

The logo of Galgotias University is a circular emblem with a stylized 'G' shape. It features three curved, overlapping bands in shades of yellow, blue, and red, set against a light brown background.

TOPIC:SIZE SEPARATION

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School of medical and Allied Sciences

Course Code : BPHT3004

Course Name: Pharmaceutical Engineering

Disclaimer

All the content material provided here is only for teaching purpose

The logo of Galgotias University is a stylized, circular emblem. It features a central white space with a blue and yellow swirl. The outer ring is a gradient of red and orange. Below the logo, the text "GALGOTIAS UNIVERSITY" is written in a large, serif font, with "GALGOTIAS" on the top line and "UNIVERSITY" on the bottom line.

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Size Separation

Large pieces of material are usually estimated visually, difficulties arising only in the estimation of powders.

Standards for Powders

Standards for powders for pharmaceutical purposes are laid down principally in the **British Pharmacopoeia which states, that the degree of coarseness or fineness of a powder is differentiated and expressed by the size of the mesh of the sieve through which the powder is able to pass.**

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<i>Grade of powder</i>	<i>Sieve through which all particles must pass</i>
Coarse	10
Moderately coarse	22
Moderately fine	44
Fine	85
Very fine	120

SIEVES

- **Sieves for test purposes are the subject of a British Standard.**
- **Most of the sieves used are of the wire mesh type, the number of the sieve indicating the number of meshes included in a length of 25.4 mm (1 inch) in each direction parallel to the wires.**

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STANDARDS FOR SIEVES according to B.P.

- **It is required that wire-mesh sieves shall be made from wire of uniform, circular cross-section and for each sieve the following particulars are stated:**

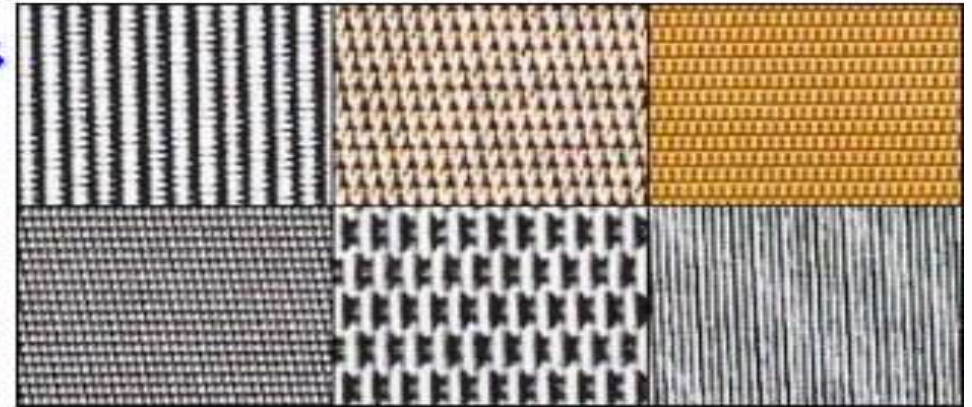
Number of Sieve

- **This is the number of meshes in a length of 25.4 mm (1 in.), in each direction, parallel to the wires.**



MATERIALS USED FOR SIEVES

- 1) The wire should be of uniform, circular cross-section.**
- 2) The material should have suitable strength to avoid distortion**
- 3) Be resistant to corrosion by any substances that may be sifted.**



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METALS

Iron wire

Advantage

cheap,

Disadvantage

- **Rusting**
- **Iron contamination of products**

METALS

Coated Iron (coating with galvanizing or tinning).

Advantage

- **Increases the protection against corrosion**
- **Increases the strength**

Disadvantage

Coating after manufacture lead to some variation in the mesh size.



NON-METALS

- ❑ **Used when all risk of metallic contamination be avoided.**
- ❑ **Used for sieves with fine meshes, since non-metal fibers are stronger than a metal wire of similar thickness.**



NON-METALS

- ❑ **Materials of natural origin (hair and silk), are used but synthetic fibers (nylon and terylene) are more suitable**

Advantages of synthetic fibers

- **Have more strength and resistance to corrosion.**
- **can be extruded in all diameters, so enabling a wide variety of sieves to be made.**



References:

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- Finn, J.D. & Achilles, C.M. (1999). Tennessee's class size study: Findings, implications, and misconceptions. *Educational Evaluation and Policy Analysis*, 21(2), 97-110

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