Tables in 437-003-0134: Personal Protective Equipment

Under 437-003-0134 (8)(e) Eye And Face Protection.

Table 1 - Filter Lenses for Protection Against Radiant Energy

Operations	*Electrode Size 1/32 in.*	*Arc Current (amps)*	*Minimum* Protective Shade*
Shielded metal arc welding	*Less than 3*	*Less than 60*	*7*
	3-5	*60-160*	*8*
	5-8	*160-250*	*10*
	More than 8	*250-550*	*11*
Gas metal arc welding and flux cored arc welding		*Less than 60*	*7*
		60-160	*10*
		160-250	*10*
		250-500	*10*
Gas Tungsten arc welding		*Less than 50*	*8*
		50-150	*8*
		150-500	*10*
Air carbon	*(Light)*	*Less than 500*	*10*
Arc cutting	*(Heavy)*	*500-1000*	*11*
Plasma arc welding		*Less than 20*	*6*
		20-100	*8*
		100-400	*10*
		400-800	*11*
Plasma arc cutting	*(Light) **	*Less than 300*	*8*
	*(Medium) **	*300-400*	*9*
	*(Heavy) **	*400-800*	*10*
Torch brazing		*.....*	*3*
Torch soldering		*.....*	*2*
Carbon arc welding		*.....*	*14*

** As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxy-fuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.*

*** These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the workpiece.*

Table 2 - Filter Lenses for Protection Against Radiant Energy

Operations	*Plate thickness – inches*	*Plate thickness – mm*	*Minimum* Protective Shade*
Gas Welding:			
Light	*Under 1/8*	*Under 3.2*	*4*
Medium	*1/8 to 1/2*	*3.2 to 12.7*	*5*
Heavy	*Over 1/2*	*Over 12.7*	*6*
Oxygen Cutting:			
Light	*Under 1*	*Under 25*	*3*
Medium	*1 to 6*	*25 to 150*	*4*
Heavy	*Over 6*	*Over 150*	*5*

** As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxy-fuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.*

*** These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the workpiece.*