

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		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 (icing rooms 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 800 fpm through all openings	3500 Ref. 14
Asbestos Cording 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. Containers 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, 19
Bins (closed top)	Connect to bin top away from feed point	150-200 fpm through open area at feed point	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	800 cfm 160 fpm at face	3200 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			

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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 Tilted or rocking melting for non-ferrous Electric Arc for Steel	Enclosure Canopy Hood attached to roof ring	100-200 fpm at hood opening 3000-6000 cfm 2500 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 room may be substituted but involves greatly increased ventilation rate Ref. 23
Forge (hand)	Canopy	200 fpm at face	1500 Ref. 13
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
Granite cutting and finishing Pneumatic hand tools Surfacing machine	Local hood Local hood	500 cfm 500 cfm for tools up to 2-4 in. diameter 1000 cfm for 2-4 to 3-4 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 150 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, 18, 21, 28 Recommended for larger parts (Usual cfm per grinder 2000-4000)
Swing frame	Booth	100 fpm at hood face	1500-1800 Provide drip gutter on all interior vertical walls to catch condensed grease. (Ref. 41)
Kitchen range	Canopy	100 fpm at hood face	
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