

TABLE 2. A GUIDE TO VENTILATION RATES FOR TYPICAL INDUSTRIAL EQUIPMENT
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		
Abrasive blast rooms (sand, grit or shot)	Tight enclosure with air inlets (usually in roof)	60-100 fpm downdraft (long rooports of tunnel proportions 100 fpm cross-draft)	3500	Ref. 8 Many codes specify minimum downdraft of 80 fpm
Abrasive blast cabinets	Tight enclosure with access openings	20 air changes per minute but not less than 500 fpm through all openings	3500	Ref. 14
Asbestos Carding Spool winding	Enclosure Local Hoods	800 cfm per machine 50 cfm per spool	3000 3000	Ref. 2, 15, 16. See references for details and other operations
Bagging Open Bag Top	Booth or enclosure (provide spillage hopper)	Paper bags—100 cfm per sq ft open area. Cloth bags—200 cfm per sq ft open area	3500 3500	Ref. 17
Barrels—Drums (filling or removing material by scoop)	Local Hood Booth	100 cfm/sq ft of container cross section 100 fpm at face	3500 3500	Ref. 13, 18. Hood with 1-in slot extending 120 to 180 deg container. Does not confine spillage. Confinement spillage—also recommended for container upsetting
Belt conveyors	Hood at transfer point	Belt speeds less than 200 fpm—350 cfm per foot of belt width, but not less than 150 fpm through open area. Belt speeds over 200 fpm—500 cfm per foot of belt width but not less than 200 fpm through open area	3500	Ref. 17, 18
Bins (closed top)	Connect to bin top away from feed point	180-200 fpm through open area at feed points	3500	Ref. 18, 19
Bucket elevators	Tight casing required	10 cfm per sq ft of elevator casing cross-section	3500	Ref. 18
Brick cutting and sizing (abrasive cut-off wheel used dry)	Local Hood Booth with saw at face of booth	500 cfm 150 fpm at face	3500 3500	Ref. 7, 18. For portable operations. Control not as effective as booth
Ceramics Dry pan Dry press	Enclosure Local at die Local at die At supply bin Booth Downdraft or side hood	200 fpm through all openings 500 cfm 500 cfm 500 cfm 100 fpm (face) 100-150 cfm per sq ft of plan area of dust producing operation	3500 3500 3500 3500 3500	Ref. 18; 20, 21 Automatic feed Manual feed Manual feed
Aerographing Fetting, brushing, sagger filling and unload			3500	

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	Type of Hood	Air Flow		
Cooling Tunnels (foundry molds)	Enclosure	75-100 cfm per running foot of enclosure		Ref. 19
Crushers and grinders	Enclosure	200 fpm through openings	3500	Ref. 17, 22
Furnaces Stationary melting pots for non-ferrous Tinting or roasting melting for Electric Arc for Steel	Enclosure Canopy Hood attached to roof ring	100-200 fpm at hood opening 3000-4000 cfm 2000 cfm per ton charged	1500-2000 1500-2000 2500-3500	Ref. 11, 13, 21, 23, 24 Use higher ventilation rate for toxic fumes Ventilation rate can be materially reduced with more complete enclosures General ventilation of melting rooms may be substituted but involves greatly increased ventilation rate
Forge (hand)	Canopy	200 fpm at face	1500	Ref. 23
Garage (tail pipe at servicing location)	Local hood slipped over tail pipe	100 cfm thru 3-in. flexible duct for autos 200 cfm thru 4-in. flexible duct for trucks 300 cfm thru 4-in. flexible duct for Diesel engines	2000	Ref. 13
Granite cutting and finishing Pneumatic hand tools Surfacing machine	Local hood Local hood	500 cfm 500 cfm for tools up to 2-1/2 in. diameter 1000 cfm for 2-1/2 to 2-1/2 in. diameter	5500-6000 5500-6000	Ref. 25, 26 Typical hood 3 x 8 in. opening with 3 in. flange Hood surrounds tool
Grinders Polishers, buffers, etc. Portable	Standard wheel hood Downdraft bench	See Table 3 Bench type, 2-400 cfm per sq ft of exhaust grille but not less than 160 cfm per sq ft of plan working area. 100 fpm at face 100-200 fpm indraft through opening in booth face	3500 3500 3000	Ref. 21, 27 Ref. 13, 15, 21, 28 Recommended for larger parts (Usual cfm per grinder 2000-4000)
Swing frame	Booth			
Kitchen range	Canopy	100 fpm at hood face	1500-1800	Provide drip gutter on all interior vertical walls to catch condensed grease
Laboratory hood (provide with door)	Booth type	50-100 fpm		Ref. 23, 29. Air supply location very critical
Metallizing	Local hood Booth	200 fpm at hood face 125-200 fpm at booth face	3500 3000	Ref. 13. Not recommended for toxic materials Use higher ventilation rates for toxic materials