TABLE 2. A GUIDE TO VENTILATION RATES FOR TYPICAL INDUSTRIAL EQUIPMENT (Continued)

State or Local Regulations Should be Consulted and Followed Where Higher Ventilation Rates are Specified

OPERATION	VENTILATION		USUAL TRANSPORT VELOCITY (FPM)	REMARKS AND REFERENCES
	Type of Hood	Air Flow		
Mixers	Enclosure	100–200 fpm thru feed and inspection openings	3000–3500	Ref. 18, 21
Motion picture projector (carbon arc)	Enclosure	12–100 cfm (for fume and gas removal) directly exhausted from projector housing		Ref. 30. 1000–1500 cfm or 20–30 air changes per hour for heat removal
Pharmaceuticals Blenders	Fully enclosed	100 to 200 fpm through opening	2500–3500	Exhaust required only when filling or emptying
Coating pans	Hood	120 cfm exh 24-in. diam. pan 60 cfm supply direct to pan. Differential 60 cfm	3000	Flexible exhaust hood connection extended into pan. Feed opening covered all possible
Centrifuges	Enclosure	250–300 fpm through opening	1500–2000	Centrifuge to be provided with cover for 50–75 percent of opening
Hammer mills Oscillators Shakers Mixers Process kettles and tanks	Local hood Hood Enclosure	200 fpm but not less than 50 cfm Not less than 75 cfm per sq ft of plan area 100–250 fpm through opening- or manhole	 2500–3500 1500–2000	 Hood with slot at each end of mixer Ref. 31. Use higher ventilation rate when contents are being heated
Pouring hoods Foundry	Side hood	200 to 300 cfm per linear ft of hood with slot velocities of 1500 fpm. Exhaust take-off every 8 to 10 ft	3500	Ref. 19
Rock drilling Dry drilling (rock)	Special trap (see references)	60 cfm—vertical (downward) work 200 cfm—horizontal work	3500	Ref. 25, 26. May vary with size and speed of drill. Wet drilling offers alternate control methods
Rubber calender rolls	Canopy—side panels	75–100 fpm indraft	3500	Ref. 23, 29
Quarts fusing	Booth on bench	150–200 fpm at face		Ref. 32, 33
Screens Vibrating Flat deck	Enclosure	150–200 fpm indraft through hood openings but not less than 25–50 cfm per sq ft of screen area	3500	Ref. 13, 18
Shakeouts Foundry	Enclosure	200 fpm through all openings in enclosure, but not less than 200 cfm per sq ft of grate area	3500	Ref. 19, 21

TABLE 2. A GUIDE TO VENTILATION RATES FOR TYPICAL INDUSTRIAL EQUIPMENT (Concluded)

State or Local Regulations Should be Consulted and Followed Where Higher Ventilation Rates are Specified

OPERATION	VENTILATION		USUAL TRANSPORT VELOCITY (FPM)	REMARKS AND REFERENCES
	Type of Hood	Air Flow		
Spray coating	Booth—operator inside Booth—operator outside Booth—downdraft	100–200 fpm at booth cross section 150–200 fpm at booth cross section 100–200 fpm downdraft	1500–2000 1500–2000 1500–2000	Ref. 13 Use higher ventilation rate for small booths 4 sq ft or less
Tanks, open surface	See Table 4			Ref. 34, 42
Tumbling mills Hollow trunnion type	Exhaust connection by manufacturer	Use branch diameter same size as exhaust outlet. For round mills branch diam should be ⅛ diam of mill; for square mills branch diam should be 1 in. plus ⅛ side dimension of mill.	3500–5000	Ref. 14
Tumbling mills, drums, cages, barrels	Enclosure	400 fpm thru openings but not less than 75 cfm per sq ft plan area	3500	Where equipment is enclosed and dust tight during rotation, enclosure may not be needed if feed and discharge operations can be otherwise controlled
Welding	Local hood with flange	6 in. from arc—150 cfm 6–9 in. from arc—275 cfm 8–10 in. from arc—425 cfm 10–12 in. from arc—600 cfm	2000–4000	Ref. 35
	Downdraft bench Booth	150–250 cfm per sq ft grille area 100 fpm at booth face	2000 2000	
Woodworking	See Table 5			Ref. 21, 36
Miscellaneous Packaging, machines, granulators enclosed dust producing units	Complete enclosure	100–400 fpm indraft through inspection or working openings, but not less than 25 cfm per sq ft of enclosed plan area	3000	Ref. 18
Packaging, weighing, container filling, inspection	Booth Downdraft	50–150 cfm per sq ft of open face area 75–150 cfm per sq ft of dust producing plan area	3000 3500	