PLASMATEC
companies group

TECHNICAL CHARACTERISTICS OF WELDING CONSUMABLES

www.plasmatec-weld.com.ua

About company

- 2 welding consumables production plants
- 12 high-technology production lines
- Modern equipment

- Quality control at each stage
- Own certified laboratory
- Stable quality and best raw materials

PLASMATEC companies group

Certificates

PLASMATEC companies group

Monolith RC

TM MONOLITH

ISO 2560-A-E 42 0 RC 1 1
AWS A5.1: E6013

PURPOSE AND FIELD OF APPLICATION

Universal electrode for a wide application in industry and everyday life with the minimized value of welding aerosol evolution. It is designed for manual arc welding conventional and critical structures of low-carbon grades of steels, on direct or alternating current, in all the spatial positions (except vertical downward one for 5.0 mm diameter electrodes).

APPLICATION CONDITIONS

• Deposition rate factor: 8.5 – 9.5 g/A·h. Electrode consumption per 1 kg of deposited metal is 1.75 kg.
• Electrodes MONOLITH RC are designed for welding fillet, butt, overlap joints of metal from 3 up to 20 mm thickness.
• Electrodes are low-sensitive to the edge preparation quality, presence of rust and other surface contaminations.
• During assembly welding the operation in all the spatial positions without welding current changes is possible. Welding of vertical down welds is performed by a short arc or touch welding. It is recommended to avoid the slag flowing-in ahead the arc. To prevent this, the angle of electrode lifting to vertical should be 40 – 70°. It is recommended in flat position to incline the electrode in the welding direction by 20 – 40° from vertical.

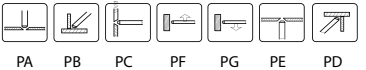
SPECIAL PROPERTIES

• Electrodes MONOLITH RC are differed from similar products of other manufacturers by a value and intensity of welding aerosol evolution and manganese formation during the welding process. This was achieved by selecting the high-quality raw materials and high-level control of technological processes in electrodes manufacture. The E.O. Paton Electric Welding Institute of the NAS Ukraine and Institution of Medicine Labour of the AMS Ukraine confirmed that manganese precipitation was reduced for more than 30%, the evolution of harmful elements in welding aerosol was reduced for more than 28%.
• Electrodes MONOLITH RC are characterized by an easy primary and secondary arc exciting, soft and stable arc burning, provide low spatter loss, uniform melting of the coating, excellent weld metal formation, easy slag crust removal.
• Electrodes allow welding at the lowest currents. For the small-diameter electrodes the welding can be performed from power sources, connected to conventional mains.
• Easy use of electrodes gives an opportunity to perform welding by a beginning welder. Welding in hard-to-reach places. Feasibility of electrode bending without the coating damage.
• It is possible to perform welding on oxidized, greased and painted surfaces.

REDRYING BEFORE WELDING

At the normal storage conditions, redrying is not required.
In case of moisture the baking is made at 110±10°C for 25-30 min.

WELDING POSITIONS



PA PB PC PF PG PE PD ISO 6947

CERTIFICATION

COATING TYPE

rutile-cellulose

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,40-0,65	0,15-0,40	≤ 0,11	≤ 0,035	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J/cm² +20 °C	Absorbed striking energy, J 0 °C
500-640	≥420	≥22	≥78	≥ 47

WELDING CURRENT

Welding current, A for electrodes with diameter, mm					
2,0	2,5	3,0	3,2	4,0	5,0
40-80	50-90	70-110	80-120	110-170	150-220

Welding should be made at DC of any polarity (it is recommended by reverse one, «+» at electrode) or AC from open-circuit voltage transformer of not less than 50±5 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,00	300	50-53; 100-106	0.5; 1
2,50	350	26-28; 54-56; 106-111; 133-138	0.5;1; 2 ; 2,5
3,00	350	18-19; 35-37; 90-94	0.5;1;2.5
3,20	350	16; 32; 78-81	0.5;1;2.5
4,00	450	16-17; 40-41; 81-83	1;2.5; 5
5,00	450	53-54	5

PLASMATEC companies group

Standart RC
TM MONOLITH

ISO 2560-A-E 42 0 RC 11
AWS A 5.1:E 6013

PURPOSE AND FIELD OF APPLICATION

Electrodes Standart RC designed for manual metal arc welding of general and critical structures of carbon steels according to DSTU 2651/GOST 380 (Ст 0, Ст 1, Ст 2, Ст 3) of all disoxidation degrees – "Rimmed" ("КП"), "Semi-killed" ("ПС"), "Killed" ("СП") and GOST 1050 (05кп, 08кп, 08пс, 08, 10кп, 10пс, 10, 15кп, 15пс, 15, 20кп, 20пс, 20).

APPLICATION CONDITIONS

Deposition rate factor – 8,5-9,5 g/A·h. Electrode consumption per 1 kg of deposited metal is 1,7 kg. Electrodes Standart RC suitable for corner, butt and fillet joint types on metal with 3-20 mm thickness. Electrodes with diameter range from 2 to 4 mm applicable in all welding positions. Electrodes with diameter 5 mm can be used in horizontal flat, horizontal down hand, transverse and vertical up positions. Welding in vertical down position is carried out by short arc or deep-penetration method, herewith electrode must be in bisector flat area and the travel angle may vary 40 – 70°.

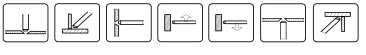
SPECIAL PROPERTIES

Electrodes Standart RC have advanced formula that provides improved welding and technological properties, working from small (domestic) transformers, namely: easy primary ignition, forming small-scope metal joint, easy self-peeling slag. It is possible using for tacks, short and root welding beads at low voltage in a system.

REDRYING BEFORE WELDING

At the normal storage conditions, redrying is not required. In case of moisture the redrying is made at 110±10°C for 40-60 min.

WELDING POSITIONS



PA PB PC PF PG PE PD ISO 6947

COATING TYPE

rutile-cellulose

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,40-0,75	0,15-0,35	≤ 0,11	≤ 0,035	≤ 0,035

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J/cm² +20°C	Absorbed striking energy, J 0°C
500-640	≥450	≥22	≥78	≥ 47

WELDING CURRENT

Welding current, A for electrodes with diameter, mm					
2,0	2,5	3,0	3,2	4,0	5,0
40-90	50-100	70-120	80-130	110-180	150-230

Welding should be done with DC of any polarity (reverse polarity is recommended, "+" on electrode) or with AC current from a transformer with open-circuit voltage not less than 50V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a package, pc.	Weight of packing, kg
2,00	300	100-106	1
2,50	350	54-56; 134-140	1; 2,5
3,00	350	36-38; 91-95	1; 2,5
3,20	350	32-33; 81-83	1; 2,5
4,00	450	16-17; 42-43; 84-86	1; 2,5; 5
5,00	450	54-55	5

CERTIFICATION

012

ANO-36
TM CONTINENT

ISO 2560-A-E 42 0 RC 1 1
AWS A5.1: E6013

PURPOSE AND FIELD OF APPLICATION
Designed for manual metal arc welding at direct or alternate current of general and critical structures from mild steel according to DSTU 2651-2005/GOST 380-2005 (Ст 0, Ст 1, Ст 2, Ст 3) of all groups А, Б, В and all degrees of disoxidation – "Rimmed" ("КП"), "Semi-killed" ("ПС"), "Killed" ("СП") and GOST 1050-88 (05кп, 08кп, 08пс, 08, 10кп, 10пс, 10, 15кп, 15пс, 15, 20кп, 20пс, 20) in all the spatial positions (except vertical-down for 5,0 mm diameter electrodes).

APPLICATION CONDITIONS
Deposition rate factor – 7,8-8,0 g/A·h. Electrode consumption per 1 kg of deposited metal is 1,68 kg.

SPECIAL PROPERTIES
Electrodes "ANO-36" distinguished by easy primary and secondary ignition, arc smoothness and stability, low spatter loss, even coverage melting, excellent forming of weld bead, easy slag removal. With electrodes of small diameter, the welding can be performed from the power sources connected to conventional mains. Easy handling with electrodes makes it possible to perform welding even by a beginning welder. Electrodes are not sensitive to edges quality, rust and others surface contaminations.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture the baking is made at 110±10°C for 25-30 min.

WELDING POSITIONS


PA PB PC PF PG PE PD ISO 6947

COATING TYPE
rutile-cellulose

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,40-0,65	0,10-0,35	≤ 0,11	≤ 0,035	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J / cm² +20˚C	Absorbed striking energy, J 0˚C
500-640	≥450	≥22	≥78	≥ 47

WELDING CURRENT

Welding current, A for electrodes with diameter, mm		
3,0	4,0	5,0
80-120	130-180	170-240

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
3,00	350	36-37; 90-93	1; 2,5
4,00	450	80-83	5
5,00	450	53-54	5

CERTIFICATION
012

PLASMATEC companies group

ANO-21
TM ARSENAL

ISO 2560-A-E 38 0 RC 1 1
AWS A5.1: E6013

PURPOSE AND FIELD OF APPLICATION
Designed for manual metal arc welding of structures from mild steel according to DSTU 2651/GOST 380 (Ст 0, Ст 1, Ст 2, Ст 3) of all groups and all degrees of disoxidation – "Rimmed" ("КП"), "Semi-killed" ("ПС"), "Killed" ("СП") and GOST 1050 (05кп, 08кп, 08пс, 08, 10кп, 10пс, 10, 15кп, 15пс, 15, 20кп, 20пс, 20).

APPLICATION CONDITIONS
APPLICATION CONDITIONS
Deposition rate factor – 7,0-8,0 g/A·h. Electrode consumption per 1 kg of weld metal - 1,65 kg. Electrodes "ANO-21" suitable for welding of corner, butt and lap joints in all welding positions. Welding in vertical-down position carried out by deep-penetration method, herewith electrode must be in bisector flat area and the travel angle may vary 40 – 70°. It is allowed to weld with an elongated arc over clean surfaces.

SPECIAL PROPERTIES
Electrodes ANO-21 are characterized by high technological properties, especially easy primary and secondary ignition and slag crust separation. The weld metal has a high resistance to external influences, even in sub-zero temperatures. Electrodes may also suitable for welding water pipes, low-pressure gas pipelines.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture the redrying is made at 120±10°C for 40 min.

COATING TYPE
rutile

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,50-0,80	≤ 0,3	≤ 0,1	≤ 0,045	≤ 0,040

MECHANICAL PROPERTIES OF WELD METAL

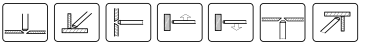
Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J / cm² +20˚C	Absorbed striking energy, J 0˚C
	≥450	≥18	≥78	

WELDING CURRENT

Welding current, A for electrodes with diameter, mm		
3,0	4,0	5,0
80-140	140-180	170-240

Welding should be done with direct current of any polarity (reversed polarity is recommended, "+" is on an electrode) or with AC current from a transformer with open-circuit voltage not less than 50V.

WELDING POSITIONS



PA PB PC PF PG PE PD ISO 6947

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a package, pc.	Weight of packing, kg
3,00	350	92-95	2,5
4,00	450	83-85	5
5,00	450	55-56	5

CERTIFICATION

012

ANO-4 ARS
TM ARSENAL

ISO 2560-A- E 38 0 R 1 2
AWS A5.1: E6013

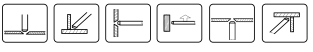
PURPOSE AND FIELD OF APPLICATION
Electrodes ANO-4 ARS designed for welding structures made of low carbon steels according to DSTU 2651/GOST 380 (Ст0, Ст1, Ст2, Ст 3) of all deoxidation degrees "Killed", "Semi-killed", "Rimmed") and GOST 1050-88 (05кп, 08кп, 08пс, 08, 10кп, 10пс, 10, 15кп, 15пс, 15, 20кп, 20пс, 20).

APPLICATION CONDITIONS
Deposition rate factor – 8,5-9,5g /A·h. Electrode consumption per 1 kg of deposited metal: 1,75 kg.
Designed for welding, corner, butt and fillet joint types on metal with 3-20 mm thickness. Electrodes from 2,5 to 4,0 mm diameter are suitable for welding in all the spatial positions; 5,0 mm diameter – for flat, horizontal and vertical up positions.

SPECIAL PROPERTIES
Electrodes ANO-4 ARS provide:

- Easy gaps overlapping;
- High level of welding-technological properties, easy welding process, secondary ignition while tacking;
- Good slag crust separation;
- It is allowed to weld an elongated arc over an oxidized surface;
- Easy primary ignition and stable arcing.

REDRYING BEFORE WELDING
At normal storage conditions the redrying is not required. In case of moisture redrying: 120 ± 10 °C 40-60 min.

WELDING POSITIONS


PA PB PC PF PE PD ISO 6947

COATING TYPE
rutile

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,40-0,75	0,15-0,40	≤ 0,10	≤ 0,035	≤ 0,035

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J / cm² +20˚C	Absorbed striking energy, J 0˚C
470-600	≥380	≥22	≥78	≥ 47

WELDING CURRENT

Welding current, A for electrodes with diameter, mm			
2,5	3,0	4,0	5,0
50-90	70-110	110-170	150-220

Welding should be done with DC of any polarity (reverse polarity is recommended, "+" on electrode) or with AC current from a transformer with open-circuit voltage not less than 50V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a package, pc.	Weight of packing, kg
2,50	350	140-145	2,5
3,00	350	95-97	2,5
4,00	450	84-87	5
5,00	450	55-56	5

CERTIFICATION

PLASMATEC companies group

MR-3 ARS
TM ARSENAL

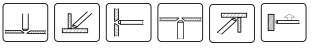
ISO 2560-A- E 38 0 R 1 2
AWS A5.1: E6013

PURPOSE AND FIELD OF APPLICATION
Electrodes MR-3 ARS designed for welding structures made of low carbon steels according of all deoxidation degrees.

APPLICATION CONDITIONS
Deposition rate factor – 8,0-9,0 g/A·h. Electrode consumption per 1 kg of deposited metal is 1,7 kg.
Suitable for corner, butt and fillet joint types on metal with 3-20 mm thickness. Electrodes with diameter range from 2.5 mm to 4 mm designed for welding in all the spatial positions, 5 mm diameter electrodes – for horizontal flat, horizontal down hand, and vertical up positions.

SPECIAL PROPERTIES
Electrodes MR-3 Plasma provide:
- Easy gaps overlapping;
- High level of welding-technological properties, easy welding process, secondary ignition while tacking;
- Good slag crust separation;
- Easy arc ignition and stable arcing;
- It is allowed to weld an elongated arc over an oxidized surface. Welding with increased current may cause porosity.

REDRYING BEFORE WELDING
At normal storage conditions the redrying is not required. In case of moisture the redrying is made at 120±10°C for 40-60 min.

WELDING POSITIONS


PA PB PC PE PD PF ISO 6947

COATING TYPE
rutile

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,40-0,75	0,15-0,40	≤ 0,10	≤ 0,030	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J / cm² +20°C	Absorbed striking energy, J 0°C
470-600	≥380	≥22	≥78	≥ 47

WELDING CURRENT

Welding current, A for electrodes with diameter, mm			
2,5	3,0	4,0	5,0
50-90	70-110	110-170	150-220

Welding should be done with direct current of any polarity (reversed polarity is recommended, "+" is on an electrode) or with AC current from a transformer with open-circuit voltage not less than 50V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a package, pc.	Weight of packing, kg
2,50	350	140-145	2,5
3,00	350	95-97	2,5
4,00	450	84-87	5
5,00	450	55-56	5

CERTIFICATION
012

MR-3
TM MONOLITH

ISO 2560-A-E 38 0 R 1 2
AWS A5.1: E6013

PURPOSE AND FIELD OF APPLICATION

Electrodes for manual arc welding, MP-3 designed for welding of structures made of low carbon steels according to DSTU 265/ GOST30 (Ст0 і Ст1, Ст2, Ст 3, Ст all, Ст 20 degrees deoxidation "КП", "ПС", "СП") and GOST 1050 (05кп, 08кп, 08пс, 08, 10кп, 10пс, 10 15кп, 15, 20кп, 20пс, 20).

APPLICATION CONDITIONS

Deposition rate factor – 8-8,5 g/A·h. Electrode consumption per 1 kg of deposited metal is 1,7 kg. Suitable for corner, butt and fillet joint types on metal with 3-20 mm thickness. Electrodes with diameter range from 3 mm to 4 mm designed for welding in all positions, 5 mm diameter electrodes – for horizontal flat, horizontal down hand, transverse and vertical up positions.

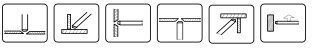
SPECIAL PROPERTIES

Electrodes MR-3 provide high-quality weld seam, weld metal resistant to porosity and hot crack formation, easy gaps overlapping. Characterized by a high level of welding and technological properties, simple welding process, easy secondary ignition while tacking. Highly valued by welders for both domestic and industrial use. It is allowed to weld an elongated arc over an oxidized surface.

REDRYING BEFORE WELDING

At the normal storage conditions, redrying is not required. In case of moisture the redrying is made at 140±10°C for 40 min.

WELDING POSITIONS



PA PB PC PE PD PF ISO 6947

COATING TYPE

rutile

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,40-0,65	0,15-0,35	≤ 0,11	≤ 0,035	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J/cm² +20°C
≥ 450	≥380	≥18	≥78

WELDING CURRENT

Welding current, A for electrodes with diameter, mm		
3,0	4,0	5,0
70-110	110-170	150-220

Welding should be done with direct current of any polarity (reversed polarity is recommended, "+" is on an electrode) or with AC current from a transformer with open-circuit voltage not less than 70V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
3,00	350	92-97	2,5
4,00	450	42-43; 85-87	2,5; 5
5,00	450	55	5

CERTIFICATION

PLASMATEC companies group

MR-3 ARMO
TM MONOLITH

ISO 2560-A- E 38 0 R 1 2
AWS A5.1: E6013

PURPOSE AND FIELD OF APPLICATION

Electrodes, designed for welding of structures made of low carbon steels according to DSTU 2651/GOST30 (Ст0 і Ст1, Ст2, Ст 3, of all groups А, Б, В and all degrees of deoxidation "Killed", "Semi-killed", "Rimmed") and GOST 1050 (05кп, 08кп, 08пс, 08, 10кп, 10пс, 10 15кп, 15, 20кп, 20пс, 20) in all the spatial positions (except the vertical down and vertical up for 5,0 mm diameter electrodes.

APPLICATION CONDITIONS

Deposition rate factor – 8,0-9,0 g/A·h. Electrode consumption per 1 kg of deposited metal is 1,7 kg. Suitable for corner, butt and fillet joint types on metal with 3-20 mm thickness. Electrodes with diameter range from 2.5 mm to 4 mm designed for welding in all positions, 5 mm diameter electrodes – for horizontal flat, horizontal down hand, transverse and vertical up positions.

SPECIAL PROPERTIES

Electrodes MR-3 provide high-quality weld seam, easy gaps overlapping. Characterized by a high level of welding and technological properties, simple welding process, easy secondary ignition while tacking. It is allowed to weld an elongated arc over an oxidized surface. Provide easy primary ignition and stable arcing.

REDRYING BEFORE WELDING

At the normal storage conditions, redrying is not required. In case of moisture the redrying is made at 120±10°C for 40-60 min.

COATING TYPE

rutile-cellulose

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,40-0,65	≤0,15-0,40	≤ 0,10	≤ 0,035	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

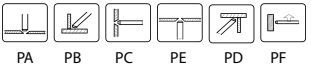
Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J / cm² +20 °C	Absorbed striking energy, J 0 °C
≥ 450	≥380	≥18	≥78	≥ 47

WELDING CURRENT

Welding current, A for electrodes with diameter, mm		
3,0	4,0	5,0
70-110	110-150	150-220

Welding should be done with direct current of any polarity (reversed polarity is recommended, "+" is on an electrode) or with AC current from a transformer with open-circuit voltage not less than 50 V.

WELDING POSITIONS



PA PB PC PE PD PF ISO 6947

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a package, pc.	Weight of packing, kg
3,00	350	94-97	2,5
4,00	450	86-87	5
5,00	450	55-56	5

CERTIFICATION

MR-3 Plasma
TM CONTINENT

ISO 2560-A- E 38 0 R 1 2
AWS A 5.1: E6013

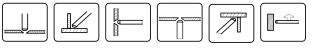
PURPOSE AND FIELD OF APPLICATION
Electrodes MP-3 Plasma designed for welding structures made of low carbon steels according to DSTU 2651/GOST380-2005 (Ст0, Ст1, Ст2, Ст 3) of all deoxidation degrees "Killed", "Semi-killed", "Rimmed") and GOST 1050 (05кп, 08кп, 08пс, 08, 10кп, 10пс, 10, 15кп, 15пс, 15, 20кп, 20пс, 20).

APPLICATION CONDITIONS
Deposition rate factor – 8,0-9,0 g/A·h. Electrode consumption per 1 kg of deposited metal is 1,7 kg. Suitable for corner, butt and fillet joint types on metal with 3-20 mm thickness. Electrodes with diameter range from 2 mm to 4 mm designed for welding in all the spatial positions, 5 mm diameter electrodes – for horizontal flat, horizontal down hand, transverse and vertical up positions.

SPECIAL PROPERTIES
Electrodes MR-3 Plasma provide:
- Good weld seam formation;
- High porosity and hot cracks resistance;
- Easy gaps overlapping;
- High level of welding-technological properties, easy welding process, secondary ignition while tacking;
- Marketable condition of weld seam;
- Good slag crust separation;
- Proper sanitary measurements.

It is allowed to weld an elongated arc over an oxidized surface. Welding with increased current may cause porosity..

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture the redrying is made at 110±10°C for 40-60 min.

WELDING POSITIONS


PA PB PC PE PD PF ISO 6947

CERTIFICATION
012

COATING TYPE
rutile

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,40-0,75	0,15-0,40	≤ 0,10	≤ 0,045	≤ 0,040

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J / cm² +20˚C	Absorbed striking energy, J 0˚C
470-600	≥380	≥20	≥78	≥ 47

WELDING CURRENT

Welding current, A for electrodes with diameter, mm		
3,0	4,0	5,0
70-120	110-180	150-230

Welding should be done with direct current of any polarity (reversed polarity is recommended, "+" is on an electrode) or with AC current from a transformer with open-circuit voltage not less than 70V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
3,00	350	36-38; 92-95	1; 2,5
4,00	450	43; 84-86	2,5; 5
5,00	450	54-55	5

PLASMATEC companies group

Monolith OZS-12

TM MONOLITH

ISO 2560-A- E 42 0 RC 1 1
AWS A5.1: E6013

PURPOSE AND FIELD OF APPLICATION

Electrodes are designed for welding of structures of carbon and low-alloy steels at ultimate strength of up to 451 MPa by DSTU 2651/GOST (St.0, St.1, St.2, St.3 and all the steels of deoxidation "КП"(rimed) , "ПС"(semi-killed), "СП"(killed))and GOST 1050 (05кп, 08кп, 08пс, 08, 10кп, 10 пс, 10, 15 кп, 15 пс, 15, 20 кп, 20 пс, 20) in all the spatial positions (except vertical downward and overhead positions for electrodes of 5.0 mm diameter).

APPLICATION CONDITIONS

Deposition rate factor: 8.0-9.0 g/A·h. Electrode consumption per 1 kg of deposited metal is 1.75 kg. Monolith OZS-12 electrodes are designed for welding of fillet, butt, overlap joints of metal from 3 up 20 mm thick. Electrodes from 2.0 up to 4 mm diameter are suitable for welding in all the spatial positions, while 5 mm - for welding in flat, horizontal in vertical plane and vertical upward positions. Welding can be performed at DC of any polarity, (+) at electrode, or at AC from transformer with open-circuit voltage of not less than 50 V.

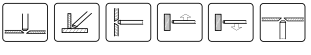
SPECIAL PROPERTIES

Electrodes are manufactured by the updated formula, which provides the high welding –technological properties (easy primary ignition and stable arc burning), feasibility of welding with a longer arc on oxidized surface. They are more profitable for welding of T-joints with producing of fine-ripple concave welds, as well as for position welding of butt joints.

REDRYING BEFORE WELDING

At normal storage conditions, the electrode baking before welding is not required. In case of moisture, the drying before welding is required at 110±10°C for 60 min.

WELDING POSITIONS



PA PB PC PF PG PE

CERTIFICATION

COATING TYPE

rutile-cellulose

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,45-0,65	0,15-0,30	≤ 0,12	≤ 0,035	≤ 0,035

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J / cm²
≥450	≥420	≥22	≥78

WELDING CURRENT

Welding current, A for electrodes with diameter, mm		
3,0	4,0	5,0
70-130	120-180	140-220

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a package, pc.	Weight of packing, kg
3,00	350	92-95	2,5
4,00	450	84-86	5
5,00	450	54-55	5

Monolith Professional

TM MONOLITH

ISO 2560-A-E 42 0 RR 1 2
AWS A.5.1: E6013

PURPOSE AND FIELD OF APPLICATION

Electrodes MONOLITH Professional are designed for manual metal arc welding at direct or alternate current of common and critical structures from carbon steel according to DSTU 2651/GOST 380 (Ст 0, Ст 1, Ст 2, Ст 3) of all deoxidation degrees – "Rimmed" (кп), "Semi-killed" (пс), "Killed" (сп) and ГОСТ 1050 (05кп, 08кп, 08пс, 08, 10кп, 10пс, 10, 15кп, 15пс, 15, 20кп, 20пс, 20), suitable for corner, fillet and butt welding of metal from 1,0 to 20,0 mm thick.

APPLICATION CONDITIONS

Deposition rate factor – 8,0-9,0 g/A·h. Electrodes consumption per 1 kg of weld metal is 1,7 kg. Electrodes from 2,0 to 4,0 mm diameter are designed for welding in all the spatial positions except vertical down, 5,0 mm diameter – for flat, horizontal and vertical up positions.

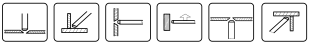
SPECIAL PROPERTIES

Electrodes Monolith Professional provide easy primary and secondary ignition. Characterized by a quiescent and stable arc, low spatter loss, good slag separation, excellent seam formation. They are used for welding both direct and alternate current for connection of sheet steel and steel constructions undergoing static and dynamic loads, welding of tanks and pipelines, where high mechanical properties of joints are required. Electrodes are suitable for welding in conditions, improper for other brands of electrodes.

REDRYING BEFORE WELDING

At the normal storage conditions, redrying is not required. In case of moisture redrying is made at 105±5°C for 60 min**.**

WELDING POSITIONS



PA PB PC PF PE PD ISO 6947

CERTIFICATION

COATING TYPE

thick rutile

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,40-0,65	0,15-0,45	≤ 0,11	≤ 0,035	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J / cm² +20˚C	Absorbed striking energy, J 0˚C
510-610	≥420	≥22	≥78	≥ 47

WELDING CURRENT

Welding current, A for electrodes with diameter, mm			
2,5	3,0	4,0	5,0
50-100	60-120	120-190	150-240

Welding should be made at DC of any polarity (recommended reverse one "+" at the electrode or AC from the transformer of open-circuit voltage not less than 50 V).

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,50	350	50-52; 127-129	1; 2,5
3,00	350	33-35; 84-88	1; 2,5
4,00	450	77-79	5
5,00	450	56	5

PLASMATEC companies group

Monolith R
TM ARSENAL

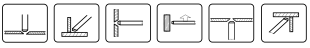
ISO 2560-A-E 42 0 R 1 2
AWS A5.1: E6013

PURPOSE AND FIELD OF APPLICATION
Electrodes Monolith R are designed for manual arc welding structures made of carbon steels according to DSTU 2651 / GOST 380 (Ст 0, Ст 1, Ст 2, Ст 3) of all deoxidation degrees – "Rimmed" (кп), "Semi-killed" (пс), "Killed" (сп) and GOST 1050 (05кп, 08кп, 08пс, 08, 10кп, 10пс, 10, 15кп, 15пс, 15, 20кп, 20пс, 20), suitable for corner, fillet and butt welding of metal from 1,0 to 20,0 mm thick.

APPLICATION CONDITIONS
Deposition rate factor – 8,0-9,0 g/A·h. Electrodes consumption per 1 kg of weld metal is 1,7 kg. Electrodes from 2,0 to 4,0 mm diameter are designed for welding in all the spatial positions except vertical down, 5,0 mm diameter – for flat, horizontal and vertical up positions.

SPECIAL PROPERTIES
Electrodes Monolith R provide easy primary and secondary ignition. Characterized by a quiescent and stable arc, low spatter loss, good slag separation, excellent seam formation. They are used for welding both direct and alternate current for connection of sheet steel and steel constructions undergoing static and dynamic loads, welding of tanks and pipelines, where high mechanical properties of joints are required. Electrodes are suitable for welding in conditions, improper for other brands of electrodes.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture redrying is made at 105±5°C for 60 min.

WELDING POSITIONS


PA PB PC PF PE PD ISO 6947

CERTIFICATION

COATING TYPE
thick rutile

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,40-0,65	0,10-0,35	≤ 0,11	≤ 0,035	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J/cm² +20°C	Absorbed striking energy, J -40°C
500-640	≥420	≥20	≥78	≥ 47

WELDING CURRENT

Welding current, A for electrodes with diameter, mm					
2,0	2,5	3,0	3,2	4,0	5,0
40-90	50-100	70-120	90-140	140-190	190-240

Welding should be made at DC of any polarity (recommended reverse one "+" at the electrode or AC from the transformer of open-circuit voltage not less than 50 V).

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,5	350	127-129	2,5
3,2	350	74-76	2,5
4,0	450	77-79	5
5,0	450	56	5

UONI-13/55 Plasma
TM MONOLITH

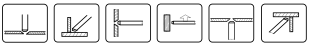
ISO 2560-A-E 42 4 B 4 2 H5
AWS A5.1: E7018

PURPOSE AND FIELD OF APPLICATION
Electrodes UONI-13/55 Plasma designed for welding in all the spatial positions, except vertical down, of critical structures and pipelines made of carbon and low alloy steel with tensile strength from 500 MPa to 640 MPa, especially if hot cracks resistance of welding joints is needed. Are widely used in bridge building, shipbuilding, ship repairing and tanks production.

APPLICATION CONDITIONS
Deposition rate factor – 10,5-11,5 g/A·h. Electrode consumption per 1 kg of deposited metal is 1,58 kg. Nominal capacity up to 115%. Electrodes from 2 mm to 4 mm diameter designed for welding in all spatial positions except vertical down, 5 mm diameter electrodes – for horizontal flat, vertical flat, and vertical up positions.

SPECIAL PROPERTIES
Welding electrodes UONI-13/55 Plasma are characterized by high strength of metal seam, with special metallurgical purity and low hydrogen content in welded metal. The possibility of welding on alternating current eliminates the effect of magnetic arc blow. Blobby transfer during welding with UONI-13/55 Plasma provides better stability of arc combustion and metal seam formation. Due to the adding of iron powder into the coating, the efficiency of using UONI-13/55 Plasma increased by 20%, while:
- spatter and burning losses of metal are compensated;
- electrode consumption reduced by 10-15%.
- deposition rate increased by 8-10 %.
- slag does not flow into the molten pool, forming smooth weld seam thereby slag can be easily removed.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture redrying is made at 380-420°C for 60 min.
Moisture content in the coating should not exceed 0,3%.

WELDING POSITIONS

PA PB PC PF PE PD ISO 6947

CERTIFICATION

COATING TYPE
basic with iron powder

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
1,10-1,50	0,40-0,70	≤ 0,09	≤ 0,030	≤ 0,020

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J / cm² +20°C	Absorbed striking energy, J -40°C
500-640	≥420	≥26	≥180	≥ 47

WELDING CURRENT

Welding current, A for electrodes with diameter, mm					
2,0	2,5	3,0	3,2	4,0	5,0
40-80	70-110	80-150	90-170	120-200	170-250

Welding should be done with DC of reverse polarity ("+" on electrode) or with AC current from a transformer with open-circuit voltage 70±10 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,0	300	164-167	2,0
2,5	350	106-108	2,5
3,0	350	61-64; 76-80; 151-156	2; 2.5; 5
3,2	350	69-71; 139-143	2,5; 5
4,0	450	72-75	5
5,0	450	48-50	5

PLASMATEC companies group

UONII-13/55
TM MONOLITH

AWS A5.1: E6015

PURPOSE AND FIELD OF APPLICATION
Electrodes designed for welding structures made of steel 10ХСН2Д, 48КС grades. For welding listed grades of steel with steels Ст 3; БСТ 3; 09Г2; 10Г2С1Д-35; 10Г2С1Д - 40; 10ХСНД; МС-1; Ст3с; 10, 15, 20 grades and forgings made of carbon and dispersion-hardened steels, as well as for welding of castings with forgings. Welding is performed on DC of reverse polarity, in all spatial positions except the vertical down.

APPLICATION CONDITIONS
Electrodes UONI-13/55 are sensitive to porosity in the case of rust and grease on the edges of welded parts, or when arc elongation takes place. Welding is carried out with a short arc on the cleaned edges.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture the redrying is made at 350-400 °C for 1-2 hrs.

COATING TYPE
basic

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,65-1,20	0,18-0,50	≤ 0,11	≤ 0,030	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Impact strength, J / cm² +20˚C
≥ 490	≥20	≥130

WELDING CURRENT

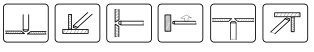
Welding current, A for electrodes with diameter, mm		
3,0	4,0	5,0
90-130	130-180	170-220

Welding should be made at DC of reverse polarity («+» on electrode).

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
3,00	350	95-96	2,5; 5
4,00	450	85-86	5
5,00	450	55-56	5

WELDING POSITIONS



PA PB PC PF PE PD ISO 6947

UONI-13/55
TM MONOLITH

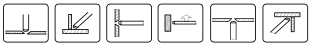
ISO 2560-A-E 42 4 B 2 2 H10
AWS A5.1: E7015

PURPOSE AND FIELD OF APPLICATION
UONI-13/55 electrodes designed for welding of critical structures made of carbon steel (such as 08, 20, 20Л, Ст3) and low alloy steel (such as 16ГС, 09Г2С) and steels S235-S355, P235-P355, E295 (according to EN 10027-1, EN 10028-2, EN 10028-3). Applied when the metal stitches are subject to increased requirements for plasticity and impact strength, in particular, when working at low temperatures.

APPLICATION CONDITIONS
Welding is performed on DC of reverse polarity, in all spatial positions except the vertical down. Welding is carried out with a short arc or support on the cleaned edges of the seam with direct current of reverse polarity. Voltage on arc is 23-27 V. Electrodes UONI-13/55 are sensitive to porosity in the case of rust and grease on the edges of welded parts, or when arc elongation takes place.

SPECIAL PROPERTIES
Electrodes UONI-13/55 characterized by stable arc burning, forming metal seam with high resistance to crystallization cracks formation and hydrogen content no more than 10 cm3 / 100 g. Electrodes are suitable for welding critical structures, which operate under dynamic load at low temperatures (up to -40 ° C), pressure vessels. Widely used in shipbuilding and tanks construction. It is possible to weld metal of a large thickness, surfacing details of agricultural machinery, rewelding of casting defects.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture the redrying is made at 300±350°C for 1 hr.
Moisture content in the coating should not exceed 0,3%.

WELDING POSITIONS


PA PB PC PF PE PD ISO 6947

CERTIFICATION

COATING TYPE
basic

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,60-1,20	0,20-0,50	≤ 0,11	≤ 0,030	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J/cm² +20˚C	Absorbed striking energy, J -40˚C
500-640	≥ 420	≥20	≥127,4	≥ 47

WELDING CURRENT

Welding current, A for electrodes with diameter, mm			
3,0	3,2	4,0	5,0
70-100	80-115	130-160	160-210

Welding should be made at DC of reverse polarity («+» on electrode).

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
3,00	350	95-97; 190-194	2,5; 5
3,20	350	84-85; 168-170	2,5; 5
4,00	450	85-87	5
5,00	450	55-56	5

PLASMATEC companies group

UONI 13/45
TM MONOLITH

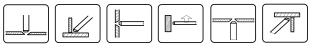
ISO 2560-A-E 38 4 B 2 2 H10
AWS A5.1: E6015

PURPOSE AND FIELD OF APPLICATION
Electrodes UONI-13/45 are designed for welding critical structures made of carbon and low alloy steel, when the welding seam metal is subject to increased requirements for plasticity and impact strength.

APPLICATION CONDITIONS
Welding should be done on a DC of reverse polarity in all spatial positions, except for vertical top-down. Welding is performed only on a short arc or by supporting on cleaned edges. The voltage on the arc: 23-27 V.

SPECIAL PROPERTIES
UONI 13/45 are recommended for welding structures operating at low temperatures and alternating loads. The weld metal is characterized by low hydrogen content and high resistance to formation of crystallization cracks. Electrodes UONI-13/45 are sensitive to porosity in the case of rust and oil on the edges of welded parts, or when arc elongation takes place.

REDRYING BEFORE WELDING
At normal storage conditions the redrying is not required. When moisturized redrying required at: 300-350°C 60 min.
Moisture content in the coating should not exceed 0,3%.

WELDING POSITIONS


PA PB PC PF PE PD ISO 6947

COATING TYPE
basic

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,45-0,80	0,20-0,30	≤ 0,11	≤ 0,035	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J / cm² +20˚C	Absorbed striking energy, J -40˚C
470-600	≥ 380	≥22	≥147,4	≥47

WELDING CURRENT

Welding current, A for electrodes with diameter, mm		
3,0	4,0	5,00
70-100	130-160	160-210

Recommended current: DC reverse ("+" on electrode)

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
3,00	350	95-96	2,5
4,00	450	85-86	5
5,00	450	54-55	5

CERTIFICATION
012

TMU-21U
TM MONOLITH

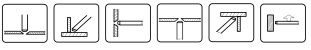
ISO 2560-A- E 42 A B 2 2
AWS A5.1: E7015

PURPOSE AND FIELD OF APPLICATION
Electrodes TMU-21U are designed for welding of critical structures and pipelines of carbon and low-alloyed steels, equipment of thermal and nuclear power plants.

APPLICATION CONDITIONS
Welding with electrodes TMU-21U is made on DC of reverse polarity in all the spatial positions, except the vertical down.
Deposition rate factor – 9,5 g/A·h. Electrode consumption per 1 kg of deposited metal: 1,5 kg. Welding should be done with a short arc on the clean edges.

SPECIAL PROPERTIES
TMU-21U provide high resistance of a seam metal to porosity while the arc is elongated.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture redrying: 380-400°C 60-90 min.
Moisture content in the coating should not exceed 0,4%.

WELDING POSITIONS


PA PB PC PE PD PF ISO 6947

COATING TYPE
basic

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
0,70-1,00	0,20-0,43	≤ 0,12	≤ 0,035	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J/cm² +20°C
≥510	≥ 420	≥20	≥130

WELDING CURRENT

Welding current, A for electrodes with diameter, mm	
3,0	4,00
60-115	100-170

Welding is made on DC of reverse polarity ("+" on the electrode).

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
3,00	350	92-93	2,5
4,00	450	82-84	5

CERTIFICATION
012

PLASMATEC companies group

CU-5
TM MONOLITH

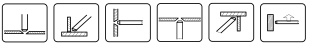
AWS A5.1: E7015

PURPOSE AND FIELD OF APPLICATION
Electrodes CU-5 are designed for welding of elements of the boiler generator heating surfaces as well as root passes, joints of thick-walled pipe lines made of carbon and low-alloy silicon-manganese steels with tensile strength of no lower than 490 MPa operating at the temperature of up to 400°C.

APPLICATION CONDITIONS
Welding should be done using reversed polarity direct current, (+) on the electrode. Welding with electrodes CU-5 should be done without preliminary heating and subsequent heat treatment on the short arc length over the cleaned edges.

SPECIAL PROPERTIES
Electrodes provide high resistance of the joint metal to porosity in case of the short-term welding arc length prolongation.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. When moisturized redrying required at: 360± 20°C / 120-150 min.
Moisture content in the coating should not exceed 0,7%.

WELDING POSITIONS


PA PB PC PE PD PF ISO 6947

COATING TYPE
basic

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
1,00-1,60	0,20-0,50	0,06-0,12	≤ 0,035	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Impact strength, J / cm² + 20 °C
≥510	≥20	≥137

WELDING CURRENT

Welding current, A for electrodes with diameter, mm
2,5
65-90

Recommended current: DC reverse ("+" on electrode).

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,5	300	55-58; 111-116	1; 2

CERTIFICATION
012

CL-39
TM MONOLITH

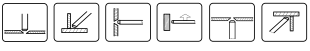
ISO 3580-A- E CrMoV1 B 2 2
AWS A5.5: E8015-G

PURPOSE AND FIELD OF APPLICATION
Electrodes CL-39 are designed for manual arc welding with a DC of reverse polarity of heating surfaces of boiler units, as well as root passes seams of thick-walled pipelines joints of heat-resistant steel of the pearlite class 12X1MΦ and 15X1M1Φ grades, operating at a temperature up to 585 ºC.

APPLICATION CONDITIONS
Deposition rate factor: 9,5 g/A·h. Electrode consumption per 1 kg of deposited metal is 1,6 kg. Designed for welding in all the spatial positions except the vertical down one.

SPECIAL PROPERTIES
Welding electrodes CL-39 provide high resistance of a weld metal to the porosity while welding with elongated arc. They allow narrow cut welding with a common angle of bevel edge not less than 15º. The welding seam is durable and resistant to corrosion. Resistant to high temperatures. The low oxidizing capacity of the metal deposited with CL-39 ensures a smooth transition of the alloying metal into the base metal of the product. Thus, the welding seam is heat-resistant and not subject to hot cracks formation. Welding should be made with a short arc; clean the edges before welding.

REDRYING BEFORE WELDING
If storing at normal conditions redrying is not required. When moistening redrying required at: 400±20ºC; 1-1,5 hour, 3 times max.
Moisture content in the coating should not exceed 0,4%.

WELDING POSITIONS


PA PB PC PF PE PD ISO 6947

CERTIFICATION
012

COATING TYPE
basic

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

C	Mn	Si	Cr
≤ 0,12	0,60-0,90	0,20-0,40	0,80-1,25
Mo	**V**	**S**	**P**
0,40-0,70	0,12-0,30	≤ 0,025	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact strength, J / cm² + 20 °C
≥ 490	≥ 343	≥ 16	≥ 78

WELDING CURRENT

Welding current, A for electrodes with diameter, mm	
2,5	60-100

Welding should be done with a short arc on the clean edges.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,5	300	56-57; 112-113	1; 2

PLASMATEC companies group

TML-1U
TM MONOLITH

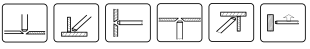
ISO 3580-A-E CrMo1 B 2 2
AWS A5.5: E6015-B2

PURPOSE AND FIELD OF APPLICATION
Electrodes TML-1U are designed for manual arc welding with direct current of reverse polarity in all spatial positions, except the vertical down, the equipment and pipelines from steel 12МН, 15ХМ, 20ХМЛ, 12Х2М1, 12Х1МФ, 12Х2МФБ, 12Х2МФСР, 20ХМФЛ, and 15Х1М1ФЛ grades, that operate at a temperature of up to 540 ° C, as well as heating surfaces elements of boilers made of steel 12Х2М1, 12Х1МФ, 12Х2МФБ, 12Х2МФСР grades, irrespective of operating temperature.

APPLICATION CONDITIONS
Depodition rate factor – 9,0 g/A·h. Electrode consumption per 1 kg of deposited metal 1,5 kg.
Electrodes are designed for welding in all the spatial positions except the vertical down one.

SPECIAL PROPERTIES
Welding electrodes TML-1U provide metal high resistant to porosity while welding with an elongated arc. Electrodes allow to do narrow cut welding with a common angle of bevel edge not less than 15°. Welding should be done with a short arc on the clean edges.

REDRYING BEFORE WELDING
At the normal storage conditions, the redrying is not required. In case of moisture redrying before welding: 400±20°C; 1-1,5 hours.
Max 3 times.
Moisture content in the coating should not exceed 0,4%.

WELDING POSITIONS


PA PB PC PE PD PF ISO 6947

COATING TYPE
basic

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

C	Mn	Si	
≤ 0,12	0,50-0,90	0,15-0,40	
Cr	**Mo**	**S**	**P**
0,80-1,2	0,40-0,70	≤ 0,025	≤ 0,035

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Impact strength, J / cm² + 20 °C
≥ 470	≥ 18	≥88

WELDING CURRENT

Welding current, A for electrodes with diameter, mm	
3,0	4,0
60-120	100-180

Welding should be done with a short arc on the clean edges.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
3,0	350	91-93	2,5
4,0	450	81-82	5

CERTIFICATION
012

TML-3U
TM MONOLITH

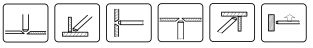
ISO 3580-A-E CrMoV1 B 2 2
AWS A5.5: E8015-G

PURPOSE AND FIELD OF APPLICATION
Electrodes TML-3U electrodes are designed for manual arc welding with direct current of reverse polarity in all spatial positions, except the vertical down, the equipment and pipelines from steel 12МН, 15ХМ, 20ХМЛ, 12Х2М1, 12Х1МФ, 12Х2МФБ, 12Х2МФСР, 20ХМФЛ, and 15Х1М1ФЛ grades, that operate at a temperature of up to 540 °C.

APPLICATION CONDITIONS
Deposition rate factor: 9,5 g/A·h. Electrode consumption per 1 kg of deposited metal – 1,5 kg.
Designed for welding in all the spatial positions except vertical down.

SPECIAL PROPERTIES
Welding electrodes TML-3U provide metal high resistant to porosity while welding with an elongated arc. Electrodes allow to do narrow cut welding with a common angle of bevel edge not less than 15°. Welding should be done with a short arc on the clean edges.

REDRYING BEFORE WELDING
At the normal storage conditions, the redrying is not required. In case of moisture redrying before welding: 400±20°C; 1-1,5 hours. Max 3 times.
Moisture content in the coating should not exceed 0,4%.

WELDING POSITIONS


PA PB PC PE PD PF ISO 6947

CERTIFICATION
012

COATING TYPE
basic

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

C	Mn	Si	Cr
≤ 0,12	0,50-0,90	0,15-0,40	0,80-1,25
Mo	**V**	**S**	**P**
0,40-0,70	0,10-0,30	≤ 0,025	≤ 0,030

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Impact strength, J / cm² + 20 °C
≥ 490	≥ 16	≥78,5

WELDING CURRENT

Welding current, A for electrodes with diameter, mm	
3,0	4,0
60-120	100-180

Welding should be done with a short arc on the clean edges.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
3,0	350	92-93	2,5
4,0	450	81-82	5

PLASMATEC companies group

EA-395/9
TM MONOLITH

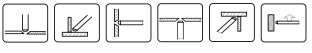
ISO 3581-A - E 16.25.6 B20

PURPOSE AND FIELD OF APPLICATION
Electrodes EA-395/9 with a basic coating are designed for welding critical structures of high-strength alloy, heat-resistant, and low-magnetic steels, steels of AK 23, AK 25, AK 27 grades.

APPLICATION CONDITIONS
Deposition rate factor: 11,0 g/A·h. Electrode consumption per 1 kg of deposited metal is 1,6 kg. Applied for welding in all the spatial positions except vertical down, on reverse polarity DC. Welding should be done with a short arc, without lateral oscillations, clean the edges before welding.

SPECIAL PROPERTIES
Excellent mechanical properties of deposited metal. Good welding-technological properties, easy slag crust removal and formation of a seam with smooth transition to the base metal.

REDRYING BEFORE WELDING
Redrying before welding: 200-250°C for 2,0-2,5 hours.

WELDING POSITIONS


PA PB PC PE PD PF ISO 6947

COATING TYPE
basic

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	
1,00-2,30	≤ 0,7	≤ 0,12	≤ 0,03	
S	**Cr**	**Ni**	**Mo**	**N**
≤ 0,020	13,5-17,0	23-27	4,5-7,0	≤ 0,2

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Inpact strength, J / cm² KCV, + 20 °C	Yield strength, MPa
≥600	≥300	≥100	≥400

WELDING CURRENT

Welding current, A for electrodes with diameter, mm	
3,0	4,0
80-110	120-150

Welding should be done on DC of reverse polarity, "+" on electrode.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
3,0	350	37-38	1
4,0	350	21-23	1

CERTIFICATION
012

CL-11 Plasma
TM MONOLITH

ISO 3580-A-E CrMoV1 B 2 2
AWS A5.5: E8015-G

PURPOSE AND FIELD OF APPLICATION

Rutile coated electrodes CL-11 Plasma designed for welding austenitic corrosion-resistant steels AISI321, AISI347, 08X18H12T, 08X18H12B, 03H18N11, 06H18N11, 08H18N12B, 08H18N10, 12X18H10T, AISI 321, AISI 304, AISI 347, etc., that work in aggressive environment at temperatures up to 450 ° C. They are used for welding pressure vessels, pipelines, parts of equipment in the food and petrochemical industry, power machine-building, and power engineering.

APPLICATION CONDITIONS

Electrodes used for welding in all spatial positions on a direct current of reverse polarity and alternating current from transformer of open-circuit voltage not less than 65 V. It is recommended to weld in the lower position on medium currents. Welding must be performed in a short arc, without transverse oscillations.

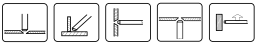
SPECIAL PROPERTIES

Excellent mechanical properties of the deposited metal and increased corrosion resistance in aggressive environments at temperatures up to 450 °C. High welding-technological properties, low spatter loss, almost self-separating slag crust, and the seam flowing with a smooth transition to the base metal are noted.

REDRYING BEFORE WELDING

At the normal storage conditions, redrying is not required. In case of moisture the redrying is made at 350-370°C for 60 min. 3 times max.

WELDING POSITIONS



PA PB PC PE PF ISO 6947

CERTIFICATION

COATING TYPE
rutile

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
≤ 2,0	≤ 1,0	≤ 0,08	≤ 0,03	≤ 0,025
Mo	**Cr**	**Cu**	**Ni**	**Nb+Ta**
≤0,75	18-21	≤0,75	9-11	8ХСТО 1,0

CONTENT OF FERRITE NUMBER IN DEPOSITED METAL
4-14 FN

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Impact strength, J / cm^2 KCV, +20 °C	Yield strength, MPa
≥550	≥25	≥47	≥350

WELDING CURRENT

Welding current, A for electrodes with diameter, mm				
2,00	2,5	3,0	3,2	4,0
30-60	40-90	45-110	50-120	60-140

Welding should be made at DC of reverse polarity , «+» at electrode or AC from transformer of open-circuit voltage not more than 50 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,00	300	86-87	1
2,50	350	44-45	1
3,00	350	31-32; 62-64	1; 2
3,20	350	27-28	1
4,00	350	18-19	1

PLASMATEC companies group

Monolith M-347

TM MONOLITH

ISO 3581-A-E 19 9 Nb R 1 2
AWS A5.4: E 347-16

PURPOSE AND FIELD OF APPLICATION

Rutile coated electrodes Monolith M-347 designed for welding austenitic corrosion-resistant steels that work in aggressive environment at temperatures up to 450 °C. They are used for welding pressure vessels, pipelines, parts of equipment in the food and petrochemical industry, power machine-building, and power engineering.

APPLICATION CONDITIONS

Electrodes used for welding in all spatial positions on a direct current of reverse polarity and alternating current from transformer of open-circuit voltage not less than 50 V. It is recommended to weld in the lower position on medium currents. Welding must be performed in a short arc, without transverse oscillations.

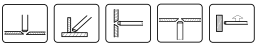
SPECIAL PROPERTIES

Excellent mechanical properties of the deposited metal and increased corrosion resistance in aggressive environments at temperatures up to 450 °C. High welding-technological properties, low spatter loss, almost self-separating slag crust, and the seam flowing with a smooth transition to the base metal are noted.

REDRYING BEFORE WELDING

At the normal storage conditions, redrying is not required. In case of moisture the redrying is made at 350-370°C for 60 min. 3 times max.

WELDING POSITIONS



PA PB PC PE PF ISO 6947

CERTIFICATION

012

COATING TYPE

rutile

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
≤ 2,0	≤ 1,0	≤ 0,08	≤ 0,03	≤ 0,025
Mo	**Cr**	**Cu**	**Ni**	**Nb+Ta**
≤0,75	18-21	≤0,75	9-11	8ХСТО 1,0

CONTENT OF FERRITE NUMBER IN DEPOSITED METAL

4-14 FN

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Impact strength, J / cm² KCV, +20 °C	Yield strength, MPa
≥550	≥25	≥47	≥350

WELDING CURRENT

Welding current, A for electrodes with diameter, mm				
2,00	2,5	3,0	3,2	4,0
30-60	40-90	45-110	50-120	60-140

Welding should be made at DC of reverse polarity , «+» at electrode or AC from transformer of open-circuit voltage not more than 50 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,00	300	86-87	1
2,50	350	44-45	1
3,00	350	31-32; 62-64	1; 2
3,20	350	27-28	1
4,00	350	18-19	1

Monolith M-308L

TM MONOLITH

ISO 3581-A - E 16.25.6 B20

PURPOSE AND FIELD OF APPLICATION

Electrodes of Monolith M-308L are designed for welding of austenite stainless steels of 03Kh18N10, 08Kh18N10T, AISI 304L, AISI 321, AISI 347 types, etc., which operation temperatures do not exceed 450°C. These electrodes are suitable for welding the equipment, tanks, cisterns and pipes of stainless steel for application in food, textile, oil refining, food, paper and pharmaceutical industry, as well as on automobile construction, general and trade machine building.

APPLICATION CONDITIONS

Electrodes are used for welding in all the spatial positions, except the downward one. It is recommended to perform welding at maximum possible speed without transverse oscillations of electrode.

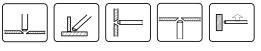
SPECIAL PROPERTIES

Electrodes are characterized by good welding-technological properties: low spatter loss, easy slag crust removal, stable arc burning and excellent weld quality, excellent corrosion resistance in oxidizing environments and high resistance to the intercrystalline corrosion.

REDRYING BEFORE WELDING

At the normal storage conditions, redrying is not required. In case of moisture, redrying is required at 350-370°C for 60 min., 3 times max.

WELDING POSITIONS



PA PB PC PE PF ISO 6947

CERTIFICATION

012

COATING TYPE

rutile

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	S	P
≤2,0	≤1,0	≤0,04	≤0,025	≤0,030
Mo	**Cr**	**Cu**	**Ni**	
≤0,75	18-21	≤0,75	9-11	

CONTENT OF FERRITE NUMBER IN DEPOSITED METAL

3-10 FN

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %
≥510	≥30
Impact strength, KCV, +20°C	**Yield strength, MPa**
≥70	≥320

WELDING CURRENT

Welding current, A for electrodes with diameter, mm			
2,50	3,0	3,2	4,0
40-90	45-110	50-120	60-140

Welding should be made at DC of reverse polarity, "+" on electrode or at AC from transformer with open-circuit voltage of not less than 50 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,50	350	45-47	1
3,00	350	31-32; 62-64	1; 2
3,20	350	28-29	1
4,00	350	18-19	1

PLASMATEC companies group

Monolith M-309L
TM MONOLITH

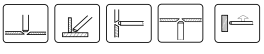
ISO 3581-A- E 23 12 L R 1 2
AWS A5.4: E309L-16

PURPOSE AND FIELD OF APPLICATION
Electrodes Monolith M-308L are designed for welding heterogeneous steels (austenitic and carbon), austenitic stainless steels of type 08X18H10, 03X18H11, AISI 304, AISI 304L, etc., where the use temperatures do not exceed 300°C, as well as for welding of heat-resistant Stainless steels of type AISI 309, AISI 309S and similar in chemical composition 20X23H13, 08X23H13. They are used for surfacing of the transition layer on heat-resistant chromium-molybdenum steel of perlite class and for placement of ferrite-perlite, low and medium doped bases and for application of buffer layers before surfacing. These electrodes are suitable for welding tanks and containers (used to store a large variety of liquids and dry substances), industrial equipment in the mining, chemical, cryogenic, food, dairy and pharmaceutical industries.

APPLICATION CONDITIONS
Electrodes are used for welding in all the spatial positions, except the downward one. It is recommended to perform welding at maximum possible speed without transverse oscillations of electrode.

SPECIAL PROPERTIES
Electrodes Monolith M-308L are characterized by good welding and technological properties: low spatter loss, easy separation of slag crust, stable arc burning and excellent seam quality. When welding heterogeneous steels, high resistance to cracks is ensured, and high resistance to intercrystallite corrosion up to 300°C is noted. In addition, when welding heat-resistant stainless steels provides high resistance to the formation of scales to 1000°C.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture the redrying is made at 350-370 °C for 60 min. 3 times max.

WELDING POSITIONS


PA PB PC PE PF ISO 6947

CERTIFICATION

COATING TYPE
rutile

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
≤ 2,5	≤ 1,0	≤ 0,04	≤ 0,030	≤ 0,025
Mo	**Cr**	**Cu**	**Ni**	
≤ 0,75	22-25	≤0,75	12-14	

CONTENT OF FERRITE NUMBER IN DEPOSITED METAL
5-15 FN

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %
≥510	≥25
Impact strength, KCV,+20°C	**Yield strength, MPa**
≥60	≥320

WELDING CURRENT

Welding current, A for electrodes with diameter, mm			
2,50	3,0	3,2	4,0
40-90	45-110	50-120	60-140

Welding should be made at DC of reverse polarity, «+» at electrode) or AC from transformer of open-circuit voltage not more than 50 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,50	350	44-46	1
3,00	350	32-34; 64-68	1; 2
3,20	350	28-29	1
4,00	350	18-19	1

Monolith M-316L

TM MONOLITH

ISO 3581-A-E 19 12 3 L R 1 2
AWS A5.4: E316L-16

PURPOSE AND FIELD OF APPLICATION

The electrodes Monolith M-316-L are designed for welding corrosion-resistant austenitic Cr-Ni-Mo steels, of 03X17H14M3, 08X18H14M2B, 08X17H15M3T, AISI 316, AISI 318, AISI 316L types and etc., for details operating at temperatures up to 400°C. Electrodes are suitable for welding boilers, tanks and equipment for waste oils, for coke ovens, equipment that works in contact with seawater, parts of equipment for the chemical, textile, pulp and paper industries, as well as equipment for the production of wool and artificial silk.

APPLICATION CONDITIONS

Electrodes are used for welding in all the spatial positions, except of the downward one. It is recommended to perform welding at maximum possible speed without transverse oscillations of electrode.

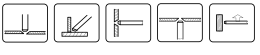
SPECIAL PROPERTIES

High resistance to acids, as well as general and intercrystalline corrosion at temperatures up to 400 °C. Electrodes Monolith M-316L are characterized by high welding-technological properties: stable arcing, easy slag removal, and good seam formation with a smooth transition to the base metal.

REDRYING BEFORE WELDING

At the normal storage conditions, redrying is not required. In case of moisture, redrying is required at 350-370°C for 60 min., 3 times max.

WELDING POSITIONS



PA PB PC PE PF ISO 6947

CERTIFICATION

COATING TYPE

rutile

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	S	P
≤2,0	≤1,0	≤0,04	≤0,025	≤0,030
Mo	**Cr**	**Cu**	**Ni**	
2,5-3,0	17-20	≤0,75	11-13	

CONTENT OF FERRITE NUMBER IN DEPOSITED METAL

5-15 FN

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %
≥510	≥25
Impact strength, KCV, +20°C	**Yield strength, MPa**
≥70	≥320

WELDING CURRENT

Welding current, A for electrodes with diameter, mm			
2,5	3,0	3,2	4,0
40-90	45-110	50-120	60-140

Welding should be performed at DC of reverse polarity, "+" on electrode or at AC from transformer with open-circuit voltage of not less than 50 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,50	350	44-46	1
3,00	350	32-33; 64-66	1;2
3,20	350	28-29	1
4,00	350	18-19	1

PLASMATEC companies group

Monolith M-318
TM MONOLITH

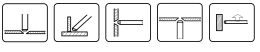
ISO 3581-A-E 19 12 3 Nb R 1 2
AWS A5.4: E318-16

PURPOSE AND FIELD OF APPLICATION
Rutile coated electrodes Monolith M-318 are designed for welding corrosion-resistant austenitic Cr-Ni-Mo steels stabilized with niobium of 08X16H13M2B, 03X17H14M2, 03X17H14M3, AISI 316Nb, AISI 316, AISI 318 types, etc., for parts working under temperature up to 400 C. Electrodes are used for welding of tanks, pipes and equipment for chemical, textile, paper industries, in environments where acidic, alkaline and saline solutions are found, as well as for structures that operate in seawater.

APPLICATION CONDITIONS
Electrodes are used for welding in all the spatial positions, except the downward one. It is recommended to perform welding at maximum possible speed without transverse oscillations of electrode.

SPECIAL PROPERTIES
Electrodes Monolith M-318 provide metal seam resistant to intercrystalline corrosion. Characterized by high welding-technological properties: stable arc burning, easy slag removal, good formation of seam with a smooth transition to the base metal.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture, redrying is required at 350-370°C for 60 min., 3 times max.

WELDING POSITIONS


PA PB PC PE PF ISO 6947

CERTIFICATION

COATING TYPE
rutile

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P	S
≤ 2,0	≤ 1,0	≤ 0,08	≤ 0,030	≤ 0,025
Mo	**Cr**	**Cu**	**Ni**	**Nb+Ta**
2,5-3,0	17-20	≤ 0,75	11,0-13,0	8*C 1,1

CONTENT OF FERRITE NUMBER IN DEPOSITED METAL
5-15 FN

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %
≥ 550	≥ 25
Impact strength, KCV, +20°C	**Yield strength, MPa**
≥ 60	≥350

WELDING CURRENT

Welding current, A for electrodes with diameter, mm			
2,50	3,0	3,2	4,0
40-90	45-110	50-120	60-140

Welding should be made at DC of reverse polarity, "+" on electrode or at AC from transformer with open-circuit voltage of not less than 50 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,50	350	44-46	1
3,00	350	31-32; 62-64	1; 2
3,20	350	28-29	1
4,00	350	18-19	1

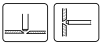
Monolith E4043
TM MONOLITH

EN 573-3: E AlSi5
AWS/ASME A5.3: E4043

PURPOSE AND FIELD OF APPLICATION
5% silicon flux coated aluminum electrodes. Multi-purpose electrodes for welding cast, rolled and stamped aluminum and aluminum alloys. For welding aluminum and aluminum-based alloys such as: Al-Si, Al-Mg, Al-Mg-Si, Al-Mn-Cu. Typical application: loading docks and loading racks, window and door frames, gearbox housings, engine cylinder blocks, electric buses, electrical switch boxes and mounting supports.

APPLICATION CONDITIONS
Clean the welding area from dirt and oxide film. Preheat the heavy parts. When connecting a thick metal with a thin piece, preheat a heavier piece. Welding is performed by using the upper portion of the amperage range. Feed the electrode quickly and move fast maintaining a very close arc gap. Reduce the current while the welding is performed and as the base metal absorbs heat.

SPECIAL PROPERTIES
Pure white long shelf life extruded flux coating outlasts conventional products in moisture resistance.

WELDING POSITIONS


PA PC ISO 6947

COATING TYPE
special

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Si	Cu	Fe	Mg	Mn
5,25	0,10	0,17	0,02	0,002
Zn	**Ti**	**Be**	**Al**	
0,001	0,01	0,0001	Bal.	

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Yield strength, MPa
≥ 230	≥ 18	≥150

WELDING CURRENT

Welding current, A for electrodes with diameter, mm		
2,4	3,2	4,0
50-80	70-120	110-150

Recommended Current: DC Reverse (+).

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,4	350	111-113; 216	1; 2
3,2	350	79-80; 146	1,1; 2
4,0	350	56-57; 102	1,1; 2

PLASMATEC companies group

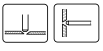
Monolith E4047
TM MONOLITH

EN 573-3: E AlSi12
AWS/ASME A5.3: E4047

PURPOSE AND FIELD OF APPLICATION
12% silicon flux coated aluminum electrodes. Multi-purpose electrodes for welding cast, rolled and stamped aluminum and aluminum alloys. Typical application: loading docks and loading racks, window and door frames, gearbox housings, engine cylinder blocks, electric buses, electrical switch boxes and mounting supports.

APPLICATION CONDITIONS
Clean the welding area from dirt and oxide film. Preheat the heavy parts. When connecting a thick metal with a thin piece, preheat a heavier piece. Welding is performed by using the upper portion of the amperage range. Feed the electrode quickly and move fast maintaining a very close arc gap. Reduce the current while the welding is performed and as the base metal absorbs heat.

SPECIAL PROPERTIES
Pure white long shelf life extruded flux coating outlasts conventional products in moisture resistance.

WELDING POSITIONS


PA PC ISO 6947

COATING TYPE
special

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Si	Cu	Fe	Mg	Mn
12,1	0,001	0,15	0,01	0,003
Zn	**Ti**	**Be**	**Al**	
0,001	0,008	0,0001	Bal.	

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Yield strength, MPa
≥ 250	≥ 1	≥150

WELDING CURRENT

Welding current, A for electrodes with diameter, mm		
2,4	3,2	4,0
50-80	70-120	110-150

Recommended Current: DC Reverse (+).

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,4	350	111-113; 216	1; 2
3,2	350	79-80; 146	1,1; 2
4,0	350	57-58; 102	1,1; 2

T-590
TM MONOLITH

GOST 9466 10051-75	Э-320Х25С2ГР-Т-590- ∅ -НГ E 750/61-1-П42
TU U 25.9-34142621-013:2016	

PURPOSE AND FIELD OF APPLICATION
Electrodes T-590 are designed for surfacing parts, operating under conditions of abrasive wear mainly at minimum impact loads. They are applied for surfacing teeth of excavator buckets, operating at the abrasive wear in sandy ground, blades of road machines, plough shares, discs and cultivator blades of agricultural machines, cutting edges of screw conveyors of mixing machines, blades of smoke exhausters, crusher jaws, etc. The mentioned parts, deposited by the electrodes T-590, possess excellent wear-resistant properties and dependable service characteristics.

APPLICATION CONDITIONS
Deposition rate factor is 9.0 g/A·h. Electrode consumption per 1 kg of deposited metal is 1.4 kg. Before surfacing it is necessary to clean the surface from contaminations, rust, grease. It is not recommended (to avoid crushing) to perform surfacing of steel parts for more than in two layers, while those of cast iron – in one layer. At a large wear of part, the lower layers should be welded with other electrodes, depending on base metal composition. For carbon low-alloy steels a preliminary layer can be deposited by electrodes Monolith RC, Standard RC, while for steels, alloyed with manganese electrodes UONI -13/55 are recommended. The presence of trans\verse microcracks is not a defect, but an index of high deposition hardness.

SPECIAL PROPERTIES
T-590 are very suitable for overlaying of quickwearing surfaces operating in an abrasive environment, and also wherein high hardness is required. Without heat treatment electrodes T-590 allow to get the less plastic metal bead, but with hardness of HRC 58-64. Such hardness is a result of special alloying elements added in coverage.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture redrying is made at 240-260°C for 1 hr.

WELDING POSITIONS


PA ISO 6947

CERTIFICATION
012

COATING TYPE
other

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P
1,0-1,5	2,0-2,5	2,9-3,5	≤ 0,040
S	**Cr**	**B**	
≤ 0,035	22-27	0,5-1,5	

HARDNESS OF DEPOSITED WELD METAL

Hardness, HRC without heat treatment after deposition
58-64

WELDING CURRENT

Welding current, A for electrodes with diameter, mm	
4,0	5,0
150-220	200-270

Deposition is carried out in flat and inclined positions with direct current of reverse polarity with narrow rollers or with small oscillations of the electrode. Also, deposition can be carried out at AC from transformer with open-circuit voltage (50 ± 5 V).

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
4,00	450	10; 12	1; 1 ,2
5,00	450	6; 8	0,9; 1,2

PLASMATEC companies group

T-620
TM MONOLITH

GOST 9466 10051-75	Э-320Х23С2ГТР-Т-620-∅ -НГ E 700/59-1-П42
TU U 25.9-34142621-013:2016	

PURPOSE AND FIELD OF APPLICATION
Electrodes T-620 are designed for surfacing parts, operating under conditions of abrasive wear mainly at moderate impact loads. They are applied for surfacing teeth of excavator buckets, operating at the abrasive wear in sandy ground, blades of road machines, plough shares, discs and cultivator blades of agricultural machines, cutting edges of screw conveyors of mixing machines, blades of smoke exhausters, crusher jaws, etc. The mentioned parts, deposited by the electrodes T-620, possess excellent wear-resistant properties and dependable service characteristics.

APPLICATION CONDITIONS
Deposition rate factor is 9.0 g/A·h. Electrode consumption per 1 kg of deposited metal is 1.4 kg. Before surfacing it is necessary to clean the surface from contaminations, rust, grease. It is not recommended (to avoid crushing) to perform surfacing of steel parts for more than in two layers, while those of cast iron – in one layer. At a large wear of part, the lower layers should be welded with other electrodes, depending on base metal composition. For carbon low-alloy steels a preliminary layer can be deposited by electrodes Monolith RC, Standard RC, while for steels, alloyed with manganese electrodes UONI -13/55 are recommended. The presence of transverse microcracks is not a defect, but an index of high deposition hardness.

SPECIAL PROPERTIES
T-620 are suitable for welduping of quickwearing surfaces operating in an abrasive environment, and also wherein high hardness is required. Without heat treatment electrodes T-620 allow to get the less plastic metal bead, but with hardness of HRC 56-63. Such hardness is a result of special alloying elements added in coverage.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture redrying is made at 250±10°C for 60 min.
Moisture content in the coating should not exceed 0,5%.

WELDING POSITIONS


PA ISO 6947

CERTIFICATION
012

COATING TYPE
other

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C	P
1,0-1,5	2,0-2,5	2,9-3,5	≤ 0,040
S	**Cr**	**Ti**	**B**
≤ 0,035	22-24	0,5-1,5	0,5-1,5

HARDNESS OF DEPOSITED WELD METAL

Hardness, HRC without heat treatment after deposition
56-63

WELDING CURRENT

Welding current, A for electrodes with diameter, mm	
4,00	5,00
150-220	200-270

Deposition is carried out in flat and inclined positions with direct current of reverse polarity with narrow rollers or with small oscillations of the electrode. Also, deposition can be carried out at AC from transformer with open-circuit voltage (50 ± 5 V).

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
4,00	450	10	1
5,00	450	6	0,9

Monolith M-Fe6

TM MONOLITH

EN 14700:2007 E Z Fe6

PURPOSE AND FIELD OF APPLICATION

Electrodes provide alloy martensitic steel in deposition. They are designed for deposition reinforcing layers, that work in conditions of abrasive wear with moderate dynamic loads. Electrodes are suitable for overlaying of agricultural implement, that work in moderate humidity conditions; woodworking tools, loaders.

APPLICATION CONDITIONS

It is recommended to carry an electrode vertically to detail. Deposition should be carried out with a short arc and the lowest possible current to prevent mixing with parent metal. To achieve maximum hardness on low-carbon steels it is necessary to conduct 3-layer surfacing.

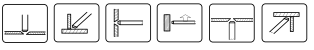
SPECIAL PROPERTIES

Weld metal softening can be performed at 840-860°C with the following hardening to 950-1000°C and cooling in oil or air. Mechanical metal-working acceptable only with abraser. Excellent abrasive wear, moderate crashworthiness oxidation resistance, high heat resistance.

REDRYING BEFORE WELDING

At the normal storage conditions, redrying is not required. In case of moisture redrying is made at 350-370°C for 60 min. 3 times max.

WELDING POSITIONS



PA PB PC PF PE PD ISO 6947

CERTIFICATION

COATING TYPE

rutile basic

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

C	Cr	Mn	Mo
≤ 2,5	≤ 10	≤3,0	≤3,0
Nb	**S**	**P**	
≤10	≤ 0,04	≤ 0,04	

HARDNESS OF DEPOSITED WELD METAL

Hardness, HRC without heat treatment after deposition
52-58

WELDING CURRENT

Welding current, A for electrodes with diameter, mm				
2,5	3,0	3,2	4,0	5,0
70-100	80-120	90-130	110-170	140-200

Welding should be made at DC of reverse polarity «+» at electrode.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
2,50	350	45-46	1
3,00	350	30-31	1
3,20	350	27-28	1
4,00	450	14	1
5,00	450	9	1

PLASMATEC companies group

CCH-4
TM MONOLITH

GOST 9466 ЦЧ-4
TU U 28.7-34142621-006:2012

PURPOSE AND FIELD OF APPLICATION
Metal electrodes with a basic coating CCH-4 for manual arc welding and surfacing of cast iron are designed for cold welding of structures of high-strength cast iron with a spheroidal graphite and grey cast iron with a flaked graphite, as well as their bond with steel. Electrodes CCH-4 can be used for welding of damaged parts and patch works of high-strength cast iron and gray iron and preliminary surfacing of the first one-two layers on worn-out cast iron parts for next surfacing by special electrodes.

APPLICATION CONDITIONS
Deposition rate factor: 10.0 g/ A·h. Consumption of electrodes per 1 kg of deposited metal is 1.8 kg. The welding process should be made only on clean, not greased and rusted surfaces (the place of joining should be grinded before welding). Welding should be made by short beads of 25-35 mm length with self-cooling of each bead 60°C and peening each weld area by slight impacts of hammer. In welding of malleable and high-strength cast iron the bead length can be increased to 80-100 mm.
At high open-circuit voltage (more than 50 V) of transformer and short length of welding cables the AC welding is possible.

SPECIAL PROPERTIES
Electrodes CCH-4 possess good welding-technological properties: easy primary and secondary ignition and stable arc burning, low spatter loss, good weld metal formation in flat position welding. A strong carbide former, vanadium, is added to the weld metal, produced by electrodes CCH-4. The formed carbides of this element are not dissolved in iron and have a shape of fine-dispersed non-hard inclusions. Metallic base in this case occurred to be decarburized and quite plastic. It is possible to apply treatment by a cutting tool after welding. Into the metal, welded with CCH-4, a strong carbide-forming agent vanadium is inoculated. The resulting carbides of this element do not dissolve in the iron and are in the form of finely dispersed non-solid inclusions. The metal base is then decarburized and sufficiently ductile. After welding, processing with a cutting tool is possible.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture redrying is made: 160-200°C 60 min.

WELDING POSITIONS
PA ISO 6947

CERTIFICATION

COATING TYPE
basic

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Si	C
0,5-2,5	0,1-0,8	≤ 0,25
P	**S**	**V**
≤ 0,07	≤ 0,04	8,5-10,5

WELDING CURRENT

Welding current, A for electrodes with diameter, mm	
3,0	4,0
60-110	90-140

Welding should be made at DC of reverse polarity, "+" at electrode.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in package, pc.	Weight of packing, kg
3,00	350	30-31; 60-62	1; 2
4,00	450	14-15	1

MNCH – 2
TM MONOLITH

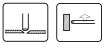
EN ISO 1071: E C NiCu 1

PURPOSE AND FIELD OF APPLICATION
Coated metal electrodes MNCH-2 are used for welding without heating, welding defective castings and surfacing parts of gray, high-strength and malleable cast iron. Electrodes MNCH-2 are most suitable for welding the first layer in compounds requiring high density, as well as welding joints, which are subject to increased requirements for surface cleanliness after machine processing.

APPLICATION CONDITIONS
Deposition rate factor is - 11.5 g/A·h. Electrode consumption per 1 kg of deposited metal - 1.5 kg. Welding is performed without heating or modest heating with short beads 20-30mm length. After each bead the welded area is peened with hammer. Welding is continued after the place of welding is cooled in air to 60 °C.

SPECIAL PROPERTIES
Welding with electrodes MNCH-2 provides weld metal with high technological effectiveness during processing and with corrosion-resistance in liquid aggressive environments and hot gases. The metal faced using electrodes due to the low hardness of the last layers (120-160 HB) is easily subject to cutting or abrasive processing. On welding with electrodes MNCH-2 a cupronickel alloy - Monel metal (Cu~30%; Ni up to 63%; other components are Mn, Si, Fe) is formed. The fusing temperature of this alloy is close to the temperature of the cast iron fusion, that's why the alloy contribute to the cast iron graphitization in the weld area, that reduce the risk of occurrence of a significant chilled area. As the alloy has good plastic properties, the joint metal is resistant to crack formation.

REDRYING BEFORE WELDING
At the normal storage conditions, redrying is not required. In case of moisture redrying is made at 180-210°C for 60 min.

WELDING POSITIONS


PA PF ISO 6947

CERTIFICATION
012

COATING TYPE
special
Wire НМЖМц 28-2,5-1,5 (MONEL)

ХІМІЧНИЙ СКЛАД ДРОТУ, %

Mn	Si	C	P
1,2-1,8	≤ 0,05	≤ 0,2	≤ 0,01
S	**Cu**	**Fe**	**Mg**
≤ 0,01	27-29	2-3	≤ 0,1
Pb	**Ni+Co**	**As**	**Sb**
≤ 0,003	решта	≤ 0,01	≤ 0,002
Bi		**Total impurities**	
≤ 0,002		≤ 0,6	

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

Mn	Ni	Fe	Cu
2,0-3,0	63,0-67,0	4,0-7,0	24,0-28,0

WELDING CURRENT

Welding current, A for electrodes with diameter, mm	
3,0	4,0
70-110	100-140

Welding should be made at DC of reverse polarity, «+» on the electrode.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a package, pc.	Weight of packing, kg
3,00	300	38-39	1
4,00	350	19	1

PLASMATEC companies group

Monolith E Ni-CI

TM MONOLITH

ISO 1071: E Ni
AWS/ASME A 5.15 E Ni-CI

PURPOSE AND FIELD OF APPLICATION

High nickel cast iron electrode featuring a totally non-conductive flux coating. Provide a malleable welded seam when welding any kind of cast iron. Due to the non-conducting flux coating, especially suited for welding thin-walled parts and welding in deep recesses or close quarters. Typical applications: heads and cylinder blocks, pump housings, transmissions and differentials, impellers, etc.

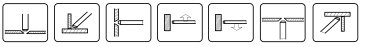
APPLICATION CONDITIONS

Clean the welding area from dirt. Prepare edges at 70°-90°. Maintain a short or medium arc length and the minimum possible amperage. Weld with short rolls to avoid local overheating. Hammer the seam to relieve tension. Remove slag between passes. Let product cool down slowly.

SPECIAL PROPERTIES

Unusually strong arc drive penetrates oil and grease easily. Excellent for vertical up welding. Flux coating does not side arc even after being heated.

WELDING POSITIONS



PA PB PC PF PG PE PD ISO 6947

COATING TYPE

special

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

C	Mn	Si	S	Cu
1,88	2,46	< 4,0	0,030	1,77
Fe	**Al**	**Other**	**Ni**	
> 4	0,93	1 max	Bal.	

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Yield strength, MPa
≥ 380	≥ 5	≥270

HARDNESS

Vickers	Brinnel	Rockwell B
14 HV	155 HBW	82-84 HRC

WELDING CURRENT

Welding current, A for electrodes with diameter, mm	
2,4	3,2
70-90	80-120

Recommended Current: DC Reverse (+).

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a package, pc.	Weight of packing, kg
2,4	300	149-151; 310	2,4; 5
3,2	350	80-81; 145	2,7; 5

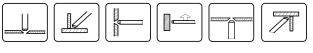
Monolith E NiFe-Cl
TM MONOLITH

ISO 1071: E NiFE
AWS/ASME A 5.15 E NiFe-Cl-A

PURPOSE AND FIELD OF APPLICATION
Ferro-Nickel universal electrode for joining a wide variety of ductile, nodular and malleable cast irons. Ideally suited for the repair of meehanite dies. Typical application: repairing machine housings, engine blocks and cylinders, as well as for joining different types of cast iron to steel.

APPLICATION CONDITIONS
Clean the welding area from dirt. Set the welding machine to the lowest parameters, for creating perfect welding conditions.

SPECIAL PROPERTIES
High-strength electrode for connection, repair and surfacing of cast iron. It gives a stable arc on low current, minimal spatter and has high resistance to cracking. An extremely strong arc drive penetrates surface contaminants. Special slag composition can be welded over without creating porosity. Extra nickel content insures crack resistant machinable welds.

WELDING POSITIONS


PA PB PC PF PE PD ISO 6947

COATING TYPE
special

CHEMICAL COMPOSITION OF DEPOSITED METAL, %

C	Mn	Si	S	Cu
1,9	<2,3	3,8	0,030	0,6
Fe	**Al**	**Other**	**Ni**	
< 45	0,97	1,9	Bal.	

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Yield strength, MPa
≥ 550	≥ 11	≥390

HARDNESS

Vickers	Brinnel	Rockwell B
189 HV	180 HBW	88-90 HRC

WELDING CURRENT

Welding current, A for electrodes with diameter, mm	
2,4	3,2
50-80	70-110

Recommended Current: DC Reverse (+), or AC.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a package, pc.	Weight of packing, kg
2,4	300	140-141; 310	2,2; 5
3,2	350	145	5

PLASMATEC companies group

WELDING WIRE COPPER-COATED G3Si1
TM MONOLITH

ISO 14341-A -G 42 4 M21 3Si1
AWS A5.18: ER70S-4

PURPOSE AND FIELD OF APPLICATION

Welding copper-coated wire G3Si1 is used for automatic and semi-automatic welding of carbon and low-alloy steels with yield strength of up to 420 MPa. The welding wire is widely used for welding pipelines, in ship-building, in automobile and machine building, as well as in construction. The wire is applied in operation with a thick-sheet metal. In this case the weld is formed for one pass (several passes).

APPLICATION CONDITIONS

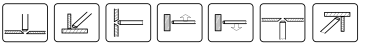
Welding copper-coated wire is used for welding (surfacing) of products, parts and structures, made of carbon and low-alloy steels, in flat, vertical and overhead positions. It is possible to perform welding both in gas mixtures, and also in pure CO2. To produce the quality weld, the scale, rust and different oxide coatings should be removed. During the multi-pass welding the surface of the previous bead should be cleaned from slag.

SPECIAL PROPERTIES

Due to the absence of non-metallic inclusions, the welding-technological properties of deposited material are improved after the plasma vacuum-arc treatment. The application of copper-plated welding wire G3Si1 allows increasing the quality of ready parts and products by forming a clean and reliable weld.

Welding wire G3Si1 guarantees:
- easy arc ignition due to optimal coating and perfect geometric parameters;
- low spatter loss while welding in CO2 and absence of spatters during welding in gas mixture M21;
- almost absence of a slag film on weld;
- high stability of arc burning.

WELDING POSITIONS



PA PB PC PF PG PE PD ISO 6947

CERTIFICATION

012 CE

COATING TYPE

copper-coated

CHEMICAL CONTENT OF WIRE, %

C	Si	Mn	Cr
0,06-0,14	0,7-1	1,3-1,6	≤0,15
Ni	**S**	**P**	**Mo**
≤ 0,15	≤ 0,025	≤ 0,025	≤ 0,15
V	**Al**	**Ti+Zr**	**Cu**
≤ 0,03	≤ 0,02	≤0,15	≤0,2

Total content of copper less than 0,35%.

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa
500-640	≥420
Elongation, %	**Absorbed striking energy, J -40°C**
≥20	≥47

WELDING CURRENT

Nominal diameter of wire, mm	Welding current, A	Voltage, V	Feed rate, m/hour	Protective gas consumption, l/min
0,8	50-150	13-21	260-400	6-8
1	70-200	16-24	160-400	8-10
1,2	90-350	19-34	150-400	8-12
1,6	140-370	17-32	100-350	12-16

Welding should be performed at DC of reverse polarity.

PACKAGING DATA

Metal spool BS 300	Plastic spool D 270
Ø 0,8 mm; Ø 1,0 mm; Ø 1,2 mm; Ø 1,6 mm	Ø 0,8 mm; Ø 1,0 mm; Ø 1,2 mm
Weight -15 kg/ 18 kg	Weight - 15 kg
Plastic spool D 200	**Plastic spool D 170**
Ø 0,8 mm; Ø 1,0 mm; Ø 1,2 mm	Ø 0,8 mm; Ø 1,0 mm
Weight - 4kg/5 kg	Weight – 1kg/2,5 kg

WELDING WIRE COPPER-COATED СВ08Г2С
TM MONOLITH

GOST-2246-70 Св-08Г2С-0
TU U 25.9-34142621-015:2017

PURPOSE AND FIELD OF APPLICATION
Copper coated welding wire СВ08Г2С is used for automatic and machine welding of carbon and low-alloyed constructional steels 10ХСНД, 15ХСНД, 14ХГС, 09Г2 types and others in protective gas environments. Wire is widely used in boiler building, installation work, pressure vessel production, metal construction building, automobile industry, agricultural machine building industry.

APPLICATION CONDITIONS
Copper coated welding wire commonly used for welding (facing) products, details and constructions of carbon and low-alloyed steels in flat, vertical and overhead welding positions. Welding can be performed in gas mixtures or pure CO2. In order to get quality weld seam the scale, rust and different oxide coatings must be removed. During the multi-pass welding the surface of the previous bead should be cleaned from a slag.

SPECIAL PROPERTIES
In production process plasma vacuum-arc wire processing provides an effective surface cleaning. As a result, the surface of treated wire obtains character silver color and high adhesive ability, that provides solid and strong coating at following coppering process. Due to quality covering and stable diameter of wire along the full length, constant wire feeding and economic consumption of copper conductive tips are provided. Precision layer winding essentially increase the lifetime of expensive semiautomatic welding machines. The possibility of working with different types of welding equipment is provided. Stable arc burning is noted which is kept for wide range of welding conditions, as well as low spatter loss, absence of overlaps and porosity in welding seam.

WELDING POSITIONS


PA PB PC PF PG PE PD ISO 6947

CERTIFICATION

COATING TYPE
copper-coated

CHEMICAL CONTENT OF WIRE, %

C	Si	Mn	Cr
0,05-0,11	0,7-0,95	1,8-2,1	≤ 0,20
Ni	**S**	**P**	**Cu**
≤ 0,25	≤ 0,025	≤ 0,030	≤ 0,2

Total content of wire less than 0,35%.

WELDING WIRE TENSILE STRENGTH

Wire diameter, mm	Tensile strength, MPa
0,8 1 1,2	882-1323
1,6	882-1274

WELDING CURRENT

Nominal wire content, mm	Welding current, A	Voltage, V	Feed rate, m/ hour	Protective gas consumption, l/min
0,8	50-150	13-21	260-400	6-8
1	70-200	16-24	160-400	8-10
1,2	90-350	19-34	150-400	8-12
1,6	140-370	17-32	100-350	12-16

Welding should be performed at DC of reverse polarity.

PACKAGING DATA

Metal spool BS 300	Plastic spool D 270
Ø 0,8 mm; Ø 1,0 mm; Ø 1,2 mm; Ø 1,6 mm	Ø 0,8 mm; Ø 1,0 mm; Ø 1,2 mm
Weight -15 kg/ 18 kg	Weight - 15 kg
Plastic spool D 200	**Plastic spool D 170**
Ø 0,8 mm; Ø 1,0 mm; Ø 1,2 mm	Ø 0,8 mm; Ø 1,0 mm
Weight - 4kg/5 kg	Weight – 1kg/2,5 kg

PLASMATEC companies group

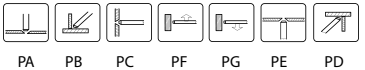
WELDING WIRE COPPER COATED G4Si1
TM MONOLITH

ISO 14341-A -G 46 4 M21 4Si1
AWS A5.18: ER70S-6

PURPOSE AND FIELD OF APPLICATION
Welding copper-coated wire G4Si1 is used for automatic and semi-automatic welding of carbon and low-alloy steels for yield strength higher than G3Si1 provides. The welding wire is widely used for welding pipelines, in ship-building, in automobile and machine building, as well as in construction. The wire is applied in operation with a thin-sheet metal. In this case the weld is formed for one pass (several passes).

APPLICATION CONDITIONS
Welding copper-coated wire is used for welding (surfacing) of products, parts and structures, made of carbon and low-alloy steels, in flat, vertical and overhead positions. It is possible to perform welding both in gas mixtures, and also in pure CO_2. To produce the quality weld, the scale, rust and different oxide coatings should be removed. During the multi-pass welding the surface of the previous bead should be cleaned from a slag.

SPECIAL PROPERTIES
In production process plasma vacuum-arc wire processing provides an effective surface cleaning. As a result, the surface of treated wire obtains character silver color and high adhesive ability, that provides solid and strong coating at following coppering process. Due to quality covering and stable diameter of wire along the full length, constant wire feeding and economic consumption of copper conductive tips are provided. Precision layer winding essentially increase the lifetime of expensive semiautomatic welding machines. The possibility of working with different types of welding equipment is provided. Stable arc burning is noted which is kept for wide range of welding conditions, as well as low spatter loss, absence of overlaps and porosity in welding seam.

WELDING POSITIONS


PA PB PC PF PG PE PD ISO 6947

CERTIFICATION
012 CE

COATING TYPE
copper-coated

CHEMICAL CONTENT OF WIRE, %

C	Si	Mn	Cr	Mo	Al
0,06-0,14	0,80-1,20	1,6-1,9	≤0,15	≤0,15	≤ 0,02
Ni	**S**	**P**	**Cu**	**V**	**Ti+Zr**
≤ 0,15	≤ 0,025	≤ 0,025	≤0,2	≤ 0,03	≤ 0,15

Total content of copper less than 0,35 %.

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Yield strength, MPa
≥530-680	≥ 460
Elongation, %	**Absorbed striking energy, J -40°C**
≥20	≥47

WELDING CURRENT

Nominal wire content, mm	Welding current, A	Voltage, V	Feed rate, m/hour	Protective gas consumption, l/min
0,8	50-150	13-21	260-400	6-8
1	70-200	16-24	160-400	8-10
1,2	90-350	19-34	150-400	8-12
1,6	140-370	17-32	100-350	12-16

Welding should be performed at DC of reverse polarity.

PACKAGING DATA

Metal spool BS 300	Plastic spool D 270
Ø 0,8 mm; Ø 1,0 mm; Ø 1,2 mm; Ø 1,6 mm	Ø 0,8 mm; Ø 1,0 mm; Ø 1,2 mm
Weight -15 kg/ 18 kg	Weight - 15 kg
Plastic spool D 200	
Ø 0,8 mm; Ø 1,0 mm; Ø 1,2 mm	
Weight - 4kg/5 kg	

WELDING WIRE ROD CHROME-NICKEL ER308LSi

TM MONOLITH

ISO 14343-A-G 19 9 LSi
AWS A5.9 ER 308LSi

PURPOSE AND FIELD OF APPLICATION

Corrosion-resistant chrome-nickel welding wire M-308LSi is used for semi-automatic stainless steels welding of H17N14M2, 03H18N11, 06H18N11, 08X18H10T, 03H18N10, AISI 304L, AISI 304, AISI 321, AISI 347 types and other austenite steels of 300 class. It is widely used in food, pharmaceutical, military, wood-working and cellulose industries, machine building, construction of tanks and pipelines, etc.

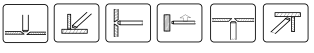
APPLICATION CONDITIONS

It is recommended to perform welding in gas mixtures (M12Ar+0.5-5%CO2, M13Ar+0.5-3%O2) at direct current of reverse polarity. Precision layers winding provides uniformity and stability in wire feeding to the welding zone.

SPECIAL PROPERTIES

Excellent mechanical properties of deposited metal and increased corrosion resistance in aggressive environments at temperature from -196 up to 350°C. High resistance to nitric acid action is noted. Negligible content of carbon reduces the probability of formation of intercrystalline corrosion without adding of such stabilizers as niobium and titanium, and high content of silicon provides convenience and simplicity of application in the process of welding.

WELDING POSITIONS



PA PB PC PF PE PD ISO 6947

COATING TYPE

chrome-nickel

CHEMICAL CONTENT OF WIRE, %

C	Mn	Si	S	P
≤0,03	1,00-2,50	0,65-1,00	≤ 0,020	≤ 0,030
Ni	**Cr**	**Mo**	**Cu**	
9,0-11,0	19,0-21,0	≤ 0,5	≤0,5	

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %
≥ 510	≥25
Impact strength, J/cm²	**Yield strength, MPa**
≥ 80	≥ 320

Welding should be performed at DC of reverse polarity.

PACKAGING DATA

Metal spool BS 300	Plastic spool D 200
Ø 0,8 mm; Ø 1,0 mm; Ø 1,2 mm; Ø 1,6 mm	Ø 0,8 mm; Ø 1,0 mm; Ø 1,2 mm
Weight -15 kg/ 18 kg	Weight - 5 kg
Plastic spool D 170	
Ø 0,8 mm; Ø 1,0 mm	
Weight – 1 kg/2,5 kg	

CERTIFICATION

CE

PLASMATEC companies group

ALUMINUM WELDING WIRE ER5356

TM MONOLITH

EN ISO 18273: S Al 5356 (AlMg5Cr(A))
AWS A5.10: ER5356

PURPOSE AND FIELD OF APPLICATION

The aluminum welding wire ER5356 is widely applied for argon-arc TIG welding of profiles and metal structures of Al-Mg alloys, containing of up to 5% of magnesium, such as ALMg3, ALMg4, ALMg5, ALMg6 with analogous materials using direct current. The welding wire ER5356 is used for welding of aluminum-magnesium-silicon alloys of 6XXX groups (EN AW 6060/6063, 6005, 6201 and their analogues, and also for welding of these alloys with the alloys of 1XXX, 3XXX and 5XXX groups, if the share of the adding material in the weld joint is more than 50%. It is used for the constructions that are subject to further anodizing. This alloy is widely used for shipbuilding and automobile construction, railway line construction, welding of reservoirs for storage and transportation of liquid and bulk products, pressure vessels.

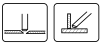
APPLICATION CONDITIONS

The welding wire is used for all types of welding. During the welding of hardened rolled metal annealing occurs in the area of the weld joint, that's why strength correspond to the main material strength in the annealed condition. For manual argon-arc welding, dried non-consumable tungsten electrodes are used, together with high grade argon and alternating current. If thickness of the welded metal is 5-6 mm, then electrodes with a diameter of 1.5-5 mm are used. Between the electrode and the welding wire it is necessary to withstand an angle of about 85-90 °. Filler metal feed is made with reciprocating movements. Effective protection is achieved by optimal gas flow. Metal up to 10 mm thick is welded from right to left: this technique allows to reduce the overheating of weld metal.

SPECIAL PROPERTIES

The alloys of the system Al-Mg are characterized by combination of strength, good plasticity, weldability and corrosion resistance even in seawater. This alloy is the most common among the aluminum-magnesium alloys.

WELDING POSITIONS



PA PB ISO 6947

TYPE

aluminum

CHEMICAL CONTENT OF WIRE, %

Si	Fe	Cu	Mn	Mg
≤ 0,25	≤ 0,40	≤ 0,10	0,05-0,20	4,50-5,50
Cr	**Zn**	**Ti**	**Be**	**Al**
0,05-0,20	≤ 0,10	0,06-0,20	≤ 0,0003	Bal.

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %
≥ 275	≥ 17
Yield strength, MPa	**Absorbed striking energy, J +20 °C**
≥ 126	≥ 16

WELDING CURRENT

Nominal diameter of wire, mm	Welding current, A	Voltage, V
1,0	90-210	15-26
1,2	140-260	20-29

Recommended current: DC reverse ("+ on electrode).

PACKAGING DATA

Metal spool BS 300	Plastic spool D 200
Ø 1,0 mm ; Ø 1.2 mm	Ø 1,0 mm ; Ø 1.2 mm
Weight - 7 kg	Weight - 2 kg

ALUMINUM WELDING WIRE ER4043

TM MONOLITH

EN ISO 18273: S Al 4043 (AlSi5)
AWS A5.10: ER4043

PURPOSE AND FIELD OF APPLICATION

The aluminum welding wire 4043 (AK5) is used for argon-arc welding of casting aluminum-silicon alloys of AD31, AD33, AD35 types (ICE blocks, support plates, frames, etc.) with direct current in the argon environment as an adding material. It is used in all the industrial processing fields such as automobile industry, automotive equipment production, shipbuilding, etc.

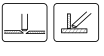
APPLICATION CONDITIONS

The goods for which the welding wire ER4043 has been used are not subject to further anodizing due to the difference of the received colors on the main and weld metal. It is not recommended for welding goods of aluminum alloys with the thickness of more than 20 mm. If the thickness is 10 mm and more the heating of up to 150-200 C is required to reduce the possibility of porosity. Protective gas: 11 (Ar 100%), 13 (Ar+5…95% He).
Precision layers winding provides uniformity and stability during the feeding.

SPECIAL PROPERTIES

The welding wire ER4043 is used for welding of Al-Si-Cu casting alloys with other aluminum alloys. The high content of silicon provides good edge welding, forming a smooth transition from the joint to the main metal and smooth shiny surface. Besides, the weld material has an excellent corrosion resistance, not apt to formation of hot cracks and corrosion cracking under voltage at the operating temperature over 65°C.
Precision layers winding essentially increases the operation period of semi-automatic welders.

WELDING POSITIONS



PA PB ISO 6947

TYPE

aluminum

CHEMICAL COMPOSITION OF WIRE, %

Si	Fe	Cu	Mn	
4,5-6,0	≤ 0,60	≤ 0,30	≤ 0,05	
Mg	**Zn**	**Ti**	**Be**	**Al**
≤ 0,05	≤ 0,10	≤ 0,15	≤ 0,0003	Bal.

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Yield strength, MPa
≥ 120	≥ 8	≥ 40

WELDING CURRENT

Nominal diameter of wire, mm	Welding current, A	Voltage, V
1,0	90-210	15-26
1,2	140-260	20-29

Recommended current: DC reverse ("+" on electrode).

PACKAGING DATA

Metal spool BS 300	Plastic spool D 200
Ø 1,0 mm ; Ø 1,2 mm Weight - 7 kg	Ø 1,0 mm ; Ø 1,2 mm Weight - 2 kg

PLASMATEC companies group

WELDING WIRE ROD Св-08А

GOST 2246-70

TM MONOLITH

PURPOSE AND FIELD OF APPLICATION

TIG welding rod Sv-08A is designed for oxy-gas welding (overlaying) structures of carbon and low-alloy grades of steels of St.3 (semi-killed), St.3 (killed), St.10, 15, 20, 20K types and others.

APPLICATION CONDITIONS

The rod diameter is selected in accordance with a base metal thickness. Welding can be performed in all the spatial positions. Welds can be performed in one pass. As a gas for the oxy-gas welding, acetylene, hydrogen, vapors of petroleum products and other gases can be used.

SPECIAL PROPERTIES

TIG rods for the oxy-gas welding are used, according to base metal type. The rods are used in a small-series production, as well as in the field conditions in laying and assembly of different-purpose pipelines, in transport repair, in agriculture.

CHEMICAL CONTENT OF WIRE, %

C	Si	Mn	Cr	Ni
≤ 0,1	≤ 0,03	0,35-0,60	≤ 0,12	≤ 0,25
S	**P**	**Cu**	**Al**	
≤ 0,030	≤ 0,030	≤ 0,25	≤ 0,01	

PACKAGING DATA

Nominal diameter, mm	Length, mm	Units per package, pcs	Weight of packing, kg
3,0	1	90-93	5
4,0	1	50-52	5

WELDING POSITIONS

PA PB PC PF PG PE PD ISO 6947

CERTIFICATION

012

WELDING WIRE ROD Св-08Г2С

GOST 2246-70

TM MONOLITH

PURPOSE AND FIELD OF APPLICATION

Filler rod of welding wire Sv-08G2S is designed for oxy-gas welding (overlaying) structures of carbon and low-alloy grades of steels 10KHSND, 15KHSND, 14HGS, 09G2 types and others.

APPLICATION CONDITIONS

The rod diameter is selected in accordance with a base metal thickness. Welding can be performed in all the spatial positions. Welds can be performed in one pass. As a gas for the oxy-gas welding, acetylene, hydrogen, vapors of petroleum products and other gases can be used.

SPECIAL PROPERTIES

Welding rods for oxy-gas welding are used according to the type of base metal. The rods are used in small-scale production, as well as in the field conditions during the laying and installation of multi-purpose pipelines, in transport repair, in agriculture.

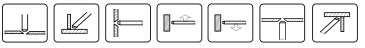
CHEMICAL COMPOSITION OF WIRE, %

C	Si	Mn	Cr
0,05-0,11	0,70-0,95	1,80-2,10	≤0,20
Ni	**S**	**P**	**Cu**
≤ 0,25	≤ 0,025	≤ 0,030	≤0,25

PACKAGING DATA

Nominal diameter, mm	Length, m	Number of rods in package	Weight of packing, kg
3,0	1	90-93	5
4,0	1	50-52	5

WELDING POSITIONS



PA PB PC PF PG PE PD ISO 6947

CERTIFICATION

012

PLASMATEC companies group

WELDING WIRE ROD CORROSION-RESISTANT CHROMIUM-NICKEL ER308LSi

ISO 14342-A-G-19 9 L Si
AWS A5.9: ER308LSi

TM MONOLITH

PURPOSE AND FIELD OF APPLICATION

TIG rods of the corrosion-resistant chromium-nickel welding rods with lower carbon content are applied for welding of stainless steels of 03X18H11, 08X18H10T, 06X18H11,12X18H10T, AISI 304L, AISI 304, AISI 321, AISI 347 types and other austenitic steels of class 300. They are widely used in the food, pharmaceutical, military, woodworking and cellulose industries, mechanical engineering, production of reservoirs, pipelines, etc.

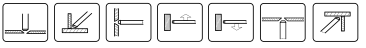
APPLICATION CONDITIONS

It is recommended to weld with gas mixtures (M12Ar+0,5-5%CO2, M13Ar+0,5-3%O2) using the reversed polarity direct current.

SPECIAL PROPERTIES

Excellent mechanical properties of the weld metal and improved corrosion resistance in aggressive environments at the temperatures from -196 up to 350 ˚C. The increased silicon content improves the welding and processing characteristics, such as the wettability of welding edges.

WELDING POSITIONS



PA PB PC PF PG PE PD ISO 6947

TYPE

chromium-nickel

CHEMICAL CONTENT OF THE WIRE, %

C	Mn	Si	S	P
≤0,03	1,00-2,50	0,65-1,00	≤ 0,020	≤ 0,030
Ni	**Cr**	**Mo**	**Cu**	
9,0-11,0	19,0-21,0	≤ 0,5	≤0,5	

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %
≥ 510	≥25
Impact strength, J/cm²	**Yield strength, MPa**
≥ 80	≥ 320

PACKAGING DATA

Nominal diameter, mm	Length, m	Number of rods in package, pcs	Weight of packing, kg
1,6	1	32; 288	0,5 ; 4,5
2,0	1	20; 182	0,5 ; 4,5
2,4	1	14; 127	0,5; 4,5
3,2	1	8; 80	0,5 ; 5

ALUMINUM WELDING WIRE ROD ER5356

TM MONOLITH

EN ISO 18273: S Al 5356 (AlMg5Cr(A))
AWS A5.10: ER5356

PURPOSE AND FIELD OF APPLICATION

Aluminum rod ER5356 is widely used for the argon-arc TIG welding of shaped sections and metal structures of Al-Mg alloys with magnesium content up to 5%. It is also used for structures, which are subjected later to anodizing. This alloy is widely used in ship- and automobile building, railway track construction, in welding containers for storage and transportation of liquid and bulky products, pressure vessels.

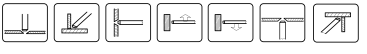
APPLICATION CONDITIONS

Welding should be done on AC, or on devices that support pulse-arc mode. Protective gas: Ar (argon), Ar / He mixture (argon / helium). Weld surfaces should be cleaned of oxide film and degreased.

SPECIAL PROPERTIES

Alloys of Al – Mg system are characterized by the combination of strength, a good plasticity, weldability and corrosion resistance, even in a sea water, but are intended to corrosion cracks while operating temperature is more than 65°C. This alloy is most widely spread among the aluminum-magnesium alloys.

WELDING POSITIONS



PA PB PC PF PG PE PD ISO 6947

TYPE

aluminum

CHEMICAL CONTENT, %

Si	Fe	Cu	Mn	Mg
≤ 0,25	≤ 0,40	≤ 0,10	0,05-0,20	4,50-5,50
Cr	**Zn**	**Ti**	**Be**	**Al**
0,05-0,20	≤ 0,10	0,06-0,20	≤ 0,0003	Bal.

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Yield strength, MPa	Absorbed striking energy, J +20 °C
≥ 275	≥ 17	≥ 126	≥ 16

PACKAGING DATA

Nominal diameter, mm	Length, m	Number of rods in package, pcs	Weight of packing, kg
1,6	1	95; 284	0,5 ; 1,5
2,4	1	42; 134	0,5; 1,6
3,2	1	24; 72	0,5 ; 1,5

PLASMATEC companies group

ALUMINUM WELDING WIRE ROD ER4043

EN ISO 18273: S Al 4043 (AlSi5)
AWS A5.10: ER4043

TM MONOLITH

PURPOSE AND FIELD OF APPLICATION

The aluminum welding rods ER4043 are used for argon-arc welding of casting aluminum-silicon Al-Si alloys of AD31, AD33, AD35 types (ICE blocks, support plates, frames, etc.) with direct current in the argon environment as an adding material. They are used in all the industrial processing fields such as automobile industry, automotive equipment production, shipbuilding, etc.

APPLICATION CONDITIONS

Welding should be done on AC, or on devices that support pulse-arc mode. Protective gas: Ar (argon), Ar / He mixture (argon / helium). Weld surfaces should be cleaned of oxide film and degreased.
The products, welded with ER4043 filler rods, are not subject to further anodization, since the resulting color of the base and the weld metal is different.

SPECIAL PROPERTIES

The filler rods ER4043 are used for welding Al-Si-Cu cast alloys with other aluminum alloys. The high silicon content provides good weldability of the edges, allowing to get a smooth transition from the weld to the base metal and a smooth shiny surface. At the same time, the deposited metal has excellent corrosion resistance, and is not prone to hot cracking and stress corrosion cracking under operating temperatures above 65 °C.

TYPE

aluminum

CHEMICAL CONTENT, %

Si	Fe	Cu	Mn	
4,5-6,0	≤ 0,60	≤ 0,30	≤ 0,05	
Mg	**Zn**	**Ti**	**Be**	**Al**
≤ 0,05	≤ 0,10	≤ 0,15	≤ 0,0003	Bal.

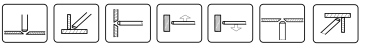
MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Yield strength, MPa
≥ 120	≥ 8	≥ 40

PACKAGING DATA

Nominal diameter, mm	Length, m	Number of rods in package, pcs.	Weight of packing, kg
1,6	1	96; 286	0,5; 1,5
2,4	1	41; 134	0,5 ; 1,6
3,2	1	24; 71	0,5; 1,5

WELDING POSITIONS



PA PB PC PF PG PE PD ISO 6947

ALUMINUM WELDING WIRE ROD ER4047

TM MONOLITH

EN ISO 18273: S Al 4047 (AlSi12)
AWS A5.10: ER4047

PURPOSE AND FIELD OF APPLICATION

Aluminum welding rods ER4047 are used for argon-arc welding of products from aluminum alloys with a total content of alloying elements up to 2% and Aluminum casting alloys with a silicon content up to 12%. They are also recommended for welding Al-Si-Cu casting alloys with other aluminum alloys.

APPLICATION CONDITIONS

Welding should be done on AC or on devices, supporting pulse-arc mode. Protective gas: mixture of Ar (argon), Ar / He (argon / helium). Weld surfaces should be cleaned of oxide film and degreased.
The products, welded with ER4047, cannot be further anodized, since the acquired color of the base and the weld metal is different.

SPECIAL PROPERTIES

Aluminum rod ER4047 differs from ER4043 in a higher silicon content, which avoids hot cracking and increases the strength of a seam. The high content of silicon makes it possible to obtain the minimum crystallization temperature of all welded metals from all aluminum welding materials and its highest fluidity, which ensures good wettability of the welded edges, forming a smooth transition from the seam to the base metal and a smooth shining surface, as well as minimal welding deformations.

TYPE

aluminum

CHEMICAL CONTENT, %

Si	Fe	Cu	Mn
12	≤ 0,8	≤0,3	≤ 0,15
Mg	**Zn**	**Ti**	**Al**
≤ 0,10	≤ 0,2	≤ 0,8	Bal.

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength, MPa	Elongation, %	Yield strength, MPa
≥ 170	≥ 12	≥ 80

PACKAGING DATA

Nominal diameter, mm	Length, m	Number of rods in package, pcs	Weight of packing, kg
2,4	1	42-43; 134-135	0,5 ; 1,6

WELDING POSITIONS

PA PB PC PF PG PE PD ISO 6947

ANNEX | Legend of approvals and welding positions

Approval signs

BelST Certificate (Belarus product conformity)

Product certification under GOST-R Certification System (Russia)

Toxicity is reduced

Product certification according to GOST 9466 (Kazakhstan)

Certificate of National Agency for Control of Welding

Quality management system certification according to ISO 9001:2015

River Registry certification

Shipping Register of Ukraine welding consumables approval certificate

Certificate of product conformity with the essential requirements of EU directives and standards

UkrSEPRO certificate (Ukraine product conformity)

Shipping Register welding consumables approval certificate

Welding positions according to EN 287/EN ISO 6947

PA PB PC PF PG PE PD

PA - flat for butt and fillet welds

PB - horizontal/vertical for fillet welds

PC - horizontal/vertical for butt welds

PF - vertical upwards

PG - vertical downwards

PE - overhead

PD - horizontal overhead

ANNEX | Storage

If storing in appropriate conditions electrodes shelf life is unlimited.

Recommendations on storage:

- Keep in original three-layer packing.
- Protect from rain, humidity and moisture impact.
- Keep electrodes on shelves or pallets to avoid direct contact with floor and walls.
- During welding in the open air necessary measures should be undertaken to prevent ingress of rain and moisture into opened packages with electrodes.
- All the unused electrodes should be sealed tightly or stored in tube to avoid further moisturizing.

Storing of electrodes in the unheated rooms doesn't exclude electrodes moistening even hermetically packed from.

Keep indoor warehouse temperature higher than +15°C.

If you have any doubts regarding accuracy of storing, in such case elecrtodes should be re-bried before using in accordance with re-drying requirements.

In case of improper storage conditions electrodes should be baked in accordance with baking requirements.

Thus, compliance with the storage conditions and proper welding preparations can prevent different defects and provide high-quality weldments.

ANNEX | Package

PlasmaTec company pays special attention to package quality, that's why:

All our products packed in safe three-layer packing (inner hermetic polyethylene film, cardboard box and outer heat-shrink wrap).

Each produced electrode is marked. On each product packing date and lot number are indicated, that allow product quality control outside production plant.

Convenient Racking Provides comfort and easy handling:
- Packing packings weighing: 0.5 kg, 1 kg, 2.5 kg and 5 kg, as well as probes for 3, 5, 10 electrodes.
- Packing for manual transfer:
A 20 kg corrugated box: 20 packs of a weight of 1 kg or 40 packs of 0,5 kg. – The connection with a convenient portable pen: 6 packs of 2.5 kg or 4 packs of 5 kg.

Packing for transportation:
While using rail and truck transportation the products are put on wooden pallets and wrapped in stretch wrap.

- **On each pallet there is product quality certificate and packing list.**
- **According to your order pallets with assorted products can be packed.**

ANNEX | Package

Company **PlasmaTec** suggests different types of electrodes packing.

TUBE

Full-color packing tube made of cardboard using straight winding method, and securely fixed with metal covers from the ends. This type of packaging provides high moisture resistance - electrodes that are stored in tubes are less exposed to moisture from the environment. One of the tube packing advantages is reusability, which ensures a reliable storage of electrodes from the first opening to subsequent welding works.

Tube packing

Monolith RC and Monolith professional welding electrodes.

Diameter 2,5 mm / 3 mm, 1 pce.

MINI-PACKING

Electrode packing made of dense branded cardboard with specified technical characteristics of the electrodes.

Mini tubes are a convenient and thrifty packaging option for small amounts of electrodes, as well as an excellent opportunity to buy a small trial batch.

Mini-tubes

Welding electrodes Monolith RC, CCH-4, CL-11 Plasma, Monolith M-309L, Monolith M-308L, Monolith M-316L, Monolith E4043, Monolith E4047, Monolith E Ni-CI, Monolith E NiFe-CI – diameter 2,5; 3 / 3-8 pcs per pack.

(Other types of electrodes – customized).

Samples

Monolith RC, MR-3 ARS, UONI-13/55 Plasma and others – diameter 2,5; 3; 3 pcs per pack.

ANNEX | Package

ALUMINUM TUBE

Aluminum tube for special welding electrodes with hygroscopic flux coating. Tube is lidded and securely protects electrodes from moisture. Such type of packing provides long shelf life without additional requirements for storage and transporting conditions. Aluminum tubes can be utilized from the first opening to subsequent welding works.

Aluminum tube

Monolith E4043, Monolith E4047 welding electrodes.

Diameter 2,4; 3,2; 4 mm / 2 kg pcs.

VACUUM PACKING (NEW PRODUCT)

Cardboard packs are covered with branded deaerated metallized bag. The main advantage of vacuum packaging is to ensure complete tightness even when working in conditions of high humidity. Such type of packing provides long shelf life without additional requirements for storage and transporting conditions. Electrodes can be used without baking immediately after opening the package.

Vacuum packing

Monolith E Ni-CI, Monolith E NiFe-CI

Monolith E4043, Monolith E4047,

UONI 13/55 Plasma, CL-11 Plasma, Monolith M-309L, Monolith M-308L, CCH-4.

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1 Carbon and low-alloy steels

2 Stainless and heat-resistant steels

PLASMATEC companies group

3 Aluminum

4 Hardfacing

5 Cast Iron

6 MIG/MAG Welding Wire

7 TIG Rods

Notes

Notes

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If you have some questions considering the quality or want more information about usage of welding consumables, please contact our specialist.