## **IMPORTANT CHARACTERISTICS OF SINTERED BRONZE FILTER ELEMENTS**

## FLOW RATE OF GASES Flow Rate of Air at 20°C(Liters/h/cm^2) (Viscosity 183 micropoise) 300 200 Rate (Liters/h/cm^2) 100 50 20 10 Flow 5 2 1 2 10 0.5 1 5 20 50 100 Pressure Drop (CM. W.G) per Millimeter filter thickness



The structure of material based on individual particles Sintered together offers a high porosity material with its most important property, PERMEABILITY. The labyrinth pore structure of Satkirti Filter Technologies Pvt Ltd (SFTPL) Filter Elements allows:

- Filtering of solid particles from gases, liquids and molten plastics.
- Separation of liquids from gases,
- Damping, throttling,
- Drying and Moistening of gases,
- Uniform distribution of air and gas over large areas:
  - -for dispersion of gases in liquids -for transportation, drying or moistening of
  - powder or granulates.
  - -for supporting of moving parts(aerostatic and hydrostatic bearing)

The permeability is defined as "ability to flow" and is an individual characteristic of a filtering medium depending upon its pore size, depth of filtration, pore structure etc.

The Coefficient of permeability of SFTPL sintered bronze Filter Elements can be calculated as:



- = Coefficient of permeability of a given grade in Darcy \* Φ (\* 1 darcy = 10^-8)cm^2
- = Flow of fluid through sintered bronze element in cc/sec. Q
- Т = Thickness of filter elements in cm.
- = Viscosity of fluid in poise. n
- ΔP = Pressure drop across element in dynes/cm^2.
- А = Area of filtration, cm<sup>2</sup>.

OTHER IMPORTANT CHARACTERISTICS	
Chemical Composition(NOMINAL)	Cu-89% Sn-11%
DENSITY	4.5 - 6.5 GM/CC
POROSITY BY VOLUME	35 - 50%
COEFFICIENT OF LINEAR EXPANSION	18.4 X 10^6/°C
TEMPERATURE SUITABILITY	Up to 200°C in oxidizing atmosphere UP to 400°C in inert atmosphere

AVERAGE FILTRATION LEVEL (MICRON)	CO-EFFICIENT OF PERMEABILITY, ( X 10^-8 CM^2)
80-100	150
50-60	100
25-35	25
15-20	7.5
9-12	2.5
5-7	1
1-3	0.3