

Shielding Gas

Metal Type	Thickness Inches	Shielding Gas	Suggested Blend Composition	Use	Process	
Carbon Steel	Up to 14 gauge	Argon/CO ₂ /O ₂	86/10/4	Light Fabrication	GMAW	
		Argon/CO ₂	75/25		GMAW SC - FCAW	
		Argon/CO ₂	85/15		GMAW	
		Argon/CO ₂	90/10		GMAW SC - MCAW	
		Argon/O ₂	98/2		GMAW SC	
		CO ₂	100		GMAW SC	
		Argon	100		GTAW	
	14 gauge to 1/8"	Argon/CO ₂ /O ₂	86/10/4	General Fabrication	GMAW SC	
		Argon/CO ₂	75/25		GMAW SC - FCAW	
		Argon/CO ₂	85/15		GMAW SC - FCAW	
		Argon/CO ₂	90/10		GMAW SC - MCAW	
		Argon/O ₂	98/2		GMAW SC	
		Argon	100		GTAW	
		Over 1/8"	Argon/CO ₂ /O ₂		90/7.5/2.5	General Fabrication
	Argon/CO ₂		75/25	GMAW SC		
	Argon/CO ₂		85/15	GMAW SC/SPRAY - FCAW		
	CO ₂			GMAW SC - FCAW		
	Argon		100	GTAW		
	Over 14 gauge	Argon/O ₂	98/2	General Fabrication	GMAW P	
		Argon/CO ₂	92/5		Heavy Fabrication	GMAW P
		Argon/CO ₂	92/8		GMAW P	
		Argon/CO ₂	90/10		GMAW P	
		Argon/CO ₂ /O ₂	90/7.5/2.5		GMAW P	
Argon/Helium/CO ₂		60/38/2	GMAW P			
Low and High Alloy Steel	Up to 3/32"	Argon/CO ₂ /O ₂	86/10/4	Specialized Fabrication	GMAW SC	
		Argon/CO ₂	75/25		GMAW SC	
		Argon/CO ₂	85/15		GMAW SC	
		Argon/CO ₂	90/10		GMAW SC - MCAW	
		Argon/CO ₂	95/5		GMAW SC	
		Argon/Helium/CO ₂	72/10/18		GMAW SC	
	Over 3/32"	Argon	100	GTAW		
		Argon/CO ₂ /O ₂	86/10/4	GMAW SPRAY		
		Argon/CO ₂	85/15	GMAW SPRAY - FCAW		
		Argon/CO ₂	90/10	GMAW SPRAY - MCAW		
		Argon/Helium/CO ₂	72/10/18	GMAW SPRAY		
		Argon	100	GTAW		
		Argon/O ₂	98/2	GMAW P		
		Argon/CO ₂	95/5	GMAW P		
		Argon/CO ₂ /O ₂	86/10/4	GMAW P		
		Argon/Helium/CO ₂	72/10/18	GMAW P		
Argon/Helium/CO ₂	65/33/2	GMAW P				

Shielding Gas *(continued)*

Metal Type	Thickness Inches	Shielding Gas	Suggested Blend Composition	Use	Process
Steel, Stainless Nickel, Nickel Alloy	Up to 14 gauge	Argon/Helium/CO ₂	65/33/2		GMAW SC
		Argon/Helium/CO ₂	90/7.5/2.5		GMAW SC
		Helium/Argon/CO ₂	90/7.5/2.5		GMAW SC
		Argon/CO ₂	98/2		GMAW SC
	Over 14 gauge	Argon/Helium/CO ₂	65/33/2		GMAW SC / SPRAY / P
		Helium/Argon/CO ₂	90/7.5/2.5		GMAW SC
		Argon/Helium/CO ₂	90/7.5/2.5		GMAW SC / SPRAY / P
		Argon/CO ₂	75/25		FCAW
		Argon/CO ₂	85/15		FCAW
		Argon/Helium/CO ₂	72/10/18		FCAW
		Argon/O ₂	98/2		GMAW SPRAY / P
		Argon/Helium	75/25		GMAW SPRAY
		Argon/H ₂	97.5/2.5		GTAW
		Argon/H ₂	95/5		GTAW
Argon	100		GTAW		
Duplex, Stainless		Argon/Helium/CO ₂ /N ₂	86.5/10/2/1.5		GMAW SC / SPRAY / P
		Argon/Helium/N ₂	85.5/12/2.5		GTAW
Copper, Copper- Nickel Alloys	Up to 1/8"	Helium/Argon	75/25		GMAW SC
		Argon/Helium	75/25		GMAW SC
		Argon/Helium	50/50		GMAW SC
	Over 1/8"	Argon/Helium	75/25		GMAW SPRAY / P - GTAW
			50/50		GMAW SPRAY / P - GTAW
		Argon			GTAW
		Helium			GTAW
		Argon/Helium	75/25		GMAW P
		50/50		GMAW P	
Aluminum	Up 3/16 "	Argon			GMAW SPRAY / GMAW P / GTAW
		Argon/Helium	75/25		GMAW SPRAY / GMAW P / GTAW
	Over 3/16'	Helium/Argon	75/25		GMAW SPRAY / GMAW P / GTAW
			50/50		GMAW SPRAY / GMAW P / GTAW
		Helium/Argon	75/25		GMAW SPRAY / GMAW P / GTAW
			50/50		GMAW SPRAY / GMAW P / GTAW
Magnesium, Titanium, Other Reactive Metals	All Thickness	Argon		25/75	
		Argon/Helium	75/25		GTAW
			75/25		GTAW
			25/75		GTAW
			50/50		GTAW