Welding operation	Shade No.
Shielded metal-arc welding – 1/16-, 3/32-, 1/8-, 5/32-inch electrodes	11
Gas-shielded arc welding (nonferrous) – 1/16-, 3/32-, 1/8-, 5/32-inch electrodes	11 12
Gas-shielded arc welding (ferrous) – 1/16-, 3/32-, 1/8-, 5/32-inch electrodes	12
Shielded metal-arc welding:	14
3/16-, 7/32-, 1/4-inch electrodes	10-14
5/16-, 3/8-inch electrodes	14
Atomic hydrogen welding	2
Carbon arc welding	3 or 4
Soldering	3 or 4
Torch brazing	4 or 5
Light cutting, up to 1-inch	5 or 6
Medium cutting, 1-inch to 6 inches	4 or 5
Heavy cutting, 6 inches and over	5 or 6
Gas welding (light) up to 1/8-inch	6 or 8
Gas welding (medium) 1/8-inch to 1/2-inch	
Gas welding (heavy) 1/2-inch and over	

Note: In gas welding or oxygen cutting where the torch produces a high yellow light, it is desirable to use a filter or lens that absorbs the yellow or sodium line in the visible light of the operation.

Welding zone	Minimum air flow[1] cubic feet/minute	Duct diameter, inches[2]
4 to 6 inches from arc or torch	150	3
6 to 8 inches from arc or torch	275	3 1/2
8 to 10 inches from arc or torch	425	4 1/2
10 to 12 inches from arc or torch	600	5 1/2

[1] When brazing with cadmium bearing materials or when cutting on such materials you may need increased rates of ventilation.

[2] Nearest half-inch duct diameter based on 4,000 feet per minute velocity in pipe.