

Design and fabrication of a bacterial filtration efficiency tester

SITRA has designed and fabricated an instrument “Bacterial Filtration Efficiency Tester”. This instrument could be used to assess the barrier properties of woven and non woven surgical wears.

Woven surgical gowns (without any antimicrobial finish) used in hospitals show a reduction in bacterial filtration efficiency (for air-borne bacteria) with increase in the number of industrial launderings. For the type of hospital gowns generally used in corporate hospitals, 17 – 18 washes appear to be the termination point from the view point of acceptable level of bacterial filtration efficiency for air-borne bacteria.

Model Test Report from SBFET

S. no.	Test Particulars	Results		
1.	Area of test specimen	Φ 100 mm		
2.	Flow rate of aerosol	28.3 L/min.		
3.	Aerosol particles deposited in agar plates	Plate numbers	Test (T)	Control (C)
		1.	257	3728
		2.	224	2991
		3.	187	2318
		4.	147	1416
		5.	78	949
		6.	56	762
	Total	949	12164	
	Average	158.16	2027.33	
4.	Bacterial filtration efficiency $\left\{ \frac{C - T}{C} \times 100 \right\}$	92.19%		



SITRA's Bacterial Filtration Efficiency Tester (SBFET)