

# Industrial pharmacy-II lab#10, measurement of tablet thickness, hardness, friability, weight variation test.

## Procedure:I

### 1. Thickness and diameter test:

- a. Measure the thickness and diameter of 3 tablets
- b. compare to the data from the technical sheet
- c. The variation should not exceed +/-5%

### 2. Weight variation test

- a. Weigh 20 tablets individually and calculate the average mass.

tablet		X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	Average
Wt(mg)												
range	(v)or(X)											
Double range	(v)or(X)											
tablet		X11	X12	X13	X14	X15	X16	X17	X18	X19	X20	
Wt(mg)												
range	(v)or(X)											
Double range	(v)or(X)											

- b. The deviation of individual masses of each tablet from the average mass should not exceed the limits given below:

Average mass of tablet	Deviation %	
less than 80 mg	±10.0	1. If 1 tablets is out of the range, but less than double the allowed %(pass) 2. If 2 tablets is out of the range but less than double the allowed % (pass) 3. If 3 tablets deviate more than the allowed % (failed). 4. If only one deviate more than the double allowed limit (failed)
80 mg to 250 mg	±7.5	
more than 250 mg	±5.0	

### 3. Friability test:

- i. Weigh 20 tablets together ( $W_0$ =??)
- ii. Put these 20 tablets in the friabilator and set the machine to run at 100 r for 4 minutes (i.e., 25rpm).
- iii. Weight the 20 tablet ( only the intact one)= $W_1$
- iv. Calculate the friability(% of loss)= $\frac{W_0-W_1}{W_0} \times 100$
- v. The accepted value =<1%. (however if it is more, do not reject the batch as it is non-official test)
- vi. If cracking, capping, or fragmentation of the tablets is observed, the sample also fails the test.

### 4. Hardness test:

- i. Measure the hardness of individual 3 tablets and take the average.
- ii. (Put the tablet vertically between the jaws of the machine and increase the load until the tablet has been cracked.
- iii. Record the hardness at this point and calculate the average.

All study materials are available on this link: <https://goo.gl/KBOm0R>