Příloha 4 – Měrné zatížení filtrační textilie

Zdroj

TURNER, James H., et al. *Fabric filters*. Pollution prevention regional information center, 1998.

Table 1.3: Manufacturer's Factor Method for Estimating Gas-to-cloth Ratios for Shaker Baghouses

A

4/1 RATIO		3/1 RATIO		2.5/1 RATIO		2/1 RATIO		1.5/1 RATIO	
Material	**Operation**	**Material**	**Operation**	**Material**	**Operation**	**Material**	**Operation**	**Material**	**Operation**
Cardboard	1	Asbestos	1, 7, 8	Alumina	2, 3, 4, 5, 6	Ammonium Phosphate		Activated Carbon	2, 4, 5, 6, 7
Feeds	2, 3, 4, 5, 6, 7	Aluminum Dust	1, 7, 8	Carbon Black	4, 5, 6, 7	Fertilizer	2, 3, 4, 5, 6, 7	Carbon Black	11, 14
Flour	2, 3, 4, 5, 6, 7	Fibrous Mat'l	1, 4, 7, 8	Cement	3, 4, 5, 6, 7	Diatomaceous Earth	4, 5, 6, 7	Detergents	2, 4, 5, 6, 7
Grain	2, 3, 4, 5, 6, 7	Cellulose Mat'l	1, 4, 7, 8	Coke	2, 3, 5, 6	Dry Petrochem.	2, 3, 4, 5, 6, 7, 14	Metal Fumes, Oxides and other Solid Dispersed Products	10, 11
Leather Dust	1, 7, 8	Gypsum	1, 3, 5, 6, 7	Ceramic Pigm.	4, 5, 6, 7	Dyes	2, 3, 4, 5, 6, 7		
Tobacco	1, 4, 6, 7	Lime (Hydrated)	2, 4, 6, 7	Clay and Brick Dust	2, 4, 6, 12	Fly Ash	10		
Supply Air	13	Perlite	2, 4, 5, 6	Coal	2, 3, 6, 7, 12	Metal Powders	2, 3, 4, 5, 6, 7, 14		
Wood, Dust, Chips	1, 6, 7	Rubber Chem.	4, 5, 6, 7, 8	Kaolin	4, 5, 7	Plastics	2, 3, 4, 5, 6, 7, 14		
		Salt	2, 3, 4, 5, 6, 7	Limestone	2, 3, 4, 5, 6, 7	Resins	2, 3, 4, 5, 6, 7, 14		
		Sand*	4, 5, 6, 7, 9, 15	Rock, Ore Dust	2, 3, 4, 5, 6, 7	Silicates	2, 3, 4, 5, 6, 7, 14		
		Iron Scale	1, 7, 8	Silica	2, 3, 4, 5, 6, 7	Starch	6, 7		
		Soda Ash	4, 6, 7	Sugar	3, 4, 5, 6, 7	Soaps	3, 4, 5, 6, 7		
		Talc	3, 4, 5, 6, 7						
		Machining Operation	1, 8						

CUTTING - 1	MIXING - 4	CONVEYING - 7	FURNACE FUME - 10	INTAKE CLEANING - 13
CRUSHING - 2	SCREENING - 5	GRINDING - 8	REACTION FUME - 11	PROCESS - 14
PULVERIZING - 3	STORAGE - 6	SHAKEOUT - 9	DUMPING - 12	BLASTING - 15

B

FINENESS FACTOR

Micron Size	Factor
> 100	1.2
50 - 100	1.1
10 - 50	1.0
3 - 10	0.9
1 - 3	0.8
< 1	0.7

C

DUST LOAD FACTOR

Loading gr/cu ft	Factor
1 - 3	1.2
4 - 8	1.0
9 - 17	0.95
18 - 40	0.90
> 40	0.85

This information constitutes a guide for commonly encountered situations and should not be considered a "hard-and-fast" rule. Air-to-cloth ratios are dependent on dust loading, size distribution, particle shape and "cohesiveness" of the deposited dust. These conditions must be evaluated for each application. The larger the interval between bag cleaning the lower the air-to-cloth ratio must be. Finely-divided, uniformly sized particles generally form more dense filter cakes and require lower air-to-cloth ratios than when larger particles are interspersed with the fines. Sticky, oily particles, regardless of shape and size, form dense filter cakes and require lower air-to-cloth ratios.

Example: Foundry shakeout unit handling 26,000 CFM and collecting 3,500 lb/hr of sand. The particle distribution shows 90% greater than 10 microns. The air is to exhaust to room in winter, to atmosphere in summer.

$$3{,}500\,\frac{lb}{hr} \div 60\,\frac{min}{hr} \div 26{,}000\,\frac{ft^3}{min} \times 7{,}000\,\frac{gr}{lb} = 15.7\,\frac{gr}{ft^3}$$

*Chart A = 3/1 ratio, Chart B = Factor 1.0, Chart C = 0.95; 3 x 1 x 0.95 = 2.9 air-to-cloth ratio. 26,000 / 2.9 = 9,000 sq. ft.

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