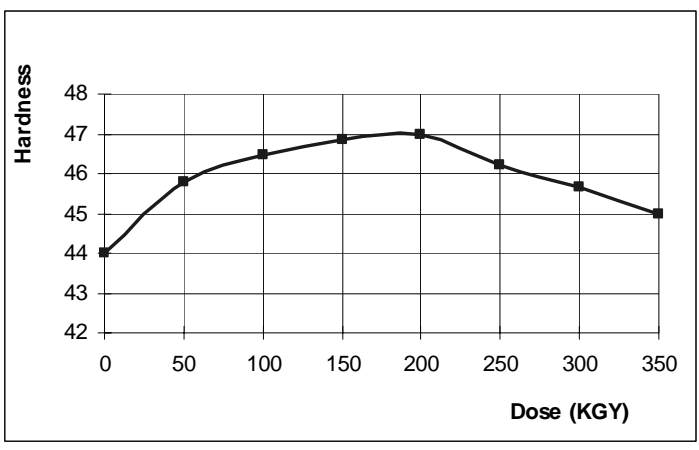


(20)

( PE ) (20)  
 at ) (Strain%)  
 (Strain % at break) (Strain % maxload

( 0-200 KGY)  
 325%  
 at break 305.98% at maxload للحمولة  
 . 200(KGY)

200 (KGY)



(21)

( PE ) (21)

200 (KGY)

( 47)

(Cross-Linking)

200 (KGY)

( PE )

200 (KGY)

200 (KGY)

(17,16,15)

:

200 (KGY)

(Cross-Linking)

200 (KGY)

( PE )

200 (KGY)



(LDPE)

:

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