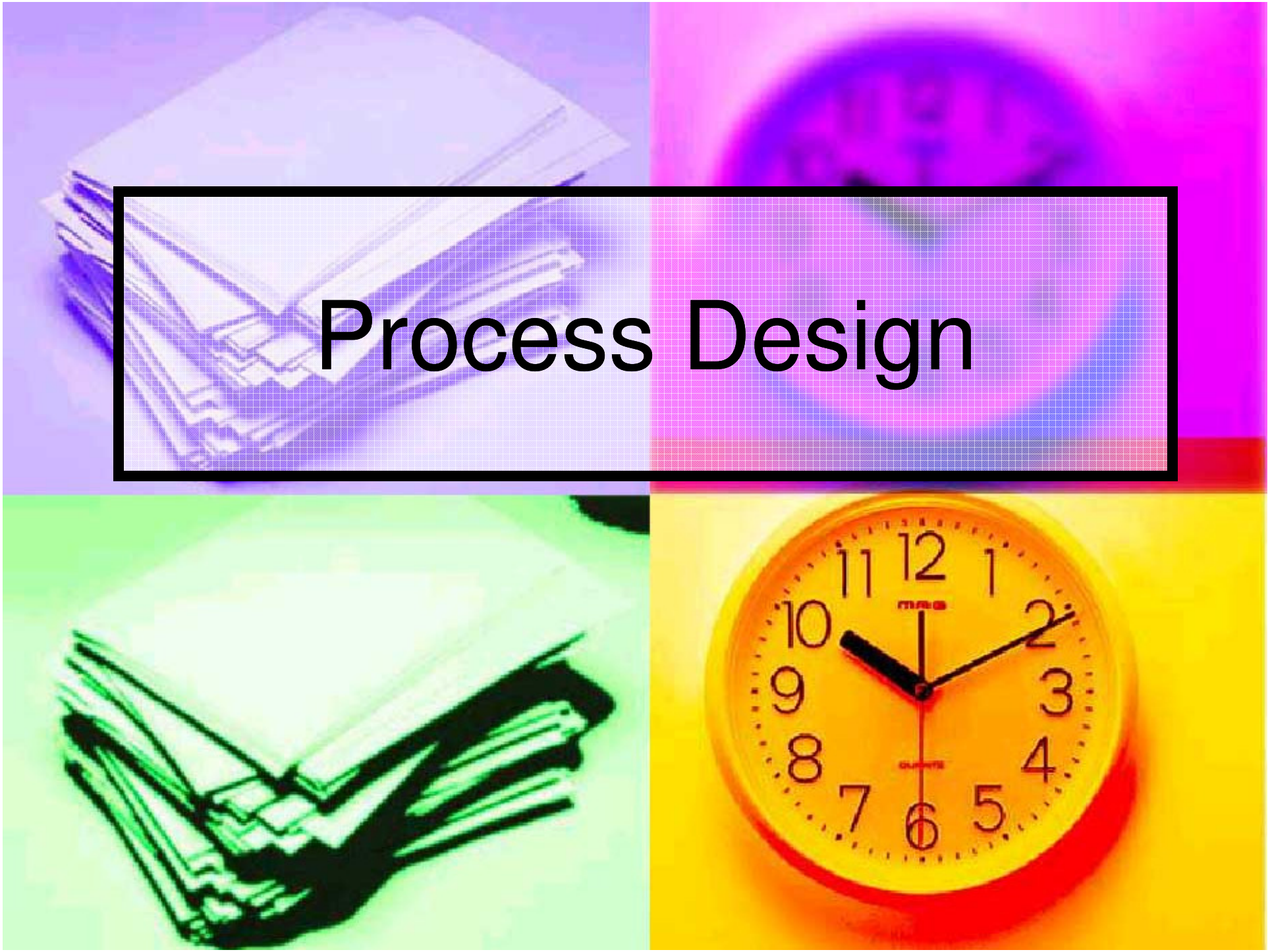
Process Design

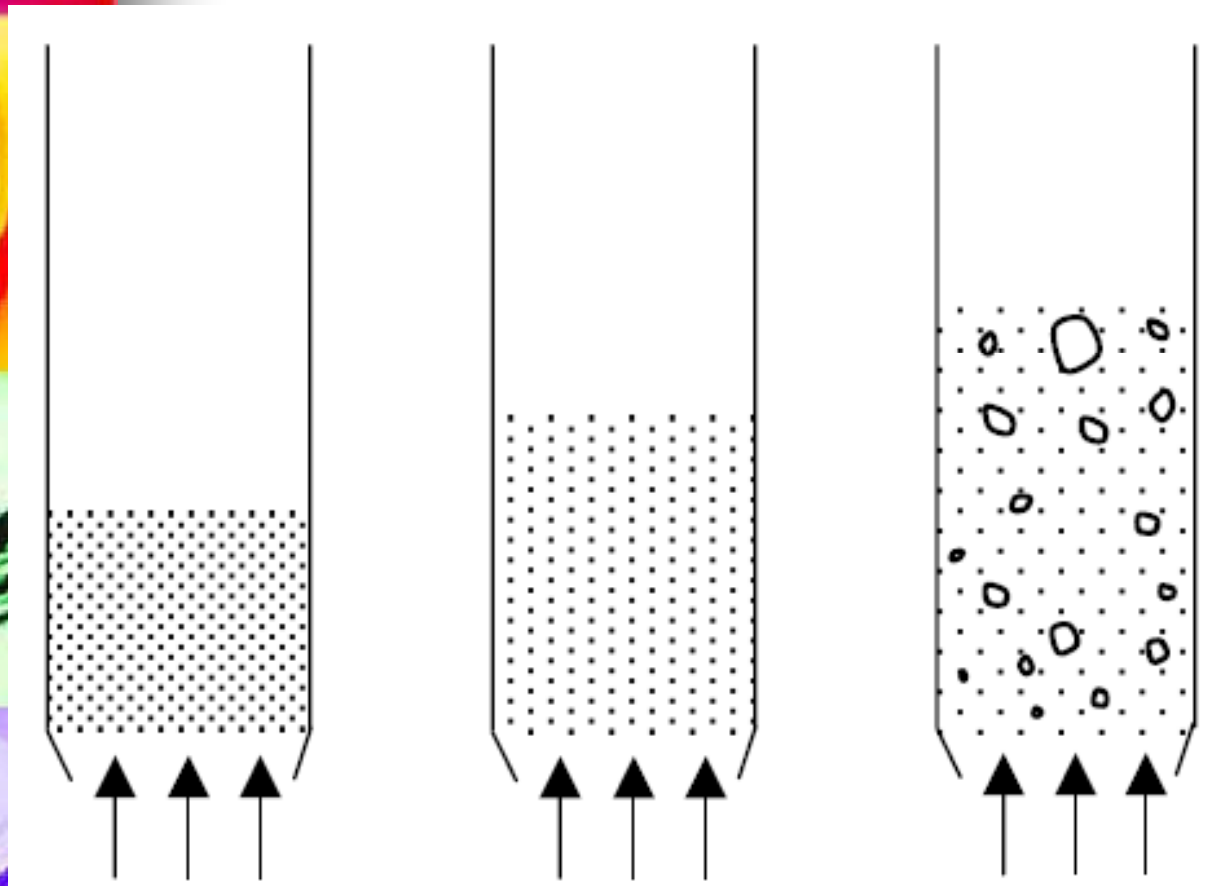


FLOW IN FLUIDIZED BEDS

Fluidized bed can be defined as a bed of small solid particles suspended and kept in motion by an upward flow of a fluid

In a packed bed of small particles, when a fluid enters at sufficient velocity from the bottom and passes up through the particles, the particles are pushed upward and the bed expands and becomes fluidized.

- When a fluid flows upward through a packed bed of particles at low velocities, the particles remain stationary.
- As the fluid velocity is increased, the pressure drop increases according to the Ergun Equation. Upon further increases in velocity, conditions finally occur where the force of the pressure drop times the cross-sectional area equals the gravitational force on the mass of the particles. Then the particles began to move.
- And this is the onset of fluidization.
- The fluid velocity at which the fluidization begins is the **minimum fluidization velocity** (**minimum akışkanlaşma hızı)** (v'_{mf})



Applications of Fluidized beds

- For a better contact between gas and solid phases
- Combustion technologies to obtain high combustion efficiency
- Production of hot water, steam and hot gas in industry
- Chemical reactions in reactors.
- Especially drying and freezing in food industry.

FLUIDIZED BED DRIERS

- Bisküvi Unu
- Hububatlar
- Rendelenmiş Kökler
- Bitki Ve Hayvan Özleri
- İnce Parçalanmış Patates
- Sakaroz
- Buğday Unu
- Jelâtin
- Çay
- Kahve
- Soya
- Kahve
- Süt Şekeri
- Dekstroz
- Kalsiyum Karbonat Ve

Bikarbonat
Süt Tozu
Diyatomit
Şeker
Doğal Otlar
Laktoz Granülleri
Tahıllar
Ekmek Kırıntısı
Meyan Kökü
Tohum
Fındık
Nişasta
Toz Ve Granül
Baharat
Filizlenmiş Arpa
Otlar Ve Baharatlar
Tuz

Früktoz
Tütün
Gdl
Pektin Tozu
Un
Vitamin A
Gıda Katkı Maddeleri
Pirinç
Vitamin C
Gıda Koruyucu Maddeleri
Protein Tozları
Yer Elması
Havuç
Yer Fıstığı