



TIG welding

Product	Group ISO 14175	Composite in % - Vol.				Applications
		Ar	He	H ₂	N ₂	
Welding Argon	I1	100				High and low alloyed steels aluminum + non ferrous metals
Inoxline H2	R1	98,0		2,0		Stainless steels (high alloyed)
Inoxline H5	R1	95,0		5,0		
Inoxline H7	R1	92,5		7,5		
Inoxline He3 H1	R1	95,5	3	1,5		Stainless steels (high alloyed)
Helium	I2		100			(DC-)welding of aluminum
Argon-Helium	I3	10	90			
Aluline He15	I3	85	15			(AC-)welding of aluminum + generally copper and nickel alloys
Aluline He30		70	30			
Aluline He50		50	50			
Aluline He70		30	70			
Aluline N	Z	99,985			0,015	Aluminum-alloys
Aluline He15 N		84,985	15		0,015	
Aluline He30 N		69,985	30		0,015	
Aluline He50 N		49,985	50		0,015	
Welding Argon special	I1	100				Gas sensitive materials like titanium, niobium, tantalum
Inoxline N1	N2	98,75			1,25	Duplex, superduplex
Inoxline N2		97,50			2,50	
Inoxline He15 N1	Z	83,75	15		1,25	Nickel-base alloys
Inoxline He15 H2 N		82,985	15	2	0,015	

Tungsten electrode
Shielding gas nozzle
Shielding gas

Electric arc
Finished weld
Workpiece

Filler material

Power source (+/-)

Root shielding

Product	Group ISO 14175	Composite in % - Vol.			Applications
		Ar	N ₂	H ₂	
Argon	I1	100			Steels as: austenitic + ferritic, duplex, superduplex, fine grain structural non ferritic metals, cu-ni
Forming gas H	N5	95 - 80	5 - 20		Stainless steels
Inoxline H2	R1	98		2	Stainless steels, nickel and ni-base alloys
Inoxline H5	R1	95		5	Stainless steels, nickel and ni-base alloys

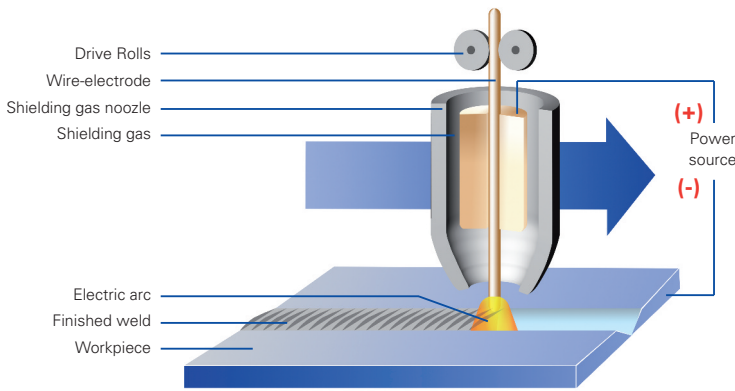
DIN EN ISO 14175

Abbreviation Group	Ident-No.	Components in % - Vol.					
		Oxidizing		Inert		Reducing	Less-active
		CO ₂	O ₂	Ar	He	H ₂	N ₂
I	1			100			
	2				100		
	3			Balance	0,5 ≤ He ≤ 95		
M1	1	0,5 ≤ CO ₂ ≤ 5		Balance ^{a)}		0,5 ≤ H ₂ ≤ 5	
	2	0,5 ≤ CO ₂ ≤ 5		Balance ^{a)}			
	3		0,5 ≤ O ₂ ≤ 3	Balance ^{a)}			
M2	4	0,5 ≤ CO ₂ ≤ 5	0,5 ≤ O ₂ ≤ 3	Balance ^{a)}			
	0	5 < CO ₂ ≤ 15		Balance ^{a)}			
	1	15 < CO ₂ ≤ 25		Balance ^{a)}			
	2		3 < O ₂ ≤ 10	Balance ^{a)}			
	3	0,5 ≤ CO ₂ ≤ 5	3 < O ₂ ≤ 10	Balance ^{a)}			
	4	5 < CO ₂ ≤ 15	0,5 ≤ O ₂ ≤ 3	Balance ^{a)}			
	5	5 < CO ₂ ≤ 15	3 < O ₂ ≤ 10	Balance ^{a)}			
	6	15 < CO ₂ ≤ 25	0,5 ≤ O ₂ ≤ 3	Balance ^{a)}			
M3	7	15 < CO ₂ ≤ 25	3 < O ₂ ≤ 10	Balance ^{a)}			
	1	25 < CO ₂ ≤ 50		Balance ^{a)}			
	2		10 < O ₂ ≤ 15	Balance ^{a)}			
	3	25 < CO ₂ ≤ 50	2 < O ₂ ≤ 10	Balance ^{a)}			
	4	5 < CO ₂ ≤ 25	10 < O ₂ ≤ 15	Balance ^{a)}			
	5	25 < CO ₂ ≤ 50	10 < O ₂ ≤ 15	Balance ^{a)}			
C	1	100					
	2	balance	0,5 ≤ O ₂ ≤ 30				
R	1			Balance ^{a)}		0,5 ≤ H ₂ ≤ 15	
	2			Balance ^{a)}		15 ≤ H ₂ ≤ 50	
N	1						100
	2			Balance ^{a)}			0,5 ≤ N ₂ ≤ 5
	3			Balance ^{a)}			5 < N ₂ ≤ 50
	4			Balance ^{a)}		0,5 ≤ H ₂ ≤ 10	0,5 ≤ N ₂ ≤ 5
O	1		100				Rest
	2						
Z		Mixed gases with components not included in the table or mixed gases with a composition outside of the given areas. ^{b)}					

^{a)} For this classification, argon may be replaced in whole or in part by helium.
^{b)} Two mixed gases with the same Z classification may not replace each other.

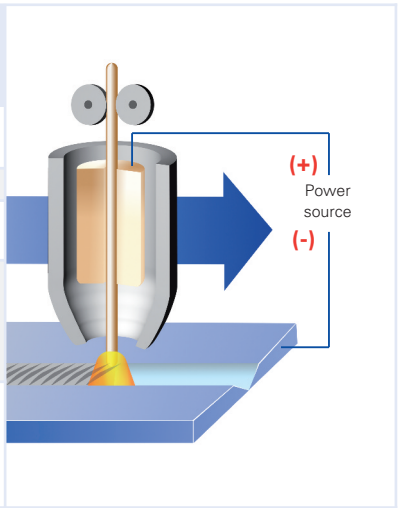
MAG welding of mild steel

Product	Group ISO 14175	Composite in % - Vol.				Applications
		Ar	CO ₂	O ₂	He	
Ferroline C8	M 20	92	8			Mild steel
Ferroline C18	M 21	82	18			Mild steel
Ferroline C25	M 21	75	25			Mild steel
Ferroline X4	M 22	96		4		Low/restr. high alloyed steels
Ferroline X8	M 22	92		8		Low/restr. high alloyed steels
Ferroline C6 X1	M 24	93	6	1		Mild steel
Ferroline C12 X2	M 24	86	12	2		Mild steel
Ferroline C5 X5	M 23	90	5	5		Low/restr. high alloyed steels
Ferroline He20 C8	M 20	72	8		20	Mild steel
Carbon dioxide	C 1		100			Mild steel



MAG welding of stainless steels

Product	Group ISO 14175	Composition in % - Vol.					Applications
		Ar	CO ₂	O ₂	He	H ₂	
Inoxline X2	M13	98		2			High-alloyed steels
Inoxline C2	M12	97,5	2,5				High-alloyed steels
Inoxline He30 H2 C	Z	67,88	0,12		30	2	Ni-alloys
Inoxline He15 C2	M12	83	2		15		High-alloyed steels
Inoxline C3 X1	M14	96	3	1			Low/restr. high alloyed steels



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