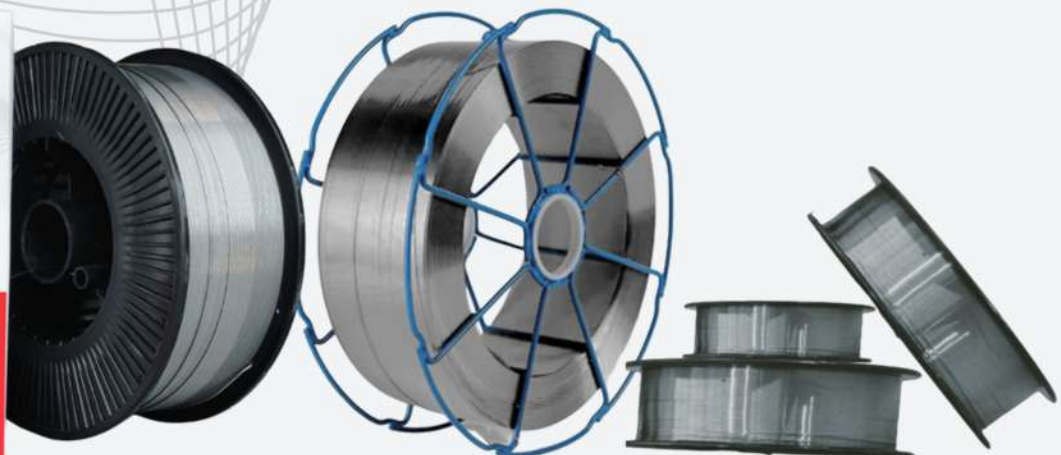




PHOENIX
WELDING WIRES
Melt Away Your Worries...

PHOENIX FLUX CORED WIRE



PHOENIX 71T1



Grade :- AWS SFA 5.20 E71T_1C
EN ISO 17632-A T42 2 P C1 1

Phoenix 71T1, features lower spatter and fume emissions than conventional products in this class. The slag coverage is complete and designed for easy removal with fewer fumes, minimal spatter in flat and horizontal positions. This electrode is intended for single and multiple pass welding of carbon and certain low alloy steels in all positions, particularly in the overhead and vertical up positions.

Phoenix 71T1 is used where a minimum tensile strength of 70,000 psi is required in the deposited weld metal.

Phoenix 71T1 electrodes are classified with CO₂ shielding gas by this specification. However, gas mixtures of argon-CO₂ are also used to improve usability, especially for out of position applications. Decreasing amounts of CO₂ in the argon-CO₂ mixture will increase manganese and silicon in the deposit and may improve the impact properties.

These electrodes are designed for single and multiple pass welding.

Phoenix 71T1 is characterized by a spray transfer, low spatter loss, flat to slightly convex bead configuration, and a moderate volume of slag which completely covers the weld bead.

Phoenix using high tech imported machinery which precisely calculated its flux filling ratio and using of Cassette Roller wire joining is very fine so wire does not absorb moisture from environment.

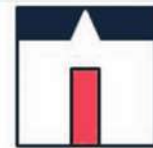
Sizes (mm) :- 1.20, 1.40, 1.60

Packaging :- 15 Kg/12.5 Kg Plastic Spool with Vacuumed Aluminum foil bag

Approvals :-



Welding Positons :-



Notes on Usage :-

- Use 100% CO₂ Gas.
- For preheating guidelines, please refer to your local standards and codes relative to your best practices
- One-Side Welding defects such as hot cracking may occur with wrong welding parameter such as high welding speed.

MECHANICAL PROPERTIES & CHEMICAL COMPOSITION OF ALL WELD METAL OF PHOENIX 71T_1



Shielding Gas :- 100 % CO₂

Welding Position :- 1G(PA)

Flow Rate (l/min.) :- 20

Stick Out (mm) :- 20-25

Pre Heat (C) :- R.T.

Interpass Temp. (C) :- 150 +- 15

Polarity :- DC (+)

Chemical Composition of Weld Metal

Elements %	C	Mn	Si	S	P
Typical	0.12 Max	1.75 Max	0.90 Max	0.03 Max	0.03 Max
1.20 mm	0.035	1.25	0.50	0.011	0.010
1.60 mm	0.03	1.30	0.55	0.010	0.010

Typical All Weld Mechanical Properties

	UTS (MPA)	YS (MPA)	YS (MPA)	CVN Impact Value Joule at -20°C	CVN Impact Value Joule at -30°C
As Welded	490-670	390 Min	22% Min	27 Min	27 Min
1.20 mm	575	550	28	90	65
1.60 mm	585	550	27	95	60

DEPOSITION RATE & WELDING EFFICIENCY



Size	Welding Conditions		Wire Feed Speed m/Min	Deposition Efficiency %	Deposition Rate kg/hr
	Amp. (A)	Volt. (V)			
1.20 mm	200	26	10.2	84-87	3.4
	250	28	11.5	85-88	4.5
	300	33	15.3	86-88	5.2
1.40 mm	250	28	7.6	85-87	3.9
	300	32	10.2	85-88	4.8
	330	36	12.8	86-89	5.8
1.60 mm	280	31	6.4	85-88	4.2
	330	33	7.6	86-88	4.8
	350	34	8.1	87-89	5.3
	400	38	9.2	87-90	5.7
Remarks				Deposition efficiency = (Deposited metal weight/Wire weight used) x 100	Deposition Rate = (Deposited metal weight/ welding time,min.) x 60

Welding Position	Wire Dia (mm)		
	1.20mm	1.40mm	1.60mm
F & HF	120-300 Amp	150-350 Amp	200-500 Amp
Vertical Up	120-260 Amp	140-270 Amp	160-280 Amp
Over Head	200-300 Amp	220-320 Amp	250-300 Amp

PHOENIX 71T12



Grade :- AWS/SFA 5.20 E71T-1C/T12-C
EN ISO 17632-B T492T1 1CA K

Phoenix 71T12_C is all position mild steel flux cored wire designed for optimum performance when using 100% CO₂ Shielding Gas. The slag coverage is complete and designed for easy removal with fewer fumes, minimal spatter in flat and horizontal positions. Weld metal is radiographic quality.

Sizes (mm) :- 1.20, 1.60

Packaging :- 15 Kg/12.5 Kg Plastic Spool with Vacuumed Aluminum foil bag

Welding Positons :- H, F, VU, OH

Chemical Composition of Weld Metal									
Elements %	C	Mn	Si	S	P	Ni	Cr	V	Cu
Typical	0.15 Max	1.60 Max	0.90 Max	0.03 Max	0.04 Max	0.50 Max	0.20 Max	0.08 Max	0.40 max
As Welded	0.05	1.40	0.48	0.009	0.015	0.02	0.015	0.01	0.008

Typical All Weld Mechanical Properties				
	UTS (MPA)	YS (MPA)	YS (MPA)	CVN Impact Value Joule at -20°C
Typical	510 Min	350 Min	26% Min	47 Min
As Welded	550	485	29 %	63

Welding Position	Wire Dia (mm)			
	1.20mm		1.60mm	
F & HF	160-260 Amp	24-28	180-300 Amp	24-28
Vertical Up	100-160 Amp	20-22	110-200 Amp	20-22
Over Head	100-160 Amp	22-25	110-200 Amp	22-25

PHOENIX 71T_5



Grade :- AWS/SFA 5.20 E71T-5C
EN ISO 17632-B T493T1 1CA K

Phoenix 71T_5 is specially developed basic flux cored wire for all position welding, which gives radiographic weld metal quality with low hydrogen. It gives superior strength and impact properties. Arc is stable. Low spatter loss with easy slag removal. Using 80%Ar/Balance CO₂ or 100% CO₂ as the shielding gas.

Sizes (mm) :- 1.20, 1.60

Packaging :- 15 Kg/12.5 Kg Plastic Spool with Vacuumed Aluminum foil bag

Welding Positons :- H, F, VU, OH

Chemical Composition of Weld Metal									
Elements %	C	Mn	Si	S	P	Ni	Cr	V	Cu
Typical	0.12 Max	1.75 Max	0.90 Max	0.03 Max	0.03 Max	0.50 Max	0.20 Max	0.08 Max	0.35 max
As Welded	0.06	1.25	0.40	0.015	0.02	0.02	0.015	0.01	0.008

All Weld Mechanical Properties				
	UTS (MPA)	YS (MPA)	YS (MPA)	CVN Impact Value Joule at -40°C
Typical	490-670	390 Min	22% Min	27 Min
As Welded	525	425	25 %	50

Welding Position	Wire Dia (mm)			
	1.20mm		1.60mm	
F & HF	160-260 Amp	24-28	180-300 Amp	24-28
Vertical Up	100-160 Amp	20-22	110-200 Amp	20-22
Over Head	100-160 Amp	22-25	110-200 Amp	22-25

PHOENIX Ni1



Grade :- AWS/SFA 5.29 E81T1-Ni1C
EN ISO 17632-B T553T1 1CA N2

Phoenix Ni1 is a titania slag formulation flux cored wire for single or multi-pass flat or fillet welds on medium and heavy thickness 1% nickel steel plate used in petro-chemical construction, mining and earth-moving equipment, and for weathering steels where color-match is not required. Phoenix Ni1 is noted for its high disposition rates, low spatter generation, ease of slag removal, and excellent weld bead appearance. The wire sets low diffusible hydrogen content (<4ml/100gm) in the weld metal. Phoenix Ni1 is used extensively in the fabrication, erection, and repair of structural fabrication of higher strength.

Sizes (mm) :- 1.20, 1.60

Packaging :- 15 Kg/12.5 Kg Plastic Spool with Vacuumed Aluminum foil bag

Welding Positons :- H, F, VU, OH

Chemical Composition of Weld Metal									
Elements %	C	Mn	Si	S	P	Ni	Cr	V	Al
Typical	0.12 Max	1.50 Max	0.80 Max	0.03 Max	0.03 Max	0.80 - 1.10	0.15 Max	0.05 Max	1.8 max
As Welded	0.05	1.26	0.46	0.015	0.02	1.0	0.1	0.001	0.02

All Weld Mechanical Properties				
	UTS (MPA)	YS (MPA)	YS (MPA)	CVN Impact Value Joule at -40°C
Typical	550-690	470 Min	19% Min	27 Min
As Welded	625	525	22 %`	55

Welding Position	Wire Dia (mm)			
	1.20mm		1.60mm	
F & HF	160-260 Amp	24-28	180-300 Amp	24-28
Vertical Up	100-160 Amp	20-22	110-200 Amp	20-22
Over Head	100-160 Amp	22-25	110-200 Amp	22-25

PHOENIX Ni2



Grade :- AWS/SFA 5.29 E81T1-Ni2C

Phoenix Ni2 is a flux cored wire designed for single or multi pass using CO₂ shielding gas welding having a smooth spray-type transfer commonly used on low alloy steels. This all position wire normally used in applications which will produce a chemical composition of 2-2.5% nickel yielding strengths ranging from 80-100 ksi. Steels commonly welded with this grade would include weathering steels (where color match is not required), shipbuilding, off shore platform rigging and fabrication, erection, and repair of structural fabrication of higher strength. Phoenix Ni2 is noted for its smooth arc and minimum spatter. When used for horizontal fillet joints the weld bead has

Sizes (mm) :- 1.20, 1.60

Packaging :- 15 Kg/12.5 Kg Plastic Spool with Vacuumed Aluminum foil bag

Welding Positons :- H, F, VU, OH

Chemical Composition of Weld Metal						
Elements %	C	Mn	Si	S	P	Ni
Typical	0.12 Max	1.50 Max	0.80 Max	0.03 Max	0.03 Max	1.75-2.75
As Welded	0.055	1.26	0.45	0.015	0.02	1.97

All Weld Mechanical Properties				
	UTS (MPA)	YS (MPA)	YS (MPA)	CVN Impact Value Joule at -40°C
Typical	530-690	470 Min	19% Min	25 Min
As Welded	625	520	22 %`	45

Welding Position	Wire Dia (mm)			
	1.20mm		1.60mm	
F & HF	160-260 Amp	24-32	180-300 Amp	24-32
Vertical Up	100-160 Amp	22-27	110-200 Amp	22-27
Over Head	100-160 Amp	22-28	110-200 Amp	22-28

PHOENIX K2M



Grade :- AWS/SFA 5.29 E81T1-K2C/M
EN ISO 17632-B T553T1 1MA N3

Phoenix K2M is an alloy steel Flux Cored Wire containing nickel and few micro-alloying elements. The wire is suitable for welding of moderate strength (Yield strength > 50 kgf/mm²), fine grained steels to meet sub-zero impact resistance property down to -30C. The Wire is suitable for all position Welding application, results easy slag removal and has excellent welders appeal suitable with CO₂/Ar+ CO₂ gas Shielding. Weld bead is smooth & Uniform and satisfies the requirements of radiographic quality. This wire is used for fabrication of penstock pipelines, pressure vessels & valves, refineries, off-shore structures and similar kind of applications, etc.

Sizes (mm) :- 1.20, 1.60

Packaging :- 15 Kg/12.5 Kg Plastic Spool with Vacuumed Aluminum foil bag

Welding Positons :- H, F, VU, OH

Chemical Composition of Wire									
Elements %	C	Mn	Si	S	P	Ni	Cr	V	Al
Typical	0.15 Max	0.50- 1.75	0.80 Max	0.03 Max	0.03 Max	1.00- 2.00	0.15 Max	0.05 Max	1.8 max
As Welded	0.045	1.45	0.50	0.014	0.020	1.50	0.1	0.02	0.02

All Weld Mechanical Properties				
	UTS (MPA)	YS (MPA)	YS (MPA)	CVN Impact Value Joule at -30°C
Typical	550-690	470 Min	19% Min	27 Min
As Welded	640	540	22 %`	60

Welding Position	Wire Dia (mm)			
	1.20mm		1.60mm	
F & HF	160-260 Amp	24-28	180-300 Amp	24-28
Vertical Up	100-160 Amp	20-22	110-200 Amp	20-22
Over Head	100-160 Amp	22-25	110-200 Amp	22-25

PHOENIX K2



Grade :- AWS/SFA 5.29 E91T1-K2C
EN ISO 17632-B T572T1 1CA N3

Phoenix K2 is an alloy steel Flux Cored Wire designed for welding of moderate strength, fine grained steels to meet sub-zero impact resistance property down to -18°C. The Wire is suitable for all position Welding application, results easy slag removal and has excellent welders appeal suitable with 100% CO₂ as shielding gas. Weld bead is smooth & Uniform and satisfies the requirements of radiographic quality. This wire is used for fabrication of penstock pipelines, pressure vessels & valves, refineries, off-shore structures and similar kind of applications, etc.

Sizes (mm) :- 1.20, 1.60

Packaging :- 15 Kg/12.5 Kg Plastic Spool with Vacuumed Aluminum foil bag

Welding Positons :- H, F, VU, OH

Chemical Composition of Wire									
Elements %	C	Mn	Si	S	P	Ni	Cr	V	Al
Typical	0.15 Max	0.50-1.75	0.80 Max	0.03 Max	0.03 Max	1.00-2.00	0.15 Max	0.05 Max	1.8 max
As Welded	0.050	1.50	0.55	0.015	0.020	1.75	0.11	0.02	0.02

All Weld Mechanical Properties				
	UTS (MPA)	YS (MPA)	YS (MPA)	CVN Impact Value Joule at -20°C
Typical	620-760	540 Min	17% Min	27 Min
As Welded	705	590	21 %`	40

Welding Position	Wire Dia (mm)			
	1.20mm		1.60mm	
F & HF	160-260 Amp	24-28	180-300 Amp	24-28
Vertical Up	100-160 Amp	20-22	110-200 Amp	20-22
Over Head	100-160 Amp	22-25	110-200 Amp	22-25