

Tubular Cored Wires for GAS Welding





AMA MC 10

Standards: PrEN 758 T46 4M M 2
 AWS/ASME SFA-5.20 E 71 T-1

Application/ Properties: Out sanding welding properties in the short and spray-arc rang. Only minimum spatter with spray-arc. Good arc restriking even with cold wire tip, thus being suitable for robot applications. Good wetting characteristics, friendly ripped weld beads without undercut, little oxide formation on bead surface, multi-pass welding without in-between cleaning. Due to easily controllable weld pool, electrode is well suited for gap bridging and positional welding. Weld with electrode slanted in the direction of travel.

All-Welded metal analysis% (typical value):

C	Si	Mn
0.06	0.6	1.3

Mechanical properties of all-weld metal (typical values) :

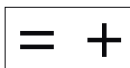
Heat treatment	Yield Strength	Tensile Strength	Elongation	ISO-V Impact energy (j)		
	(N/mm ²)	(N/mm ²)	Lo = 5d %	25°C	- 20 °C	- 40°C
SR Or AW	560-650	>470	>24	>120	>80	>47

AW: without heat treatment
SR: Stress relived 2h/580C/furnace cooling

Shielding: EN 439-M21(5-25% Co2, Balance Ar)
 Consumption ≤1.6mm Ø 12-15 L/ min

Material:

Unalloyed Structural steels-----DIN 17 100-----St33,St37-2 to St 52-3
 Boiler plates-----DIN 17 155-----HI,HII,17 Mn4
 Fine grain structural steels-----DIN 17 102-----StE 255 to StE 460--WStE 255 to WStE 460
 Shipbuilding steels----- A,B,D,E,AH 32 to EH 36
 casting steels-----DIN 1681-----Gs-38,GS-45
 Pipe steels-----DIN 1626/1629,DIN 1628/1630 DIN 17 175,DIN 17 172
 St 37.0 to St 52.0
 St 37.4 to St 52.4'
 St 35.8 to St 45.8
 StE 210.7 to StE 415.7
 StE 290.7 TM to StE 480.7 TM
 steels of API-STANDARD -----API Standard-----X 42 to X 70



Delivery: coil in diameter: 1,1.2,1.4,1.6mm & weight 15kg.
 Note: other weight & sizes are produced upon customers request.



AMA FC 14

Standards: PrEN 758 T 46 4P M 1
 AWS/ASME SFA-5.20 E 71 T-1
 DIN 8559 SGR1 M21 Y 4643

Application/ Properties: owing to its easily controllable weld pool, excellent all-positional operability, even when using high currents for increased deposition rates. Particularly suited for partly and fully mechanized welding of girth seams in pipelines. In MAG orbital welding, the 6 to 12 o'clock position using 1, 2-1, 4 mm Ø electrodes should be preferred. Low spatter loss, easy slag removal, finally ripped pore-free welds blending into base metal without undercut.

All-Welded metal analysis% (typical value):

C	Si	Mn
0.05	0.55	1.2

Mechanical properties of all-weld metal (typical values) :

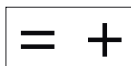
Heat treatment	Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation Lo = 5d %	ISO-V Impact energy (j)		
				25°C	- 20 °C	- 40°C
AW	550-650	>480	>22	>120	>80	>60
SR	550-650	>480	>22	>120	>60	-
N	400-500	>300	>28	>80	-	-

AW: without heat treatment
 SR: Stress relieved 2h/580C/furnace cooling
 N: normalized 30min/940C/air

Shielding: EN 439-M21(5-25% Co2, Balance Ar)
 Consumption ≤1.6mm Ø 12-15 L/ min
 ≥2.0mm Ø 12-15 L /min

Material:

Unalloyed Structural steels-----DIN 17 100-----St33,St37-2 to St 52-3
 Boiler plates-----DIN 17 155-----HI,HI1,17 Mn4
 Fine grain structural steels-----DIN 17 102-----StE 255 to StE 460----WStE 255 to WStE 460
 Shipbuilding steels----- A,B,D,E,AH 32 EH 36
 casting steels-----DIN 1681-----Gs-38,GS-45,GS-52
 Pipe steels-----DIN 1626/1629,DIN 1628/1630,DIN 17 175,DIN 17 172
 St 37.0 to St 52.0
 St 37.4 to St 52.4'
 St 35.8 to St 45.8
 StE 210.7 to StE 415.7
 StE 290.7 TM to StE 480.7 TM
 steels of API-STANDARD -----API Standard-----X 42 to X 70



Delivery: coil in diameter: 1,1.2,1.4,1.6,2,2.4mm & weight 15kg.
Note: other weight & sizes are produced upon customers request.



AMA FC 14 HD

Standards: EN 758 T 46 2P M 1 H5
EN 758 T 46 2 P C 1 H5
AWS/ASME SFA-5.20 E 71 T-1 MH4/E71 T-1 H4

Application/ Properties: Rutile seamless copper coated cored wire for welding metal constructions in single or multi-pass technique. Designed for high deposition rate welding stable and low spattering arc characteristics. Easy slag removal and good bead appearance, even on oxidized plate. Particularly designed for shipbuilding applications, especially for vertical up welding even without waving the torch in order to obtain small size beads. Shielding gas: Mix Ar CO₂ (M21-EN 439) or CO₂ for welding carbon manganese steels like Fe 430-Fe 510, with good impact properties down to -20 °C.

All-Welded metal analysis% (typical value):

Gas	C	Mn	Si	S	P
Mix	0.03-0.07	1.20-1.70	0.35-0.70	≤0.020	≤0.020
CO ₂	0.03-0.08	1.00-1.50	0.20-0.60	≤0.021	≤0.020

Mechanical properties of all-weld metal (typical values) :

Gas	Heat Treatment	Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation Lo = 5d %	ISO-V Impact energy (j) - 20 °C
Mix	-	530-640	460	≥22	≥60
CO ₂	-	530-620	460	≥23	≥60

Material:

Shipbuilding-rolling stock construction - agriculture machines - bridge cranes, cranes, each moving machines.

Current: DC+

Gas: Mix (Ar/Co₂) (S-25 % Co₂ , Balance Ar) or Co₂

Diffusible Hydrogen: 3ml/100gr

Delivery: coil in diameter: 1,1.2,1.6mm & weight 16kg.

Note: other weight & sizes are produced upon customers request.





AMA FC 31

Standards: PrEN 758
AWS/ASME SFA-5.20
DIN 8559

T 42 4 B C 3/T 42 4 BM3
E 70T-5
SGB1 C Y 4254

Application/ Properties: Electrode has operating characteristics typical for basic type consumables. The weld exhibits excellent mechanical properties and is therefore outstanding for welding steels having higher carbon content. Easy slag removal, pore-free welds.

All-Welded metal analysis% (typical value):

C	Si	Mn
0.05	0.35	1.4

Mechanical properties of all-weld metal (typical values) :

Heat treatment	Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation Lo = 5d %	ISO-V Impact energy (j) 25 °C
AW	510-640	>420	>26	>160
SR	490-590	>400	>26	160
N	420-520	>380	>30	>180

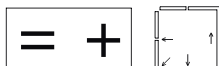
AW: without heat treatment
SR: Stress relieved
N: normalized

Shielding: Co₂ and mixed gas M21 to En 439
Consumption ≤1.6mm Ø 12-15 L/ min
≥2.0mm Ø 15-20 L/min

Material:

Unalloyed Structural steels-----DIN 17 100-St33,St37-2 to St 52-3,St 50, St 60, St 70
Boiler plates-----DIN 17 155-HI,HII,17 Mn4 , 17Mn 4,19 Mn 5
Fine grain structural steels-----DIN 17 102-StE 255 to StE 355, WStE 255 to WStE 355
Non-aging steels-----DIN 17 35- A St 35 to A St 52
Shipbuilding steels----- A,B,D,E
steels of API-STANDARD----- API Standard-X 42, X 46
casting steels-----DIN 1681-GS-38,GS-60
Pipe steels-----DIN 1626/1629-DIN 1628/1630,DIN 17 175-DIN 17 172
St 37.0 to St 52.0
St 37.4 to St 52.4'
St 35.8 to St 45.8
StE 210.7 to StE 360.7

Delivery: coil in diameter: 1,1.2,1.4,1.6,2,2.4, 3.2mm & weight 15kg.
Note: other weight & sizes are produced upon customers request





AMA MC 56

Standards: DIN 8555

MSG 6-55

Application/ Properties: Medium-alloy tubular cored electrode of basic type designed for tough and wear resistant hard facing deposits on parts subjected to heavy wear. Weld metal is tough and free from cracks and therefore resistant to shock and impact. Machining is only feasibly by grinding. A buffer layer with AMA FC 31 is only required in case of difficult – to – weld base metals.

All-Welded metal analysis% (typical value):

C	Si	Mn	Cr	Mo
0.35	0.5	1.5	5.2	0.6

Mechanical properties of all-weld metal (typical values) :

Hardness as-welded : 52-57 RC

Values apply to the use of Co2 shielding gas.

Shielding: Co2 and mixed gas M21 (5-25% Co2, Balance Ar) to EN 439

Consumption $\leq 1.6\text{mm } \varnothing$ 12-15 L/ min

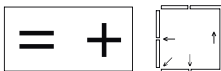
$\geq 2.0\text{mm } \varnothing$ 15-20 L /min

Material:

Excavator parts, scraper blades, dipper teeth, worm conveyors, beaters crusher jaws, crusher cones, etc

Delivery: coil in diameter: 1.4,1.6,2,2.4 mm & weight 15kg.

Note: other weight & sizes are produced upon customers request.





AMA MC 141

Standards: AWS/ASME SFA 5.29

E 91 T1-G

Application/ Properties: seamless copper coated wire, with metal powder filling no slag low alloyed in Ni and Mo. For welding in single and multi-run technique of high tensile strength steels. Good impact values down to -60 °C. To be sued with mix Ar CO2 shielding gas

All-Welded metal analysis% (typical value):

Gas	C	Mn	Si	S	P	Cr	Ni	Mo
MIX	0.03-0.07	1.45-1.85	0.5-0.75	< 0.025	< 0.025	0.5	0.45-0.65	0.2-45

Mechanical properties of all-weld metal (typical values) :

Gas	Heat Treatment	Yield Strength	Tensile Strength	Elongation	ISO-V Impact energy (j)	
		(N/mm ²)	(N/mm ²)	Lo = 4d %	- 40 °C	- 60 °C
Mix	-	650-750	580	≥ 19	≥ 90	≥ 50

Material:

Rolling stock construction - agriculture machines - bridge cranes, cranes, each moving machines.

Current: DC+

Gas: Mix (Ar/Co2) or Co2 to En 439-M21 (5-25% Co2, Balance Ar)

Diffusible Hydrogen: 3ml/100gr

Delivery: coil in diameter:1.2mm & weight 16kg.

Note: other weight & sizes are produced upon customers request.





AMA MC 142

Standards: AWS/ASME SFA 5.29 E 110T5-K4

Application/ Properties: seamless copper coated wire, special type with metal powder no slag low alloyed in Cr-Ni-Mo. For single and multi-pass welding in all positions and high deposition rate. Suitable for welding high yield strength steels. Very good impact at low temperatures. To be used with mix Ar CO2 shielding gas.

All-Welded metal analysis% (typical value):

Gas	C	Mn	Si	S	P	Cr	Ni	Mo	V
MIX	0.04-0.07	1.2-1.8	0.3-0.7	≤0.025	≤ 0.025	0.2-0.6	1.75-2.4	0.3-0.65	≤0.05

Mechanical properties of all-weld metal (typical values) :

Gas	Heat Treatment	Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation Lo = 4d %	ISO-V Impact energy (j) - 51°C
Mix	-	≥760-850	680	≥17	≥27

Material:

Lifting devices- bridge cranes, cranes construction, earth moving machine.

Current: DC+

Gas: Mix (Ar/Co2) or Co2 to En 439-M21 (5-25% Co2, Balance Ar)

Diffusible Hydrogen: 3ml/100gr

Delivery: coil in diameter:1.2mm & weight 16kg.

Note: other weight & sizes are produced upon customers request.

