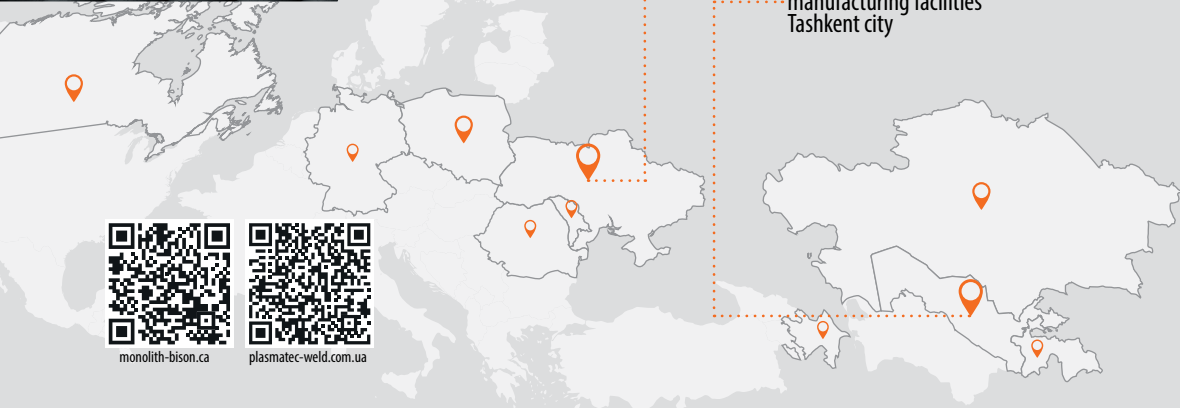


WELDING CONSUMABLES CATALOGUE



UKRAINE
manufacturing facilities
Rudnytsia village

UZBEKISTAN
manufacturing facilities
Tashkent city



monolith-bison.ca



plasmatec-weld.com.ua



**2 welding consumables
manufacturing plants**

12 high-tech production lines

Modern equipment

Quality control at each stage

**In-house production testing
laboratory**

**Consistent high quality and
the best raw materials**

**Raw material preparation
plant**

Machine-building plant

Certificates

CERTIFICATE OF WELDING CONSUMABLE

This certificate is issued to confirm that CWB witnessed the required tests on the following welding consumable:

Effective Date: August 05, 2025	Expiry Date: August 05, 2027	Issue Date: December 17, 2025
Company Name: PlasmaTec	Point of Manufacture: Winnipeg, Manitoba, CAN	Applicable Standard: CSA W47 / AWS A5.14
Electrode Designation: Monolith T505 I WAB	Size (mm): Min 2.5 Max 6.0	
Classification: ER50B H08	Size: N/A	

The certification of the welding consumable may be extended by conducting the required check tests in accordance with the provisions of CSA W47.

CANADIAN WELDING BUREAU

Regulator: CWC-009

Terms and Conditions governing the product certification and the use of this document are defined in the contract between CWB and the holder.

CWB is accredited by Standards Council of Canada (SCC) to ISO 17024:2015

CERTIFICATE OF WELDING CONSUMABLE

This certificate is issued to confirm that CWB witnessed the required tests on the following welding consumable:

Effective Date: October 12, 2023	Expiry Date: October 12, 2025	Issue Date: December 17, 2025
Company Name: Limited Liability Company PlasmaTec	Point of Manufacture: Winnipeg, Manitoba, CAN	Applicable Standard: CSA W47 / AWS A5.14
Electrode Designation: Monolith T505 I	Size (mm): Min 2.5 Max 6.0	
Classification: ER50B H08	Size: N/A	

If the packaging is not hermetically sealed, recondition the electrodes in accordance with the manufacturer's instructions before use.

The certification of this welding consumable may be extended by conducting the required check tests in accordance with the provisions of CSA W47.

CANADIAN WELDING BUREAU

Regulator: CWC-009

Terms and Conditions governing the product certification and the use of this document are defined in the contract between CWB and the holder.

CWB is accredited by Standards Council of Canada (SCC) to ISO 17024:2015

ЦЕРТИФІКАТ НА ВИСОТНО-ВАГА ПОВІДНО ВИРОБНИЧОГО РЕЦЕПТУ НА ВИСОТНО-ВАГА ПОВІДНО ВИРОБНИЧОГО РЕЦЕПТУ НА ВИСОТНО-ВАГА ПОВІДНО ВИРОБНИЧОГО РЕЦЕПТУ

Цей сертифікат видається для підтвердження того, що ДСВ спостерігав за необхідними випробуваннями наступного зварювального матеріалу:

Ефективна дата: 05.08.2025	Термін дії: 05.08.2027	Дата видачі: 17.12.2025
Назва компанії: PlasmaTec	Місце виробництва: Вінніпег, Манітоба, Канада	Застосовуваний стандарт: CSA W47 / AWS A5.14
Назва електрода: Monolith T505 I WAB	Розмір (мм): від 2,5 до 6,0	
Класифікація: ER50B H08	Розмір: немає	

Сертифікація цього зварювального матеріалу може бути продовжена шляхом проведення необхідних перевірок згідно з вимогами CSA W47.

Канадський зварювальний Бюро

Регулятор: CWC-009

Умови та умови, що регулюють сертифікацію продукції та використання цього документа, визначені в контракті між ДСВ та його власником.

ДСВ акредитовано Канадською радою стандартів (СРК) за ISO 17024:2015

RINA APPROVAL OF WELDING CONSUMABLES CERTIFICATE

This is a witness that the following product, in view of the tests carried out, has been approved:

Description: Covered electrode for manual welding	Designation: Monolith T505 I WAB
Manufacturer: PlasmaTec Limited Liability Company	Point of Manufacture: Winnipeg, Manitoba, Canada
Electrode Designation: Monolith T505 I	Size (mm): Min 2.5 Max 6.0
Classification: ER50B H08	Size: N/A

The approval is valid for one year and will be renewed subject to the satisfactory outcome of the annual retest carried out.

Approved on: July 15, 2024

RINA

RINA APPROVAL OF WELDING CONSUMABLES CERTIFICATE

This is a witness that the following product, in view of the tests carried out, has been approved:

Description: Covered electrode for manual welding	Designation: Monolith T505 I WAB
Manufacturer: Limited Liability Company PlasmaTec	Point of Manufacture: Winnipeg, Manitoba, Canada
Electrode Designation: Monolith T505 I	Size (mm): Min 2.5 Max 6.0
Classification: ER50B H08	Size: N/A

The approval is valid for one year and will be renewed subject to the satisfactory outcome of the annual retest carried out.

Approved on: July 15, 2024

RINA

NATIONAL ACCREDITATION AGENCY OF UKRAINE ACCREDITATION CERTIFICATE

Regulation: 01/2019
valid until December 26, 2028
Date of the Initial Accreditation: December 26, 2018

Testing production Laboratory Limited Liability Company "Plasma Tec"

18 Pravytska St. St. St. Vinnytsia, 21004
4, 4th level
81 Shevchenko St., Roshchyn Village, Tulykivskyi District, Vinnytsia Region, 24222

IN COMPLIANCE WITH THE REQUIREMENTS OF ISO/IEC 17025:2019 (EN ISO/IEC 17025:2018) IN THE FIELD OF THE SCOPE OF TESTING BY SPECTRAL ANALYSIS METHODS, MECHANICAL TESTING OF STEEL RODS, WIRE AND ELECTRODES; MECHANICAL TESTING OF DISK AND RING CARBON; MECHANICAL TESTING OF CARBON INSTEEL IN TENSILE AND COMPRESSIVE; DETERMINATION OF CARBON CONTENT IN STEEL AND CAST IRON; DETERMINATION OF IRON CONTENT OF CARBON INSTEEL.

Acting director: Sergii KOSTIUK

TYPE APPROVAL CERTIFICATE

Limited Liability Company PlasmaTec
Winnipeg, URBANZ

Covered Electrode for Manual Metal Arc Welding

Designation: Monolith T505 I WAB	Size: Min 2.5 Max 6.0
Classification: ER50B H08	Size: N/A

This certificate will expire on 21.06.2028

PlasmaTec

TYPE APPROVAL CERTIFICATE

Limited Liability Company PlasmaTec
Winnipeg, URBANZ

Covered Electrode for Manual Metal Arc Welding

Designation: Monolith T505 I WAB	Size: Min 2.5 Max 6.0
Classification: ER50B H08	Size: N/A

This certificate will expire on 21.06.2028

PlasmaTec



plasmatec-weld.com.ua/page/certifications

Guide to AWS A5.1/A5.1M Classification (Electrodes for Welding of Non Alloy Steels)

■ Covered Electrode

E 6013

Symbol	Tensile Strength min.		Yield Strength min.	
	A5.1 (ksi)	A5.1 M (N/mm ²)	A5.1 (ksi)	A5.1 M (N/mm ²)
60	60	430	48	330
70	70	490	58	400

Symbol	Welding Positions
1	all welding positions
2	horizontal and flat welding positions
4	all welding positions including vertical down position

Symbol	Type of Cover	Welding Position	Current Type	Elongation %min
10	Cellulosic-Sodium silicate	F, V, OH, H-fillet	DC (+)	22
11	Cellulosic-Potassium silicate	F, V, OH, H-fillet	AC - DC (+)	22
12	Rutile-Sodium silicate	F, V, OH, H-fillet	AC - DC (-)	17
13	Rutile-Potassium silicate	F, V, OH, H-fillet	AC - DC (-) (+)	17
14	Rutile-Iron powder	F, V, OH, H-fillet	AC - DC (-) (+)	17
15	Basic-Sodium silicate	F, V, OH, H-fillet	DC (+)	22
16	Basic-Potassium silicate	F, V, OH, H-fillet	AC - DC (+)	22
18	Basic, Iron powder-Potassium silicate	F, V, OH, H-fillet	AC - DC (+)	22
19	Rutile, Iron oxide-Potassium silicate	F, V, OH, H-fillet	AC - DC (-) (+)	22
20	Iron oxide	F, H-fillet	AC - DC (-) (+)	22
22	Iron oxide	only for one-run welding	AC - DC (-)	—
24	Rutile-Iron powder	F, H-fillet	AC - DC (-) (+)	17
27	Iron oxide - Iron powder	F, H-fillet	AC - DC (-) (+)	22
28	Basic, Iron powder - Potassium Silicate	F, H-fillet	AC - DC (+)	22
48	Basic, Iron powder - Potassium Silicate	F, OH, H, V-Down	AC - DC (+)	22

F=Flat V=Vertical OH=Overhead H=Horizontal
H-Fillets=Horizontal fillets V-Down=Vertical with downward progression

Guide to AWS A5.4 Classification (Stainless-Steel Electrodes)

■ Coated Electrodes

E 308 L 16

Symbol	Current Type	Welding Position
15	DC (+)	All Welding Position
16	AC, DC (+)	
17	AC, DC (+)	
25	DC (+)	Horizontal, flat and horizontal vertical
26	AC, DC (+)	

Guide to AWS A5.4 Classification (Stainless-Steel Electrodes)

Symbol	Chemical Composition of Weld Metal%						Mechanical Properties	
	C	Si	Mn	Cr	Ni	Mo	Tensile Strength	Elongation min. %
E 209 ¹⁾	0,06	0,90	4,0 - 7,0	20,5 - 24,0	9,5 - 12,0	1,5 - 3,0	690	15
E 219 ¹⁾	0,06	1,00	8,0 - 10,0	19,0 - 21,5	5,5 - 7,0	0,75	620	15
E 240 ¹⁾	0,06	1,00	10,5 - 13,5	17,0 - 19,0	4,0 - 6,0	0,75	690	15
E 307	0,04 - 0,14	0,90	3,30 - 4,75	18,0 - 21,5	9,0 - 10,7	0,5 - 1,5	590	30
E 308	0,08	0,90	0,5 - 2,5	18,0 - 21,0	9,0 - 11,0	0,75	550	35
E 308 H	0,04 - 0,08	0,90	0,5 - 2,5	18,0 - 21,0	9,0 - 11,0	0,75	550	35
E 308 L	0,04	0,90	0,5 - 2,5	18,0 - 21,0	9,0 - 11,0	0,75	520	35
E 308 Mo	0,08	0,90	0,5 - 2,5	18,0 - 21,0	9,0 - 12,0	2,0 - 3,0	550	35
E 308 MoL	0,04	0,90	0,5 - 2,5	18,0 - 21,0	9,0 - 12,0	2,0 - 3,0	520	35
E 309	0,15	0,90	0,5 - 2,5	22,0 - 25,0	12,0 - 14,0	0,75	550	30
E 309 L	0,04	0,90	0,5 - 2,5	22,0 - 25,0	12,0 - 14,0	0,75	520	30
E 309 Cb ³⁾	0,12	0,90	0,5 - 2,5	22,0 - 25,0	12,0 - 14,0	0,75	550	30
E 309 Mo	0,12	0,90	0,5 - 2,5	22,0 - 25,0	12,0 - 14,0	2,0 - 3,0	550	30
E 309 MoL	0,04	0,90	0,5 - 2,5	22,0 - 25,0	12,0 - 14,0	2,0 - 3,0	520	30
E 310	0,08 - 0,20	0,75	1,0 - 2,5	25,0 - 28,0	20,0 - 22,5	0,75	550	30
E 310 H	0,35 - 0,45	0,75	1,0 - 2,5	25,0 - 28,0	20,0 - 22,5	0,75	620	10
E 310 Cb ³⁾	0,12	0,75	1,0 - 2,5	25,0 - 28,0	20,0 - 22,0	0,75	550	25
E 310 Mo	0,12	0,75	1,0 - 2,5	25,0 - 28,0	20,0 - 22,0	2,0 - 3,0	550	30
E 312	0,15	0,90	0,5 - 2,5	28,0 - 32,0	8,0 - 10,5	0,75	660	22
E 316	0,08	0,90	0,5 - 2,5	17,0 - 20,0	11,0 - 14,0	2,0 - 3,0	520	30
E 316 H	0,04 - 0,08	0,90	0,5 - 2,5	17,0 - 20,0	11,0 - 14,0	2,0 - 3,0	520	30
E 316 L	0,04	0,90	0,5 - 2,5	17,0 - 20,0	11,0 - 14,0	2,0 - 3,0	490	30
E 317	0,08	0,90	0,5 - 2,5	18,0 - 21,0	12,0 - 14,0	2,0 - 4,0	550	30
E 317 L	0,04	0,90	0,5 - 2,5	18,0 - 21,0	12,0 - 14,0	2,0 - 4,0	520	30
E 318 ³⁾	0,08	0,90	0,5 - 2,5	17,0 - 20,0	11,0 - 14,0	2,0 - 3,0	550	25
E 320 ²⁾³⁾	0,07	0,60	0,5 - 2,5	19,0 - 21,0	32,0 - 36,0	2,0 - 3,0	550	30
E 320 LR ²⁾³⁾	0,03	0,30	1,50 - 2,5	19,0 - 21,0	32,0 - 36,0	2,0 - 3,0	520	30
E 330	0,18 - 0,25	0,90	1,0 - 2,5	14,0 - 17,0	33,0 - 37,0	0,75	520	25
E 330 H	0,35 - 0,45	0,90	1,0 - 2,5	14,0 - 17,0	33,0 - 37,0	0,75	620	10
E 347	0,08	0,90	0,5 - 2,5	18,0 - 21,0	9,0 - 11,0	0,75	520	30
E 349	0,13	0,90	0,5 - 2,5	18,0 - 21,0	8,0 - 10,0	0,35 - 0,65	690	25
E 383	0,03	0,90	0,5 - 2,5	26,5 - 29,0	30,0 - 33,0	3,2 - 4,2	520	30
E 385	0,03	0,75	1,0 - 2,5	19,5 - 21,5	24,0 - 26,0	4,2 - 5,2	520	30
E 410	0,12	0,90	1,0	11,0 - 13,5	0,7	0,75	450	20
E 410 NiMo	0,06	0,90	1,0	11,0 - 12,5	4,0 - 5,0	0,40 - 0,70	760	15
E 430	0,10	0,90	1,0	15,0 - 18,0	0,6	0,75	450	20
E 502	0,10	0,90	1,0	4,0 - 6,0	0,4	0,45 - 0,65	420	20
E 505	0,10	0,90	1,0	8,0 - 10,5	0,4	0,85 - 1,20	420	20
E 630 ²⁾³⁾	0,05	0,75	0,25 - 0,75	16,00 - 16,75	4,5 - 5,0	0,75	930	7
E 16-8-2	0,10	0,60	0,5 - 2,5	14,5 - 16,5	7,5 - 9,5	1,0 - 2,0	550	35
E 7 Cr	0,10	0,90	1,0	6,0 - 8,0	0,4	0,45 - 0,65	420	20
E 2209 ¹⁾	0,04	0,90	0,5 - 2,0	21,5 - 23,5	8,5 - 10,5	2,5 - 3,5	690	20
E 2553 ¹⁾²⁾	0,06	1,0	0,5 - 1,5	24,0 - 27,0	6,5 - 8,5	2,9 - 3,9	760	15

1) Weld metal includes N.

2) Weld metal includes Cu.

3) Weld metal includes Cb (Nb)+Ta.

Guide to EN ISO 2560-A Classification (Electrodes for Manual Metal Arc Welding of Non Alloy and Fine Grain Steels)

E 46 5 B 3 2 H5

Symbol	Production / Product
G	Wire Electrodes
O	Oxy-acetylene
E	Electric arc welding
S	Submerged arc welding wires
T	Flux-cored wires
W	TIG Rods
F	Submerged arc welding fluxes

Yield Strength, Tensile Strength and Elongation			
Symbol	ReL (N/mm ²)	Rm (N/mm ²)	A (%)
35	355	440 - 570	22
38	380	470 - 600	20
42	420	500 - 640	20
46	460	530 - 680	20
50	500	560 - 720	18

Symbol for impact properties of all-weld metal (Min. 47J)	
Symbol	Temperature °C
Z	No Requirements (+20)
A	
0	0
2	-20
3	-30
4	-40
5	-50
6	-60

Symbol for hydrogen content of the all-weld metal	
Symbol	ml/100g
H 5	5
H 10	10
H 15	15

Symbol for welding position	
1	PA; PB; PC; PD; PE; PF; PG
2	PA; PB; PC; PD; PE; PF
3	PA; PB
4	PA
5	PA; PB; PG

Symbol for weld metal recovery and type of current (%)		
1	≤ 105	≈/=
2	≤ 105	=
3	> 105 ≤ 125	≈/=
4	> 105 ≤ 125	=
5	> 125 ≤ 160	≈/=
6	> 125 < 160	
7	> 160	≈/=
8	> 160	=

Symbol	Electrode covering
A	Acid covering
C	Cellulosic covering
R	Rutile covering
RR	Thick Rutile covering
RC	Rutile-Cellulosic covering
RA	Rutile-Acid covering
RB	Rutile-Basic covering
B	Basic covering

Guide to EN 14700 Classification (Hardsurfacing Electrodes)

Coated Electrodes

E Fe6

Symbol	Acceptance	Chemical composition, %										
		C	Cr	Ni	Mn	Mo	W	V	Nb	other	rest	
Fe1	p	≤0,4	≤3,5		0,5 - 3	≤1	≤1	≤1				Fe
Fe2	P	0,4 - 1,2	≤7	≤1	0,5 - 3	≤1	≤1	≤1				Fe
Fe6	g p s	≤2,5	≤10		≤3	≤3			≤10	Ti		Fe
Fe7	c p t	≤0,2	4 - 30	≤	≤3	≤2		≤1	≤1	Si		Fe
Fe8	g p t	≤0,2 - 2	5 - 18		0,3 - 3	≤4,5	≤2	≤2	≤0	Si, Ti		Fe
Fe9	k (n) p	0,3 - 1,2	≤19	≤3	11 - 18	≤2		≤1		Ti		Fe
Fe14	g (c)	1,5 - 4,5	25 - 40	≤4	0,5 - 3	≤4						Fe
Fe15	g	4,5 - 5,5	20 - 40	≤4	0,5 - 3	≤2			≤10	B		Fe

Acceptance: c - corrosion resistance, g - abrasion resisting, k - working hardening, n - non-magnetize, p - impact resisting, s - shearing ability, t - heat resisting, z - oxidation resisting, w - precipitation hardening

Analyses that do not fit this table is signified with (Z)

Guide to EN ISO 14341-A Classification (Wire Electrodes and Deposits for Gas Shielded Metal Arc Welding of Non Alloy and Fine Grain Steels)

Production / Product	
G	Wire Electrodes
O	Oxy-acetylene
E	Electric arc welding
S	Submerged arc welding wires
T	Flux-cored wires
W	TIG Rods
F	Submerged arc welding fluxes

Symbol	Minimum yield strength, MPa	Tensile strength, MPa	Minimum elongation, %
35	355	440-570	22
38	380	470-600	20
42	420	500-640	20
46	460	530-680	20
50	500	560-720	18

G 46 4 M21 4Si1

Symbol	Temperature for minimum average impact energy of 47 J or 27 J
Z	No requirement
A or Y	+20
0	0
2	-20
3	-30
4	-40
5	-50
6	-60
7	-70
8	-80
9	-90
10	-100

Classification of process gases for fusion welding and allied processes - ISO 14175

Symbol		Components in nominal percentage of volume					
Main group	Subgroup	Oxidizing		Inert		Reducing	Low reactivity
		CO ₂	O ₂	Ar	He	H ₂	N ₂
M2	0	5 < CO ₂ ≤ 15		balance			
	1	15 < CO ₂ ≤ 25		balance			
	2		3 < O ₂ ≤ 10	balance			
	3	0,5 ≤ CO ₂ ≤ 5	3 < O ₂ ≤ 10	balance			
	4	5 < CO ₂ ≤ 15	0,5 ≤ O ₂ ≤ 3	balance			
	5	5 < CO ₂ ≤ 15	3 < O ₂ ≤ 10	balance			
	6	15 < CO ₂ ≤ 25	0,5 ≤ O ₂ ≤ 3	balance			
	7	15 < CO ₂ ≤ 25	3 < O ₂ ≤ 10	balance			

Symbol	Chemical composition, %											
	C	Si	Mn	P	S	Ni	Cr	Mo	V	Cu	Al	Ti+Zr
2Si	0,06 - 0,14	0,50 - 0,80	0,90 - 1,30	0,025	0,025	0,15	0,15	0,15	0,03	0,35	0,02	0,15
3Si1	0,06 - 0,14	0,70 - 1,00	1,30 - 1,60	0,025	0,025	0,15	0,15	0,15	0,03	0,35	0,02	0,15
3Si2	0,06 - 0,14	1,00 - 1,30	1,30 - 1,60	0,025	0,025	0,15	0,15	0,15	0,03	0,35	0,02	0,15
4Si1	0,06 - 0,14	0,80 - 1,20	1,60 - 1,90	0,025	0,025	0,15	0,15	0,15	0,03	0,35	0,02	0,15
2Ti	0,04 - 0,14	0,40 - 0,80	0,90 - 1,40	0,025	0,025	0,15	0,15	0,15	0,03	0,35	0,05 - 0,20	0,05 - 0,25
2A1	0,08 - 0,14	0,30 - 0,50	0,90 - 1,30	0,025	0,025	0,15	0,15	0,15	0,03	0,35	0,35 - 0,75	0,15
3Ni1	0,06 - 0,14	0,50 - 0,90	1,00 - 1,60	0,020	0,020	0,80 - 1,50	0,15	0,15	0,03	0,35	0,02	0,15
2Ni2	0,06 - 0,14	0,40 - 0,80	0,80 - 1,40	0,020	0,020	2,10 - 2,70	0,15	0,15	0,03	0,35	0,02	0,15
2Mo	0,08 - 0,12	0,30 - 0,70	0,90 - 1,30	0,020	0,020	0,15	0,15	0,40 - 0,60	0,03	0,35	0,02	0,15
4Mo	0,06 - 0,14	0,50 - 0,80	1,70 - 2,10	0,025	0,025	0,15	0,15	0,40 - 0,60	0,03	0,35	0,02	0,15
Z	Any other agreed composition											

NAME	CLASSIFICATION	
	ISO	AWS
Monolith RC	2560-A-E 42 0 RC 1 1	A5.1: E6013
IND RC	2560-A-E 42 0 RC 1 1	A5.1: E6013
Monolith R	2560-A-E 42 0 R 1 2	A5.1: E6013
Monolith 6010	2560-A-E 42 3 C 21	A 5.1: E6010
Monolith RB	2560-A-E 42 2 RB 1 2	A5.1: E6013
Monolith PRO	2560-A-E 42 0 RR 1 2	A5.1: E6013
Gold 6013 R	2560-A-E 42 0 R 1 2	A5.1: E6013
Gold 7018	2560-A-E 42 4 B 4 2 H10	A5.1: E7018
Monolith 7014	2560-A-E 42 0 RR 3 2	A5.1: E7014
Monolith 7018	2560-A-E 42 4 B 3 2 H5	A5.1: E7018
Monolith 7018-1	2560-A-E 46 5 B 3 2 H5	A5.1: E7018-1 H8
Monolith 7018-1 H4R	2560-A-E 46 5 B 3 2 H5	A5.1: E7018-1 H4R
IND Basic	2560-A-E 42 4 B 4 2 H10	A5.1: E7018 H8
RS-5 Plasma	2560-A-E 42 5 B 2 2 H10	A5.1: E7016-1 H8
HR-21U	2560-A-E 42 4 B 22 H10	A5.1: E7015 H8
HR-1U	3580-A-E CrMo1 B 2 2	A5.5: E8015-B2
HR-3U	3580-A-E CrMoV1 B 2 2	A5.5: E8015-G
RS-39	3580-A-E CrMoV1 B 2 2	A5.5: E8015-G
Monolith M-307	3581-A-E 18 8 Mn B 2 2	A 5.4: E307-15
Monolith M-308L	3581-A-E 19 9 L R 1 2	A5.4: E308L-16
Monolith M-309L	3581-A-E 23 12 L R 1 2	A5.4: E309L-16
Monolith M-310	3581-A-E 25 20 B 2 2	A5.4: E310-15
Monolith M-312	3581-A-E 29 9 R 3 2	A5.4: E312-16
Monolith M-316L	3581-A-E 19 12 3 L R 1 2	A5.4: E316L-16
Monolith M-318	3581-A-E 19 12 3 Nb R 1 2	A5.4: E318-16
Monolith M-347	3581-A-E 19 9 Nb R 1 2	A5.4: E347-16
Monolith M-20/25	3581-A-E Z 20 25 5 Cu N L B 2 2	–
HS-Fe1	EN 14700: E Fe1	–
HS-Fe2	EN 14700: E Fe2	–
HS-Fe6	EN 14700: E Z Fe6	–
HS-Fe7	EN 14700: E Z Fe7	–
HS-Fe8	EN 14700: E Z Fe8	–
HS-Fe9	EN 14700: E Fe9	–
HS-Fe15	EN 14700: E Fe15	–
Cl-NiFe	1071: E C NiFe – Cl 3	A5.15: E NiFe – Cl
Cl-NiCu	1071: E C NiCu-B 1	A5.15: E NiCu-B



Monolith RC

TM MONOLITH

EN ISO 2560-A-E 42 0 RC 1 1

AWS A5.1: E6013

PURPOSE AND SCOPE OF APPLICATION

Monolith RC electrodes are designed for manual direct or alternating current arc welding of ordinary and critical structures made of low-carbon steel grades such as DC01, DC04,DD13, FeP01, FeP03, C10, C10E, 2C10, C15E2C, 2C15, etc.

TERMS OF USE

- designed for welding butt and fillet joints with thickness of metal up to 20 mm in all spatial positions, except vertical down one for electrodes with a diameter of 5.0 mm;
- low sensitivity to the quality of edge preparation, presence of rust and other contaminants of the surface of the material to be welded;
- welding in vertical position down (2 – 4 mm in diameter) should be performed with a short arc or supported electrode;
- do not allow the slag to flow in front of the arc.

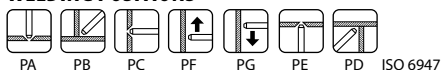
SPECIAL PROPERTIES

- differ from other manufacturers in high stability of mass transfer and better environmental performance;
- high-quality raw materials and high level of production processes control made it possible to reduce manganese emission by more than 30%, and aerosol - by more than 28%;
- excellent welding and technological properties ensure easy striking and re-striking, as well as soft and stable arc burning, reduced spatter loss, uniform melting of the coating, excellent seam metal formation and easy separation of the slag;
- reduce the requirements for equipment and welders' qualifications;
- deposition rate factor: 0,15 – 0,17 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,4 – 1,5 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,9 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 120±10 °C.

WELDING POSITIONS



TYPE OF COATING

rutile-cellulosic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,09	0,40	0,35

MECHANICAL PROPERTIES OF THE WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy KV 0 °C, J
500 – 640	≥420	≥20	≥47

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm					
2,0	2,5	3,0	3,2	4,0	5,0
50 – 70	60 – 90	80 – 110	90 – 120	110 – 150	150 – 210

Welding should be carried out with direct current of any polarity (reverse, "+" on the electrode is recommended) or alternating current with a no-load voltage of the current source of 50 V.

PACKAGING DATA

Monolith RC Ø 2,0 mm are packed into a mini-tube of 8 pcs.; Ø 2,5; Ø 3,0 mm are packed into a mini-tube of 4 pcs.; Ø 3,2 mm are packed into a mini-tube of 3 pcs.

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,0	300	52 – 54; 100 – 106	0,5; 1,0
2,5	350	26 – 27; 53 – 55; 138 – 140	0,5; 1,0; 2,5
3,0	350	19 – 21; 37 – 39; 92 – 95	0,5; 1,0; 2,5
3,2	350	15 – 18; 31 – 33; 78 – 82	0,5; 1,0; 2,5
4,0	450	16 – 18; 39 – 42; 81 – 83	1,0; 2,5; 5,0
5,0	450	54 – 57	5,0

CERTIFICATION





IND RC TM MONOLITH

EN ISO 2560-A-E 42 0 RC 1 1

AWS A5.1: E6013

PURPOSE AND SCOPE OF APPLICATION

IND RC electrodes are designed for manual arc welding by reversed or direct current of ordinary and critical structures made of low-carbon steel grades such as DC01, DC04, DD13, FeP01, FeP03, 2c15, C15E2C, C15E, C10, XC10, C20E2C, etc.

TERMS OF USE

- designed for welding fillet, butt and overlapping metal joints up to 20 mm thick;
- during structural welding, it is possible to work in all spatial positions without significantly changing the welding current;
- electrodes of 2 to 4 mm diameter are suitable for welding in all spatial positions, and electrodes with a diameter of 5 mm - in all spatial positions except the vertical down one;
- welding of vertical seams by the vertical down method is carried out with a short arc or with supported electrode, when it is held in a plane that divides the angle of the parts to be welded in half and the vertical lifting angle of the electrode must be equal to 40 – 70°;
- to increase the weld penetration, do not allow the slag to flow in front of the arc;
- welding in a flat position is recommended to be performed in a back-hand with angle of 20 – 40° from the vertical to increase the penetration depth and prevent slag from flowing into the bath.

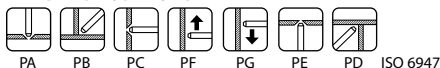
SPECIAL PROPERTIES

- they are characterized by easy striking and re-striking, soft and stable arc burning, provide low spatter loss, uniform melting of the coating, excellent weld metal formation, easy separation of the slag;
- welding can be performed from power sources connected to either commercial or domestic power supply;
- require less staff qualification skills;
- the electrodes are not very sensitive to the quality of edge preparation, presence of rust and other contaminants on the surface of the metal to be welded;
- deposition rate factor: 0,13 – 0,15 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,4 – 1,7 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,9 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 120±10 °C.

WELDING POSITIONS



CERTIFICATION



TYPE OF COATING

rutile-cellulosic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,11	0,45	0,45

MECHANICAL PROPERTIES OF THE WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy, KV 0°C, J
500 – 640	≥420	≥22	≥47

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm				
2,5	3,0	3,2	4,0	5,0
50 – 90	70 – 110	80 – 120	100 – 150	140 – 210

Welding should be carried out with direct current of any polarity (reverse, "+" on the electrode is recommended) or alternating current with an no-load voltage of the current source of 50 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs.	Pack weight, kg
2,5	350	57 – 58; 135 – 137	1,0; 2,5
3,0	350	36 – 38; 92 – 96	1,0; 2,5
3,2	350	78 – 79	2,5
4,0	450	80 – 82	5,0
5,0	450	53 – 55	5,0



Monolith R

TM MONOLITH

EN ISO 2560-A-E 42 0 R 1 2

AWS A5.1: E6013

PURPOSE AND SCOPE OF APPLICATION

Monolith R electrodes are designed for manual arc welding of ordinary and critical structures made of carbon steel grades such as DC01, DC04, DD13, FeP01, FeP03, 2c15, C15E2C, C15E, C10, XC10, C20E2C, etc.

TERMS OF USE

- designed for welding fillet, butt and overlapping metal joints up to 20 mm thick;
- electrodes with a diameter of 2 to 4 mm are suitable for welding in all spatial positions, except a vertical down one, with a diameter of 5 mm - for flat, horizontal vertical and vertical up positions.
- welding must be carried out with direct current of any polarity or alternating current from a transformer with an idle voltage of 50±5 V.

SPECIAL PROPERTIES

- they are distinguished by an improved formula that provides good welding and technological properties;
- have easy striking and restriking characteristics, soft and stable arc burning, low spatter loss, uniform coating melting, excellent weld metal formation, easy slag separation;
- electrodes can be used for welding of structures exposed to static or dynamic loads, which means that they provide weld metal with high mechanical properties;
- deposition rate factor: 0,13 – 0,14 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,55 – 1,6 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,7 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 120±10°C.

WELDING POSITIONS



PA PB PC PF PE PD ISO 6947

CERTIFICATION



UA TR
140.00024-24

TYPE OF COATING

rutile

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,09	0,40	0,35

MECHANICAL PROPERTIES OF THE WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy, KV 0 °C, J
500 – 640	≥420	≥20	≥47

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm			
2,5	3,0	3,2	4,0
70 – 100	80 – 110	90 – 120	120 – 160

Welding should be carried out with direct current of the reverse polarity «+» on the electrode with an arc voltage of 25 – 30 V or alternating current from a transformer with an idle voltage of 50 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	350	52 – 53; 131 – 132	1,0; 2,5
3,0	350	35 – 37; 88 – 90	1,0; 2,5
3,2	350	30 – 31; 76 – 77	1,0; 2,5
4,0	450	77 – 78	5,0



Monolith 6010

TM MONOLITH

EN ISO 2560-A-E: 42 3 C 21
AWS A 5.1:E6010

PURPOSE AND SCOPE OF APPLICATION

Designed for welding in the sphere of shipbuilding construction, welding of general structures, bridges, pipelines and pressure vessels. Suitable for root run welding of pipelines of strength grades up to API 5LX80, as well as for filler and cover layers application for pipelines of strength grades up to API 5LX56.

SPECIAL PROPERTIES

- suitable for welding operation control in all special positions, provide deep arc penetration;
- effective for welding of moderately dirty, rust-covered or painted parts welding, which are difficult to be thoroughly cleaned before welding;
- characterized by high stability of arc burning, easy slag separation and excellent seam metal formation;
- recommended for welding of galvanized and coated steels.

RE-DRYING BEFORE WELDING

NOT RECOMMENDED.

TYPE OF COATING

cellulosic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,15	0,86	0,23

MECHANICAL PROPERTIES OF THE WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy KV -30° C, J
500 – 640	≥420	≥20	≥47

WELDING PARAMETERS

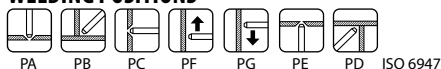
Welding current strength, A for electrodes with a diameter of, mm			
2,5	3,2	4,0	5,0
50 – 90	80 – 120	120 – 160	150 – 180

Welding should be performed with direct current of reversed polarity, «+» on an electrode with an arc voltage of 23 – 27 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	300	149 – 150	2,0
3,2	350	95 – 97	2,5
4,0	350	129 – 131	5,0
5,0	350	74 – 76	5,0

WELDING POSITIONS



CERTIFICATION





Monolith RB

TM MONOLITH

EN ISO 2560-A-E 42 2 RB 1 2
AWS A5.1: E6013

PURPOSE AND SCOPE OF APPLICATION

Electrodes are designed for welding of structures and reservoirs, as well as pipes and pipelines. They are suitable for root welding and welding of non-rotating pipe joints made of constructional steels with yield strength of up to 500 MPa as well as steels of P235/S235 - P355/S355 and similar grades.

TERMS OF USE

- electrodes with a diameter of 2.5 mm to 4 mm are suitable for welding in all spatial positions except vertical down one.

SPECIAL PROPERTIES

- offer easy striking and restriking characteristics;
- provide soft and stable arc burning, low spatter loss, easy separation of the slag crust, excellent weld metal formation;
- are used for welding with both direct and alternating current of sheet steels and steel constructions that are working under steady and dynamical loads, as well as for welding of reservoirs and pipelines where high mechanical properties of the weld should be provided
- deposition rate factor: 0,13 – 0,14 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,6 – 1,7 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,3 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 290±10 °C.

TYPE OF COATING

rutile basic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,09	0,51	0,18

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Elongation, %	Impact energy KV -20°C, J
≥500	≥20	≥47

WELDING PARAMETERS

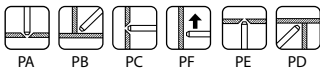
Welding current strength, A for electrodes with a diameter of, mm			
2,5	3,0	3,2	4,0
70 – 100	90 – 130	100 – 140	130 – 180

Welding should be carried out with direct current of any polarity (reverse, "+" on the electrode is recommended) or alternating current with an idle voltage of the current source of 70±10 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	350	105 – 110	2,5
3,0	350	78 – 80	2,5
3,2	350	69 – 75	2,5
4,0	450	73 – 75	5,0

WELDING POSITIONS



ISO 6947

CERTIFICATION





Monolith PRO

TM MONOLITH

EN ISO 2560-A-E 42 0 RR 1 2

AWS A5.1: E6013

PURPOSE AND SCOPE OF APPLICATION

Monolith PRO electrodes are designed for manual arc welding of carbon steel structures in all special positions.

TERMS OF USE

- designed for welding fillet, butt and overlapping metal joints up to 20 mm thick;
- low sensitivity to the quality of edge preparation, presence of rust and other contaminants of the surface of the material to be welded;
- electrodes with a diameter of 3 to 4 mm are suitable for welding in all spatial positions, except a vertical down one;
- electrodes with a diameter of 5 mm - for flat, horizontal vertical and vertical up positions.

SPECIAL PROPERTIES

- have easy striking and restriking characteristics;
- soft and stable arc burning, low spatter loss, uniform coating melting, excellent weld metal formation, easy slag separation;
- are used in both direct and alternating current welding for the connection of sheet steels and steel structures subjected to static and dynamic loads, welding of tanks and pipelines, where it is necessary to ensure high mechanical properties of seams;
- electrodes are suitable for welding in unfavorable conditions for other types of electrodes;
- deposition rate factor: 0,15 – 0,17 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,4 – 1,5 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,7 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 130±10°C.

TYPE OF COATING

rutile thick

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,11	0,53	0,39

MECHANICAL PROPERTIES OF THE WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy KV 0 ° C, J
500 – 640	≥420	≥20	≥47

WELDING PARAMETERS

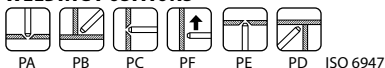
Welding current strength, A for electrodes with a diameter of, mm				
2,5	3,0	3,2	4,0	5,0
70 – 100	80 – 110	90 – 120	120 – 160	150 – 210

Welding should be carried out with direct current of any polarity (reverse, "+" on the electrode is recommended) or alternating current with a no-load voltage of the current source of 50 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	350	50 – 51; 125 – 126	1,0; 2,5
3,0	350	34 – 36; 85 – 88	1,0; 2,5
3,2	350	72 – 74	2,5
4,0	450	76 – 79	5,0
5,0	450	53 – 55	5,0

WELDING POSITIONS



CERTIFICATION





Gold 6013 R

TM CONTINENT GOLD

EN ISO 2560-A-E 42 0 R 1 2

AWS A5.1: E6013

PURPOSE AND SCOPE OF APPLICATION

Gold 6013 R electrodes are designed for manual direct or alternating current arc welding of ordinary and critical structures made of low-carbon steel grades. They are distinguished by providing easy striking and restriking, soft and stable arc burning, minimal spatter loss, uniform melting, excellent weld metal formation and easy slag separation.

TERMS OF USE

- designed for welding fillet, butt and overlapping metal joints up to 20 mm thick;
- low sensitivity to the quality of edge preparation, presence of rust and other contaminants of the surface of the material to be welded;
- welding must be carried out with direct current of any polarity or alternating current from a transformer with an idle voltage of 50±5 V.

SPECIAL PROPERTIES

- excellent welding and technological properties provide easy striking and restriking characteristics, soft and stable arc burning, reduced spatter loss, uniform coating melting, excellent weld metal formation, easy slag separation;
- reduced requirements to equipment performances and welders' qualification;
- deposition rate factor: 0,15 – 0,17 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,4 – 1,5 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,9 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 120±10°C.

TYPE OF COATING

rutile

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,106	0,52	0,24

MECHANICAL PROPERTIES OF THE WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy KV 0° C, J
500 – 640	≥420	≥20	≥47

WELDING PARAMETERS

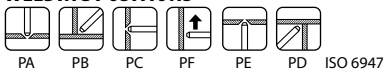
Welding current strength, A for electrodes with a diameter of, mm				
2,5	3,0	3,2	4,0	5,0
40 – 80	60 – 110	80 – 120	110 – 150	150 – 210

Welding should be carried out with direct current of any polarity (reverse, "+" on the electrode is recommended) or alternating current with a no-load voltage of the current source of 50 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	350	290 – 291	5,0
3,0	350	185 – 186	5,0
3,2	350	183 – 184	5,0
4,0	450	82 – 83	5,0
5,0	450	55 – 56	5,0

WELDING POSITIONS



CERTIFICATION





Gold 7018

TM CONTINENT GOLD

EN ISO 2560-A-E 42 4 B 4 2 H10

AWS A5.1: E7018

PURPOSE AND SCOPE OF APPLICATION

Gold 7018 electrodes are designed for welding of critical structures made of carbon and low-alloy steels with a tensile strength from 500 MPa to 640 MPa, especially where high resistance of welded joints to cold cracking is required. They are widely used in bridge construction, shipbuilding, ship repair, and the production of pressure vessels.

TERMS OF USE

- electrodes with diameters from 2,5 mm to 4,0 mm are suitable for welding in all positions except vertical down;
- electrodes with a diameter of 5,0 mm are suitable for flat, horizontal vertical and vertical-up positions.

SPECIAL PROPERTIES

- electrodes are characterized by increased welding performance and high weld metal strength with exceptional metallurgical purity and low diffusible hydrogen content in the deposited metal;
- ability to weld with AC eliminates the effect of magnetic blow;
- stable transfer of electrode metal ensures low spatter, improved joints formation, and easier welding operations;
- deposition rate factor: 0,18 – 0,20 g/A·min;
- electrode consumption per 1 kg of deposited metal: 1,4 – 1,6 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,3 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 400±10 °C.

TYPE OF COATING

basic with iron powder

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,082	1,29	0,35

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy KV-40° C, J
500 – 640	≥420	≥20	≥47

WELDING PARAMETERS

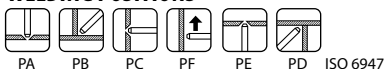
Welding current strength, A for electrodes with a diameter of, mm				
2,5	3,0	3,2	4,0	5,0
70 – 100	90 – 140	100 – 150	130 – 180	170 – 230

Welding should be carried out with DC reverse polarity ("+" on the electrode) with arc voltage of 23–27 V or with AC from a transformer with an open-circuit voltage of 70 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	350	211 – 212	5,0
3,0	350	150 – 152	5,0
3,2	350	137 – 138	5,0
4,0	450	71 – 73	5,0
5,0	450	48 – 49	5,0

WELDING POSITIONS



CERTIFICATION





Monolith 7014

TM MONOLITH

EN ISO 2560-A-E 42 0 RR 3 2
AWS A5.1: E7014

PURPOSE AND SCOPE OF APPLICATION

Electrodes with iron powder designed for manual arc welding with higher welding current. Electrodes are used for construction equipment welding, metalware welding, welding of low-pressure pipes, automotive components, architectural welding, welding of agricultural machines etc.

TERMS OF USE

- insensitive to the edges` preparation quality, crust and other contaminants of the base metal;
- are suitable for joints which require deep welding;
- electrodes with 2-4 mm diameter are suitable for welding in all spatial positions, except the vertical down one.

SPECIAL PROPERTIES

- smooth arc characteristics, good arc stability;
- provide both excellent slag removal and bead appearance;
- suitable for use in farming due to humidity resistance;
- deposition rate factor: 0,18 – 0,20 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,4 – 1,6 kg.

RE-DRYING BEFORE WELDING

- permissible moisture content in the coating before use is not more than 0,7%;
- of the electrode coating is moistened above normal, redry for 60 minutes at 120±10 °C.

TYPE OF COATING

rutile with iron powder

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,09	0,60	0,33

MECHANICAL PROPERTIES OF THE WELD METAL

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy, KV ⁰ C, J
500 – 640	≥420	≥20	≥47

WELDING PARAMETERS

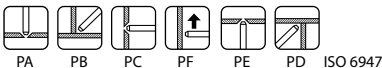
Welding current strength, A for electrodes with a diameter of, mm		
2,5	3,2	4,0
70 – 100	80 – 120	110 – 170

Welding should be carried out with a direct current of any polarity, (reverse one with "+" on the electrode is recommended), with an idle voltage of 70 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	350	135 – 137	2,5
3,2	350	31 – 32	1,0
4,0	450	15 – 16	1,0

WELDING POSITIONS



CERTIFICATION





Monolith 7018

TM MONOLITH

EN ISO 2560-A-E 42 4 B 3 2 H5
AWS A5.1: E7018
4Y42H5

PURPOSE AND SCOPE OF APPLICATION

Monolith 7018 electrodes are designed for welding critical structures and pipelines made of carbon and low-alloy steels with tensile strength of 500 MPa to 640 MPa, especially if it is necessary to ensure high resistance of welded joints against cold cracks. They are widely used in bridge construction, shipbuilding, ship repair and pressure vessels production.

TERMS OF USE

- delectrodes with a diameter of 2.0 mm to 4.0 mm are designed for welding in all spatial positions except vertical down one, and with a diameter of 5.0 mm - for flat, horizontal vertical and vertical up positions.

SPECIAL PROPERTIES

- the electrodes are characterized by increased welding performance and strength of the weld metal with special metallurgical purity and low content of diffusible Hydrogen in the deposited metal;
- the possibility of alternating current welding eliminates the effect of magnetic arc blow;
- stable transfer of electrode metal during welding ensures low spatter, better weld joints formation and easy welding operations performance;
- deposition rate factor: 0,18 – 0,20 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,4 – 1,6 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,3 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 400±10 °C.

TYPE OF COATING

basic with iron powder

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,09	1,38	0,56

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy KV -40° C, J
500 – 640	≥420	≥20	≥47

WELDING PARAMETERS

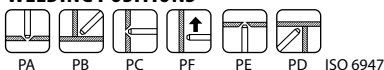
Welding current strength, A for electrodes with a diameter of, mm					
2,0	2,5	3,0	3,2	4,0	5,0
50 – 70	70 – 100	90 – 140	100 – 150	130 – 180	170 – 230

Welding should be carried out with direct current of reverse polarity, "+" on an electrode with an arc voltage of 23 – 27 V or alternating current from a transformer with an idle voltage of 70 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,0	300	162 – 164	2,0
2,5	350	107 – 109	2,5
3,0	350	75 – 79	2,5
3,2	350	68 – 70	2,5
4,0	450	93 – 96	5,0
5,0	450	46 – 48	5,0

WELDING POSITIONS



CERTIFICATION





Monolith 7018-1 TM MONOLITH

EN ISO 2560-A-E 46 5 B 3 2 H5

AWS A5.1: E7018-1 H8

PURPOSE AND SCOPE OF APPLICATION

Monolith 7018-1 electrodes are designed for critical structures welding made of carbon and low-alloy steels with an increased yield strength, operating under alternating loads at low temperatures of up to -50 °C. They are widely used in bridge construction, shipbuilding as well as pressure vessels production.

TERMS OF USE

- designed for welding in all spatial positions, except vertical down one, of critical structures and pipelines made of carbon and low-alloy steels with a tensile strength of 530 MPa to 680 MPa, especially if it is necessary to ensure high resistance of welded joints to cold cracks.

SPECIAL PROPERTIES

- they are characterized by high strength of the weld metal, with special metallurgical purity and low hydrogen content in the deposited metal;
- the possibility of alternating current welding eliminates the effect of magnetic arc blow;
- stable electrode metal transfer during welding ensures improved weld joints formation;
- the slag does not flow into the welding bath, an even seam is formed, and the resulting slag crust is easy to remove;
- deposition rate factor: 0,18 – 0,20 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,4 – 1,6 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,3 %;
- if the electrode coating is moistened above normal, dry for 60 min-utes at 400±10 °C.

TYPE OF COATING

basic with iron powder

WELD METAL CHEMICAL

COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,08	1,45	0,65

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy KV -50° C, J
530 – 680	≥460	≥20	≥47

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm			
2,5	3,0	3,2	4,0
70 – 100	90 – 140	100 – 150	130 – 180

Welding should be carried out with direct current of reverse polarity, "+" on an electrode with an arc voltage of 23 – 27 V or alternating current from a transformer with an idle voltage of 70 V.

PACKAGING DATA

Monolith 7018-1 electrodes are packed in vacuum packings.

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	350	84 – 88; 211 – 221	2,0; 5,0
3,0	350	60 – 63; 150 – 158	2,0; 5,0
3,2	350	68 – 70; 137 – 149	2,0; 5,0
4,0	450	73 – 75	5,0

WELDING POSITIONS



PA PB PC PF PE PD ISO 6947

CERTIFICATION



UA TR
140.00024-24



Monolith 7018-1 H4R

TM MONOLITH

EN ISO 2560-A-E 46 5 B 3 2 H5
AWS A5.1: E7018-1 H4R
4Y46H5

PURPOSE AND SCOPE OF APPLICATION

Electrodes Monolith 7018-1 H4R are used for welding of critical metal structures, boilers and tanks that work under high pressure, as well as in the fields of pipelines construction, shipbuilding etc. Electrodes are resistant to moisture absorption.

TERMS OF USE

- designed for welding in all spatial positions, except vertical down one, of critical structures and pipelines made of carbon and low-alloy steels with a tensile strength of 500 MPa - 640 MPa, especially if it is necessary to ensure high resistance of welded joints to cold cracks.

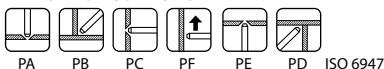
SPECIAL PROPERTIES

- special coating formula prevents moisture absorption, reduces the probability of pores formation and guarantees a low hydrogen content in the joint;
- uniform composition of the electrode coating ensures a stable arc during welding operations;
- excellent weldability, easy slag separation, low spatter loss;
- electrodes do not absorb the moisture from the environment for 10-12 hours after opening the package, as a consequence they do not require re-drying before being used;
- characterized by high strength of the weld metal with a special metallurgical purity and low hydrogen content in the deposited metal;
- deposition rate factor: 0,16 – 0,18 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,4 – 1,5 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,3%;
- if the electrode coating is moistened above normal, dry for 60 minutes at 400±10 °C.

WELDING POSITIONS



CERTIFICATION



TYPE OF COATING

basic with iron powder

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,09	1,30	0,60

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy KV-50°C, J
530 – 680	≥460	≥20	≥47

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm				
2,5	3,0	3,2	4,0	5,0
70 – 100	90 – 140	100 – 150	130 – 180	170 – 230

Welding should be carried out with direct current of any polarity (reverse is recommended, "+" on the electrode) with an arc voltage of 23 – 27 V or alternating current from a transformer with an idle voltage of 70 V.

PACKAGING DATA

Monolith 7018-1 H4R are packed into vacuum packaging.

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	350	88 – 92; 221 – 230	2,0; 5,0
3,0	350	64 – 66; 152 – 161	2,0; 5,0
3,2	350	56 – 59; 140 – 147	2,0; 5,0
4,0	450	69 – 71	5,0
5,0	450	48 – 50	5,0



IND Basic

TM MONOLITH

EN ISO 2560-A-E 42 4 B 4 2 H10

AWS A 5.1: E7018 H8

PURPOSE AND SCOPE OF APPLICATION

IND Basic electrodes are designed for welding critical metal structures, boilers and tanks operating under high pressure. They are also used in pipeline construction, shipbuilding, etc.

The electrodes are resistant to moisture absorption.

TERMS OF USE

- designed for welding in all spatial positions, except from vertical up, of critical structures and pipelines made of carbon and low-alloy steels with a tensile strength of 500 MPA to 640 MPA, especially if it is necessary to ensure high resistance of welded joints to hot cracks.

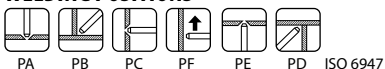
SPECIAL PROPERTIES

- the special coating prevents moisture absorption, reduces the possibility of pore formation and guarantees a low hydrogen content in the seam;
- smooth current-voltage characteristic provides a stable arc during the operation;
- excellent weldability, easy separation of slag crust, low metal loss from spattering;
- the electrodes do not absorb moisture from the environment for 10...12 hours after opening the package;
- due to this, they do not need to be re-dried before use, and are also characterized by high strength of the weld metal, with special metallurgical purity and low hydrogen content in the deposited metal.
- deposition rate factor: 0,16 – 0,18 g/A·min;
- electrodes consumption per 1 kg of deposited metal: 1,3 – 1,4 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,3 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 400±10 °C.

WELDING POSITIONS



CERTIFICATION



- **TYPE OF COATING**
basic with iron powder

- **WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)**

C	Mn	Si	P	S
0,08	1,20	0,50	0,025	0,012

- **WELD METAL MECHANICAL PROPERTIES**

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy, KV -40°C, J
500 – 640	≥420	≥20	≥ 47

- **WELDING PARAMETERS**

Welding current strength, A for electrodes with a diameter of, mm				
2,5	3,0	3,2	4,0	5,0

70 – 100 90 – 140 100 – 150 130 – 180 170 – 230
Welding should be carried out with direct current of reverse polarity ("+" on the electrode) with an arc voltage of 23 – 27 V or alternating current from a transformer with an idle voltage of 70 V.

- **PACKAGING DATA**

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	350	84 – 88; 105 – 110;	2,0; 2,5; 5,0
		211 – 221	
3,0	350	75 – 79	2,5
3,2	350	55 – 60; 69 – 75;	2,0; 2,5; 5,0
		137 – 149	
4,0	450	71 – 74	5,0
5,0	450	48 – 49	5,0

RS-5 Plasma TM MONOLITH

PURPOSE AND SCOPE OF APPLICATION

These electrodes are designed for welding of boiler heating surfaces elements, as well as root welding, joint welding of heavy wall pipelines made of carbon and low-alloy silicon-manganese steels with a tensile strength of at least 588 MPa, operating at temperatures of up to 400 °C.

TERMS OF USE

Welding should be carried out with direct current of reverse polarity (+) on the electrode, without preheating and subsequent heat treatment only on a short arc length along the cleaned edges.

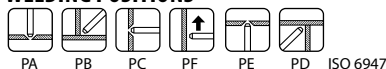
SPECIAL PROPERTIES

- electrodes with decreased hydrogen content, which significantly improves welding seam characteristics;
- provide excellent deposited weld metal properties along with clean root ripple bead without defects when using single-side welding;
- ensure high impact energy and are often used for welding of pipes, offshore structures and installations, which should be welded on one side only.
- deposition rate factor: 8 – 9,5 g/A-min;
- consumption of electrodes per 1 kg of deposited metal: 1,4 – 1,5 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,5 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 400±10°C.

WELDING POSITIONS



CERTIFICATION



EN ISO 2560-A-E 42 5 B 2 2 H10
AWS A5.1: E7016-1 H8

TYPE OF COATING

basic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,09	1,10	0,38

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy KV-50°C, J
500 – 640	≥420	≥20	≥47

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm			
2,5	3,0	3,2	4,0
70 – 100	70 – 110	80 – 120	100 – 160

Welding should be carried out with direct current of the reverse polarity «+» on the electrode with an arc voltage of 20 – 25 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	300	59 – 61	1,0
3,0	350	36 – 38	1,0
3,2	350	32 – 33	1,0
4,0	450	16 – 17	1,0



HR-21U

TM MONOLITH

EN ISO 2560-A-E 42 4 B 2 2 H10
AWS A5.1: E7015 H8

PURPOSE AND SCOPE OF APPLICATION

Stick electrodes HR-21U are designed for welding of critical steel structures and pipelines, made of carbon and low-alloy steels as well as thermal and nuclear power plant equipment.

TERMS OF USE

- welding should be carried out on a direct current of reversed polarity in all spatial positions, except vertical down one;
- short-arc welding or cleaned edges drag welding is recommended.

SPECIAL PROPERTIES

- provide high resistance of the weld metal to the formation of pores when the length of the welding arc is increased;
- deposition rate factor: 0,17 – 0,18 g/A·min;
- electrodes consumption per 1 kg of deposited metal: 1,3 – 1,4 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,4%;
- if the electrode coating is moistened above normal, dry for 60 minutes at 400±10 °C.

TYPE OF COATING

basic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,10	0,80	0,43

WELD METAL MECHANICAL PROPERTIES

Tensile strength MPa	Yield strength MPa	Elongation %	Impact energy KV -40° C, J
500 – 640	≥420	≥20	≥47

WELDING PARAMETERS

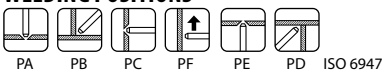
Welding current strength, A for electrodes with a diameter of, mm	
3,0	4,0
80 – 110	110 – 150

Welding should be carried out with a direct current of reverse polarity, "+" on the electrode with an arc voltage of 20 – 25 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
3,0	350	92 – 96	2,5
4,0	450	82 – 86	5,0

WELDING POSITIONS



CERTIFICATION





EN ISO 3580-A-E CrMo1 B 2 2

AWS A5.5: E8015-B2

HR-1U

TM MONOLITH

PURPOSE AND SCOPE OF APPLICATION

Electrodes HR-1U are designed for manual arc welding on direct current of reversed polarity in all spatial positions, except for vertical down. These electrodes are suitable for welding of equipment and pipelines made of steel grades 13CrMo4-5, GS-17CrMo55 operating at temperatures of up to 540 °C, as well as elements of heating surfaces of boilers, regardless of their operating temperature.

TERMS OF USE

- intended for welding in all spatial positions except for vertical-down one.

SPECIAL PROPERTIES

- ensure high resistance of the metal joint to pores formation during arc extension;
- performance of beveled weld is allowed provided the angle of base metal bevel is not less than 15°;
- short-arc welding with prior cleaning of edges is recommended;
- deposition rate factor: 0,16 – 0,18 g/A·min;
- electrodes consumption per 1 kg of deposited metal: 1,4 – 1,5 kg.

RE-DRYING BEFORE WELDING

- permissible moisture content in the coating before use is not more than 0,4%;
- if the electrode coating is moistened above normal, dry for 60 minutes at 400±10 °C.

TYPE OF COATING

basic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,09	0,70	0,25
Cr	Mo	
1,00	0,60	

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy KV 20° C, J
≥510	≥355	≥20	≥47

WELDING PARAMETERS

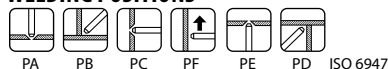
Welding current strength, A for electrodes with a diameter of, mm	
3,0	4,0
80 – 110	110 – 150

Welding should be carried out with a direct current of reverse polarity, "+" on the electrode with arc voltage of 20 – 25 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
3,0	350	91 – 95	2,5
4,0	450	81 – 85	5,0

WELDING POSITIONS



CERTIFICATION





HR-3U

TM MONOLITH

EN ISO 3580-A-E CrMoV1 B 2 2

AWS A5.5: E8015-G

PURPOSE AND SCOPE OF APPLICATION

Electrodes HR-3U are designed for manual arc welding on direct current of reversed polarity in all spatial positions, except for vertical down one. These electrodes are suitable for welding of equipment and pipelines made of steel grades 13CrMo4-5, GS-17CrMo55 and operating at a temperature of up to 570 °C.

TERMS OF USE

- intended for welding in all spatial positions except for vertical down.

SPECIAL PROPERTIES

- ensure high resistance of the metal joint to pores formation during arc extension;
- performance of beveled weld is allowed provided the angle of base metal bevel is not less than 15°;
- short-arc welding with prior cleaning of edges is recommended;
- deposition rate factor: 0,16 – 0,18 g/A·min;
- electrodes consumption per 1 kg of deposited metal: 1,4 – 1,5 kg.

RE-DRYING BEFORE WELDING

- permissible moisture content in the coating before use is not more than 0,4%;
- if the electrode coating is moistened above normal, dry for 60 minutes at 400±10 °C

TYPE OF COATING

basic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,07	1,06	0,34
Mo	V	Cr
1,22	0,21	1,14

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy KV 20° C, J
≥590	≥435	≥15	≥24

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm	
3,0	4,0
80 – 110	110 – 150

Welding should be carried out with a direct current of reversed polarity, "+" on the electrode with arc voltage of 20 – 25 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
3,0	350	91 – 95	2,5
4,0	450	81 – 85	5,0

WELDING POSITIONS



PA PB PC PF PE PD ISO 6947

CERTIFICATION





Monolith M-307

TM MONOLITH

EN ISO 3581-A-E 18 8 Mn B 2 2

AWS A 5.4: E307-15

PURPOSE AND SCOPE OF APPLICATION

Monolith M-307 is a universal austenite electrode which designed for a variety of applications such as welding of "difficult-to-weld" steels, dissimilar welding, repair and maintenance, as well as deposition of transition layers before the application of wear-resistant layers. The metal deposited by the electrodes Monolith M-307 provides exceptionally high ductility and elongation along with excellent crack resistance. Good resistance to embrittlement at operating temperatures of up to 650 °C.

TERMS OF USE

- they are used for welding in all spatial positions, except vertical down one with direct current of reverse polarity (+ on electrode).

SPECIAL PROPERTIES

- deposited metal is characterized by high heat resistance up to 850 C.
- deposition rate factor: 13,0 – 13,5 g/A-hour;
- consumption of electrodes per 1 kg of deposited metal: 1,3 – 1,5 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,3 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 280-300 °C.

WELDING POSITIONS



PA PB PC PF PE PD ISO 6947

CERTIFICATION



TYPE OF COATING

basic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,07	6,50	0,87
Ni	Cr	
8,77	19,20	

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %
≥500	≥350	≥25

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm			
2,5	3,0	3,2	4,0
70 – 110	80 – 120	100 – 140	120 – 160

Welding should be carried out with direct current of the reverse polarity, "+" on the electrode with an arc voltage of 23 – 27 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs.	Pack weight, kg
2,5	350	53 – 55	1,0
3,0	350	37 – 39	1,0
3,2	350	34 – 36	1,0
4,0	350	20 – 22	1,0



Monolith M-308L

TM MONOLITH

EN ISO 3581-A-E 199 LR 12
AWS A5.4: E308L-16

PURPOSE AND SCOPE OF APPLICATION

Monolith M-308L electrodes are designed for welding of austenitic stainless steels such as AISI 304L, AISI 321, AISI 347, etc. in the operating temperature range not exceeding 450°C. Main applications are found in equipment, tanks, cisterns and stainless steel pipes for use in the food, textile, oil refining, drinking, paper and pharmaceutical industries, as well as in the automotive and general engineering industries.

TERMS OF USE

- they are used for welding in all spatial positions, except vertical down one;
- welding is recommended to be performed at the highest possible speed without transverse oscillations of the electrode.

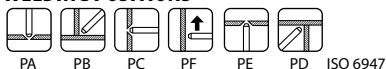
SPECIAL PROPERTIES

- they are characterized by high welding and technological properties, low spatter, stable arc burning, easy slag removal and excellent seam quality;
- excellent corrosion resistance in oxidizing environments and high resistance to intercrystalline corrosion;
- deposition rate factor: 0,16 – 0,18 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,4 – 1,6 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,2 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 400±10 °C.

WELDING POSITIONS



CERTIFICATION



TYPE OF COATING

rutile

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,02	1,02	0,77
Ni		Cr
9,96		19,3

FERRITE NUMBER IN THE DEPOSITED METAL

3-10 FN

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %
≥510	≥320	≥30

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm			
2,5	3,0	3,2	4,0
50 – 80	70 – 100	80 – 110	90 – 130

Welding should be carried out with direct current of the reverse polarity, "+" on the electrode with an arc voltage of 23 – 27 V or with alternating current from a transformer with an idle voltage of 50 V.

PACKAGING DATA

Monolith M-308L Ø 2,5; Ø 3,0; Ø 3,2; Ø 4,0 mm are packed in mini-tube of 3 pcs.

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	350	43 – 46	1,0
3,0	350	30 – 32	1,0
3,2	350	28 – 31	1,0
4,0	350	18 – 19	1,0



Monolith M-309L

TM MONOLITH

EN ISO 3581-A- E 23 12 L R 1 2

AWS A5.4: E309L-16

PURPOSE AND SCOPE OF APPLICATION

Monolith M-309L electrodes are designed for dissimilar welding of austenitic and carbon steels, austenitic stainless steels of such grades as AISI 304, AISI 304L, etc., in the operating temperature range not exceeding 300°C, as well as for welding of heat-resistant stainless steels such as AISI 309, AISI 309S, etc. They are used for depositing intermediate layers on heat-resistant CrMo pearlitic steels and for cladding of ferritic-pearlitic, low and medium alloyed substrates as well as for applying buffer layers prior to overlaying. These electrodes are suitable for welding of tanks, containers used for storing a wide variety of liquids and dry substances, industrial equipment in the mining, chemical, cryogenic, food, dairy and pharmaceutical industries.

TERMS OF USE

- they are used for welding in all spatial positions, except vertical down one;
- welding is recommended to be performed at the highest possible speed without transverse oscillations of the electrode.

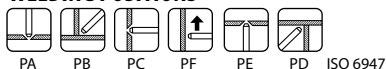
SPECIAL PROPERTIES

- they are characterized by good welding and technological properties, low spatter, easy slag removal, stable arc burning and excellent seam quality;
- when welding dissimilar steels, high crack resistance is provided and high resistance to intergranular corrosion is noted when working at temperatures of up to 300 °C. As well as when welding heat-resistant stainless steels, high resistance to scale formation is provided in the operating range of up to 900 °C;
- deposition rate factor: 0,17 – 0,19 g/A-min;
- consumption of electrodes per 1 kg of deposited metal: 1,5 – 1,7 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,2 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 400±10 °C.

WELDING POSITIONS



CERTIFICATION



TYPE OF COATING

rutile

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,01	1,32	0,80
Ni		Cr
12,60		22,50

FERRITE NUMBER IN THE DEPOSITED METAL

5 – 15 FN

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %
≥510	≥320	≥25

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm			
2,5	3,0	3,2	4,0
50 – 80	70 – 100	80 – 110	90 – 130

Welding should be carried out with direct current of the reverse polarity, "+" on the electrode with an arc voltage of 23 – 27 V or with alternating current from a transformer with an idle voltage of 50 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	350	44 – 46	1,0
3,0	350	30 – 32	1,0
3,2	350	28 – 29	1,0
4,0	350	18 – 19	1,0



Monolith M-310

TM MONOLITH

EN ISO 3581-A- E 25 20 B 2 2

AWS A5.4: E310-15

PURPOSE AND SCOPE OF APPLICATION

Basic coated electrode with alloyed core rod, designed for welding of highly loaded products made of heat resistant rolled, forged and cast steels like 25 % Cr - 20 Ni %, such as 20X23H18, AISI 310S, W.Nr 1.4841 and their analogues, which operate in oxidized and stainless environment. They are used for installations for annealing and reinforcement, in manufacturing of steam generators, unrefined oil treatment equipment and chemical industry. Scaling resistance is kept at temperature up to +1200°C. Ferrite content in deposited metal of initial state after welding is 0 % (0 FN).

TERMS OF USE

- are used in all spatial positions except for vertical down one, with direct current of reversed polarity ("+" on the electrode).

SPECIAL PROPERTIES

- high heat resistance characteristics at temperatures up to +1200°C;
- deposition rate factor: 13,0 – 13,5 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,3 – 1,5kg.

RE-DRYING BEFORE WELDING

- permissible moisture content in the coating before use is not more than 0,3%;
- of the electrode coating is moistened above normal, redry for 60 minutes at 300-350°C.

TYPE OF COATING

basic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,15	2,30	0,47
Ni		Cr
20,37		25,26

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %
≥550	≥350	≥20

WELDING PARAMETERS

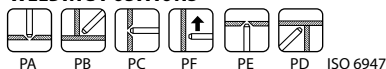
Welding current strength, A for electrodes with a diameter of, mm			
2,5	3,0	3,2	4,0
50 – 70	70 – 100	80 – 110	110 – 140

Welding should be carried out with a direct current of reversed polarity, ("+" on the electrode), with an arc voltage of 23 – 27 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	350	40 – 41	1,0
3,0	350	28 – 29	1,0
3,2	350	24 – 25	1,0
4,0	350	19 – 20	1,0

WELDING POSITIONS



CERTIFICATION





Monolith M-312

TM MONOLITH

EN ISO 3581-A- E 299 R 3 2

AWS A5.4: E312-16

PURPOSE AND SCOPE OF APPLICATION

Electrodes are designed for manual arc welding of austenitic-ferritic steels as well as for dissimilar welding, welding of difficult-to-weld and chemically unknown steels, e.g. tempered, high-carbon, tool, matrix and spring steels – shafts, as well as tools operating at high temperatures, furnace parts. These electrodes are also used for depositions of rails, dies, and tools for steam treatment, butter layers application prior to deposition, cutting tools repair welding. Electrodes are recommended to be used for both hard facing deposit or dissimilar welding of stainless, non-alloy and low-alloy steels of AISI 308, 316, 347, 318, 309, 310 grades.

TERMS OF USE

- are used in all spatial positions except for vertical down one, with direct current of reversed polarity ("+" on the electrode) or with alternating current from a transformer with an idle voltage of 50±10 V.

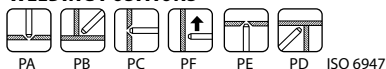
SPECIAL PROPERTIES

- can be used as an intermediate level for alloy application, which prevents from abrasion, in deposition repair welding. Repair of gear teeth, conveyors, fans, pumps, valve seats, springs, tools, such as hot treatment chucks, stamps and rollers;
- carbon and stainless steels joining;
- due to good corrosion and abrasion resistance, as well as high tensile strength, these electrodes are used in repair and maintenance of cars and driving gears, such as clutches, countershafts etc;
- high temperature of scaling formation of deposited metal allows to use these electrodes for welding and deposition of products, operating at high temperatures. Electrodes could be hardened mechanically (by hammering).

RE-DRYING BEFORE WELDING

- permissible moisture content in the coating before use is not more than 0,1%;
- of the electrode coating is moistened above normal, redry for 60 minutes at 250±10°C.

WELDING POSITIONS



CERTIFICATION



TYPE OF COATING

rutile

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,12	1,10	0,70
Ni		Cr
9,00		28,00

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %
≥650	≥450	≥15

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm	
3,0	4,0
75 – 115	100 – 145

Welding should be carried out with a direct current of any polarity, (reverse one with "+" on the electrode is recommended), or with alternating current from transformer with an idle voltage of 50±10 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
3,0	350	31 – 33	1,0
4,0	350	18 – 20	1,0



Monolith M-316L

TM MONOLITH

EN ISO 3581-A-E 19 12 3 LR 1 2

AWS A5.4: E316L-16

PURPOSE AND SCOPE OF APPLICATION

Monolith M-316L electrodes are designed for welding corrosion-resistant austenitic Cr-Ni-Mo steels, such as AISI 316, AISI 318, AISI 316L, 1,4435, X2CrNiMo17-12-3, X2CrNiMo18-14-3, 00Cr17Ni14Mo3, S31600, etc., as well as for parts working at operating temperatures of up to 400 °C. The electrodes are suitable for welding of boiler housings, tanks and equipment for waste oils, for coking plants, equipment operating in contact with seawater, equipment parts in the chemical, textile and pulp and paper industries, as well as equipment for the production of wool and artificial silk

TERMS OF USE

- they are used for welding in all spatial positions, except vertical down one;
- welding is recommended to be performed at the highest possible speed without transverse oscillations of the electrode.

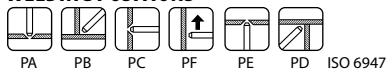
SPECIAL PROPERTIES

- high resistance to acids, as well as to general and intergranular corrosion at temperatures of up to 400 °C;
- characterized by high welding and technological properties, stable arc burning, easy slag removal, as well as good seam formation with a smooth transition to the base metal;
- deposition rate factor: 0,17 – 0,20 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,5 – 1,6 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,2 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 400±10 °C.

WELDING POSITIONS



CERTIFICATION



TYPE OF COATING

rutile

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,01	1,01	0,70
Cr	Ni	Mo
18,70	11,68	2,76

FERRITE NUMBER IN THE DEPOSITED METAL

5-15 FN

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %
≥510	≥320	≥25

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm			
2,5	3,0	3,2	4,0
50 – 80	70 – 100	80 – 110	90 – 130

Welding should be carried out with direct current of the reverse polarity, "+" on the electrode with an arc voltage of 23 – 27 V or with alternating current from a transformer with an idle voltage of 70 V.

PACKAGING DATA

Monolith M-316L Ø 3,0; Ø 3,2 mm are packed into a mini-tube of 3 pcs.

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	350	43 – 46	1,0
3,0	350	30 – 32	1,0
3,2	350	28 – 31	1,0
4,0	350	18 – 19	1,0



Monolith M-318

TM MONOLITH

EN ISO 3581-A-E 19 12 3 Nb R 1 2

AWS A5.4: E318-16

PURPOSE AND SCOPE OF APPLICATION

Monolith M-318 electrodes are designed for welding corrosion-resistant austenitic Cr-Ni-Mo niobium stabilized steels, such as AISI 316Nb, AISI 316, AISI 318, etc., for parts operating at temperatures of up to 400°C. The electrodes are used for welding tanks, pipes and equipment for the chemical, textile, and paper industries in environments where acid, alkali, and salt solutions are found, as well as for constructions operating in seawater.

TERMS OF USE

- electrodes are used for welding in all spatial positions, except vertical down one;
- welding is recommended to be carried out at the highest possible speed without transverse oscillations of the electrode.

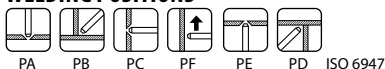
SPECIAL PROPERTIES

- provide a seam metal that is resistant to intergranular corrosion;
- characterized by high welding and technological properties: stable arc burning, easy slag removal, as well as good seam formation with a smooth transition to the base metal.
- deposition rate factor: 0,15 – 0,20 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,3 – 1,6 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,2 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 400±10 °C.

WELDING POSITIONS



CERTIFICATION



TYPE OF COATING

rutile

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si	Mo	Ni	Cr	Nb+Ta
0,04	1,00	0,80	2,80	12,00	18,00	8xC to 1,1

FERRITE NUMBER IN THE DEPOSITED METAL

5 – 15 FN

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %
≥550	≥350	≥25

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm			
2,5	3,0	3,2	4,0
50 – 80	70 – 100	80 – 110	90 – 130

Welding should be carried out with direct current of the reverse polarity «+» on the electrode with an arc voltage of 23 – 27 V or alternating current from a transformer with an idle voltage of 70 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs.	Pack weight, kg
2,5	350	43 – 46	1,0
3,0	350	30 – 32	1,0
3,2	350	28 – 31	1,0
4,0	350	18 – 19	1,0



Monolith M-347

TM MONOLITH

EN ISO 3581-A-E 19 9 Nb R 1 2
AWS A5.4: E347-16

PURPOSE AND SCOPE OF APPLICATION

Monolith M-347 electrodes are designed for welding of austenitic corrosion-resistant steels AISI304, AISI347, etc., operating in aggressive environments at temperatures of up to 450 °C. They are used for welding of pressure vessels, pipelines, and equipment parts of the food and petrochemical industries, power engineering and energy industries.

TERMS OF USE

- welding is carried out in all spatial positions with direct current of reverse polarity or alternating current from a transformer with an idle voltage of 70V;
- welding should be performed in a short arc without transverse oscillations.

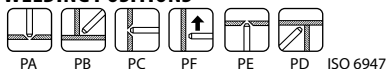
SPECIAL PROPERTIES

- excellent mechanical properties of the deposited metal and increased corrosion resistance in aggressive environments at temperatures of up to 450 °C;
- high welding and technological properties, low spatter, easy slag removal and seam formation with a smooth transition to the base metal were noted;
- deposition rate factor: 0,15 – 0,19 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,3 – 1,6 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,2 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 400±10 °C.

WELDING POSITIONS



CERTIFICATION



TYPE OF COATING

rutile

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,03	0,92	0,76
Cr	Ni	Nb+Ta
18,70	9,38	0,24

FERRITE NUMBER IN THE DEPOSITED METAL

4-14 FN

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %
≥ 550	≥ 350	≥ 25

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm						
2,0	2,5	3,0	3,2	4,0	5,0	
40 – 60	50 – 80	70 – 100	80 – 110	90 – 130	130 – 170	

Welding should be carried out with direct current of the reverse polarity «+» on the electrode with an arc voltage of 23 – 27 V or alternating current from a transformer with an idle voltage of 70V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs.	Pack weight, kg
2,0	350	85 – 86	1,0
2,5	350	43 – 46	1,0
3,0	350	30 – 32	1,0
3,2	350	28 – 31	1,0
4,0	350	18 – 19	1,0
5,0	350	13	1,0



Monolith M-20/25 TM MONOLITH

EN ISO 3581-A-E Z 20 25 5 Cu N L B 2 2

PURPOSE AND SCOPE OF APPLICATION

Monolith M-20/25 electrodes are designed for welding of critical structures made of high-strength alloy steels, heat-resistant and low-magnetic steels, as well as for dissimilar-metal welding.

TERMS OF USE

- they are used for welding in all spatial positions except vertical down one, on direct current of reverse polarity;
- short-arc welding without transverse oscillations and with prior cleaning of bevels is recommended.

SPECIAL PROPERTIES

- very high austenitic margin (EA-3);
- excellent mechanical properties of the deposited metal;
- high welding and technological properties, easy slag separation and seam formation with a smooth transition to the base metal were noted;
- deposition rate factor: 0,19 – 0,20 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,4 – 1,5 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,3 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 250±10 °C.

TYPE OF COATING

basic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si	
0,08	1,57	0,29	
Mo	Ni	Cr	N
5,99	24,78	15,60	0,10

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %
≥510	≥320	≥25

WELDING PARAMETERS

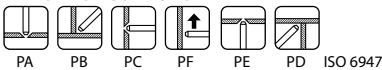
Welding current strength, A for electrodes with a diameter of, mm	
3,0	4,0
80 – 110	120 – 150

Welding should be carried out with direct current of reverse polarity ("+" on the electrode) with an arc voltage of 20 – 25 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
3,0	350	39 – 40	1,0
4,0	350	20 – 21	1,0

WELDING POSITIONS



CERTIFICATION



HS-Fe1 TM MONOLITH

PURPOSE AND SCOPE OF APPLICATION

Electrodes are designed for the deposition of strengthening layers that work in metal-to-metal abrasion environment in combination with heavy impact load conditions (wear of railway frogs, rail ends, couplings, axles, shafts, etc).

TERMS OF USE

- prior cleaning of weld zone of dirt, rust, oil before welding is required;
- to avoid staining, application of more than 2 layers on steel parts and more than 1 layer on cast iron parts is not recommended;
- in case of extreme worn-out of the part, application of buffer layers with other electrodes is recommended, the choice of which depends on the composition of the base metal
- for low-alloy carbon steels the cushion layer can be deposited with Monolith RC, ANO-36, for manganese alloyed steels - with UONI-13/55 Plasma.

SPECIAL PROPERTIES

- weld metal, obtained in a result of use of electrodes, has good wearability and satisfactory impact strength;
- stability of properties is achieved by consistent deposition conditions;
- deposition rate factor: 0,15 – 0,16 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,5 – 1,6 kg.

RE-DRYING BEFORE WELDING

- permissible moisture content in the coating before use is not more than 0,3%;
- of the electrode coating is moistened above normal, dry for 60 minutes at 300±10 °C.

WELDING POSITIONS



PA ISO 6947

CERTIFICATION



EN 14700: E Fe1

TYPE OF COATING rutile

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
0,35	1,55	0,15
Cr	Mo	
0,90	0,51	

DEPOSITED WELD METAL HARDNESS

Hardness, HRC as welded and without thermal treatment

32 – 40

WELDING PARAMETERS

Welding current strength, A
for electrodes with a diameter of, mm

3,0	4,0	5,0
90 – 120	120 – 160	160 – 220

Welding should be carried out with a direct current of reverse polarity, "+" on the electrode, with an arc voltage of 23 – 27 V. Surfacing can also be carried out with alternating current from a transformer with idle voltage of 70 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
3,0	350	30 – 32	1,0
4,0	450	14 – 15	1,0
5,0	450	6	1,0



HS-Fe2 TM MONOLITH

EN 14700: E Fe2

PURPOSE AND SCOPE OF APPLICATION

HS-Fe2 electrodes are designed for the deposition of strengthening layers that work in metal-to-metal abrasion environment in combination with medium-high impact load conditions. Electrodes are used for surfacing of automobile and railway elements and parts, as well as couplings, axles, shafts etc. Electrodes ensure highly productive welding process with improved technological properties. Moreover, they provide alloyed martensitic weld deposit with carbidic and nitrite hardening.

TERMS OF USE

- deposition is carried out with pre-heating and (or) additional heating at not less than 200 °C;
- perform surfacing with a short arc with minimum base metal engagement;
- to achieve maximum wear resistance when working with low-carbon steels, it is necessary to apply at least 2 layers.

SPECIAL PROPERTIES

- high productivity and stable spray-metal transfer;
- mechanical processing of tempered deposited metal - milling, drilling, turning;
- deposition rate factor: 0,14 – 0,16 g/A-min;
- electrodes consumption per 1 kg of deposited metal: 1,4 – 1,5 kg.

RE-DRYING BEFORE WELDING

- permissible moisture content in the coating before use is not more than 0,4%;
- if the electrode coating is moistened above normal, dry for 60 minutes at 250±20 °C.

WELDING POSITIONS



PA PB PC PE ISO 6947

CERTIFICATION



TYPE OF COATING

rutile-basic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Cr	Mn	
0,85	1,65	0,80	
Si	W	Ni	V
0,50	0,20	0,20	0,33

DEPOSITED WELD METAL HARDNESS

Hardness, HRC as welded and without thermal treatment

30 – 58

WELDING PARAMETERS

Welding current strength, A
for electrodes with a diameter of, mm

4,0	5,0
120 – 150	140 – 170

Surfacing should be carried out with a direct current of reversed polarity, «+» on the electrode, or with alternating current from a transformer with an idle voltage of 70±10 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
4,0	450	15 – 16	1,0
5,0	450	10 – 12	1,0



HS-Fe6

TM MONOLITH

EN 14700: E Z Fe6

PURPOSE AND SCOPE OF APPLICATION

HS-Fe6 electrodes are designed for the deposition of strengthening layers operating in conditions of intensive abrasive wear in combination with moderate shock loads. Electrodes are used for welding of tools operating in conditions of moderate humidity, wood processing tools, loading machines, mixers, etc.

TERMS OF USE

- it is recommended to hold the electrode vertically to the part;
- welding should be carried out with a very short arc and as little current as possible to prevent mixing with the base metal;
- to achieve maximum hardness on low-carbon steels, it is necessary to apply at least 3 layers.

SPECIAL PROPERTIES

- deposited metal can be tempered at a temperature of 840 – 860 °C, followed by quenching to a temperature of 950 – 1000 °C and cooling in oil or in air;
- only abrasive working of deposited metal is allowed;
- abrasive wear resistance is very good, resistance to shock loads and corrosion resistance is satisfactory, heat resistance is good;
- deposition rate factor: 0,13 – 0,17 g/A·min ;
- electrodes consumption per 1 kg of deposited metal: 1,4 – 1,6 kg.

RE-DRYING BEFORE WELDING

- permissible moisture content in the coating before use is not more than 0,4%;
- if the electrode coating is moistened above normal, dry for 60 minutes at 250±20 °C.

TYPE OF COATING

basic rutile

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Cr
0,90	0,85	9,00

DEPOSITED WELD METAL HARDNESS

Hardness, HRC as welded and without thermal treatment
48 – 55

WELDING PARAMETERS

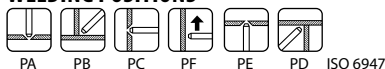
Welding current strength, A for electrodes with a diameter of, mm		
3,0	3,2	4,0
90 – 120	110 – 130	120 – 150

Surfacing should be carried out with a direct current of reversed polarity, «+» on the electrode, with an arc voltage of 20 – 25 V, or with alternating current from a transformer with an idle voltage of 70±10 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
3,0	350	30 – 32	1,0
3,2	350	23 – 25	1,0
4,0	450	14	1,0

WELDING POSITIONS



CERTIFICATION





HS-Fe7 TM MONOLITH

EN 14700: E Z Fe7

PURPOSE AND SCOPE OF APPLICATION

Electrodes are designed for manual arc surfacing of sealing surface of parts of boiler mounting, operating at temperature up to 570°C and up to 78 MPa pressure. Surfacing is recommended to be performed in flat and horizontal positions with direct current of reversed polarity.

TERMS OF USE

- electrodes are recommended to be used with a direct current of reversed polarity (+ on the electrode);
- deposition is carried out with prior pre-heating up to 300 – 400°C;
- an appropriate work angle should be kept while welding, i.e. within 70 – 80 degrees;
- the arc should be stable and not too long to avoid occurring of pores and other defects.

SPECIAL PROPERTIES

- obtaining of deposited metal resistant to corrosion and pitting in water and steam environment, as well as to scratching;
- deposition rate factor: 14 – 15 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,3 – 1,4kg;
- deposited weld metal hardness;
- hardness after thermal treatment (tempering at 725°C, for 1h, slow cooling to 200°C) HRC: 29,5 – 39,0.

RE-DRYING BEFORE WELDING

- permissible moisture content in the coating before use is not more than 0,3%;
- of the electrode coating is moistened above normal, redry for 60 minutes at 120 – 150°C.

WELDING POSITIONS



PA PB ISO 6947

TYPE OF COATING

basic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Cr
0,12	1,73	17,46
Ni	Si	
8,70	4,84	

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm	
3,0	4,0
110 – 130	150 – 160

Surfacing should be carried out with a direct current of reverse polarity, "+" on the electrode, with an arc voltage of 20 – 25 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
3,0	350	36 – 38	1,0
4,0	350	21 – 23	1,0



HS-Fe8 TM MONOLITH

EN 14700: E Z Fe8

PURPOSE AND SCOPE OF APPLICATION

HS-Fe8 electrodes are designed for deposition of hard layers onto parts made of steel, cast steel and high manganese steels, operating under both severe abrasion and impact and compression loads. Common application areas of these electrodes are excavating, mining and stone processing industries, i.e. electrodes are suitable for deposition welding of teeth and cutting edges of diggers and dozers, screens, conveyors, hammers, crushing jaws of various mills as well as cutting edges of cold working tools, etc.

TERMS OF USE

- it is recommended to hold an electrode vertically to the part;
- welding should be carried out with a very short arc and minimum possible current strength to prevent mixing with the base metal;
- when welding on large surfaces with one layer, surfacing is carried out with transverse oscillations of the electrode at an amplitude of 2-3 times of the core diameter; if it is necessary to surface more than three layers, a buffer layer should be applied;
- deposited metal working should be carried out by grinding only.

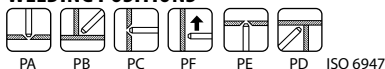
SPECIAL PROPERTIES

- ensure the production of deposited metal with high wear resistance under the conditions of abrasion with abrasive materials;
- the deposited metal has a tendency to small cracks formation, which, as a rule, does not reduce the operational stability of the deposited parts;
- Hardness of the deposited weld metal is 50 – 65 HRC.
- Full annealing - 780 – 820 °C ~ 25 HRC.
- Forging after surfacing ~ 60 – 65 HRC.
- the 1st layer on high-manganese steel ~ 30 HRC.
- the 2nd layer on high-manganese steel ~ 45 HRC.
- deposition rate factor: 0,15 – 0,19 g/A·min;
- electrodes consumption per 1 kg of deposited metal: 1,4 – 1,5 kg.

RE-DRYING BEFORE WELDING

- permissible moisture content in the coating before use is not more than 0,3 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 250±20°C.

WELDING POSITIONS



CERTIFICATION



TYPE OF COATING

rutile-basic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Cr	Si
1,23	1,25	9,55	2,50

DEPOSITED WELD METAL HARDNESS

Hardness, HRC as welded and without thermal treatment
50 – 65

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm		
3,0	4,0	5,0
100 – 140	130 – 170	150 – 190

Welding should be carried out with a direct current of reverse polarity, "+" on the electrode, with an arc voltage of 23 – 27 V, or with alternating current from a transformer with an adle voltage of 50 V in all spatial positions except vertical down one.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
3,0	350	29 – 31	1,0
4,0	450	13 – 14	1,0
5,0	450	8 – 9	1,0



HS-Fe9 TM MONOLITH

EN 14700: E Fe9

PURPOSE AND SCOPE OF APPLICATION

Electrodes are designed for welding and deposition of austenitic steels of 110G13 grades (Hadfield steel), restoring deposition of goods made of similar steel grades, which are subject to intensive shock and compressive loads, medium abrasive wear and are able to hardening in the operation process. Mainly, the electrodes are used for welding of parts of mining, processing and railway industries: grinding jaws, hammers, protectors and rolls, cones and shells of rotary and jaw crushers, excavators' teeth, chain tracks, railroad frogs, etc. The necessary hardness of deposited metal is obtained either after cold hammering (riveting) or in the process of operation, i.e. when the surface is subject to intensive shock loads.

TERMS OF USE

- it is recommended to hold the electrode vertically to the part;
- deposition should be carried out with a short arc and as little current as possible to prevent mixing with the base metal;
- to achieve maximum wear hardness on low-carbon steels, it is necessary to apply at least 3 layers;
- interpass temperature should not exceed the level of 100 – 150°C;
- deposition is performed at low environment temperature; the part is recommended to be pre-heated to 30 – 40°C;
- only abrasive working of deposited metal is allowed.

SPECIAL PROPERTIES

- deposited metal has increased resistance to hot cracks formation due to ferritic stabilization of austenite as well as high homogeneity of deposited metal;
- deposition rate factor: 0,15 – 0,16 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,6 – 1,7 kg.

RE-DRYING BEFORE WELDING

- permissible moisture content in the coating before use is not more than 0,3%;
- of the electrode coating is moistened above normal, redry for 60 minutes at 250±10°C.

WELDING POSITIONS



PA PB ISO 6947

CERTIFICATION



TYPE OF COATING

basic

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Cr
0,06	13,50	4,00
Ni	Si	
2,50	1,00	

DEPOSITED WELD METAL HARDNESS

Hardness, as welded and without thermal treatment

40 – 50 HRC
200 – 250 HB

WELDING PARAMETERS

Welding current strength, A
for electrodes with a diameter of, mm

4,0 5,0
130 – 170 150 – 190

Deposition should be carried out with direct current of reversed polarity, + on the electrode, with an arc voltage of 24-27 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
4,0	450	13 – 15	1,0
5,0	450	8 – 10	1,0

HS-Fe15

TM MONOLITH

PURPOSE AND SCOPE OF APPLICATION

HS-Fe15 electrodes are designed for welding of machinery parts operating under conditions of mainly abrasive wear with moderate impact loads. They are used for welding of the crushing jaws, bandages of roller crushers, beaters of hammer crushers and mills for grinding coal, bucket teeth of a rotary excavator, cutting teeth, working parts of briquette presses, trailing leaves, smoke pump blades. These parts are surfaced with this type of electrode and have excellent wear-resistant performance and strength characteristics.

TERMS OF USE

- prior cleaning of weld zone of dirt, rust, oil before welding is required;
- to avoid staining, application of more than 2 layers on steel parts and more than 1 layer on cast iron parts is not recommended;
- in case of extreme worn-out of the part, application of buffer layers with other electrodes is recommended, the choice of which depends on the composition of the base metal,
- for carbon low-alloy steels the cushion layer can be deposited with Monolith RC, Standard RC, for manganese alloyed steels - with UONI-13/55 Plasma;
- transverse microcracks should not be considered as defect, but an indicator of high deposited metal hardness;
- to ensure better crack resistance of the deposited metal, preheating of the base metal is recommended.

SPECIAL PROPERTIES

- provide a stable deposited layer, which is highly resistant to abrasion by various solid particles;
- allow welding of cast iron products and overlaying of defects in casting steel 110G13;
- deposited metal with special metallurgical purity and low hydrogen content is obtained;
- deposition rate factor: 0,20 – 0,22 g/A·min;
- consumption of electrodes per 1 kg of deposited metal: 1,4 – 1,8 kg.

RE-DRYING BEFORE WELDING

- the permissible moisture content in the coating before use is not more than 0,4 %;
- if the electrode coating is moistened above normal, dry for 60 minutes at 250±20 °C.

WELDING POSITIONS



PA ISO 6947

CERTIFICATION



EN 14700: E Fe15

TYPE OF COATING

special

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

C	Mn	Si
3,50	1,30	2,30
Cr	Ni	B
22,50	0,40	0,80

DEPOSITED WELD METAL HARDNESS

Hardness, HRC as welded and without thermal treatment

55 – 65

WELDING PARAMETERS

Welding current strength, A
for electrodes with a diameter of, mm

3,0	4,0	5,0
100 – 140	130 – 180	170 – 220

Welding should be carried out in flat and bevel positions with a direct current of reverse polarity, "+" on the electrode, with an arc voltage of 23 – 27 V with string bead or weaving bead method. Surfacing can also be carried out with alternating current from a transformer with idle voltage of 70 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
3,0	350	24 – 24	1,0
4,0	450	10 – 11	1,0
5,0	450	6	0,9



CI-NiFe TM MONOLITH

EN ISO 1071: E C NiFe – CI 3

AWS A5.15: E NiFe – CI

PURPOSE AND SCOPE OF APPLICATION

Electrode with a nickel-iron core wire, designed for cold welding and surfacing of parts made of grey, wrought and high-strength cast iron, and dissimilar welding of cast iron to steels.

TERMS OF USE

- welding area must be cleaned;
- perform welding on cold or slightly preheated material;
- run beads only in the longitudinal direction without transverse oscillations of the electrode, in sections of not more than 50 mm;
- in case of multi-layer surfacing, cool in air layer by layer to a temperature of 60 °C;
- to improve mechanical properties, weld bead is recommended to be forged immediately after being deposited.

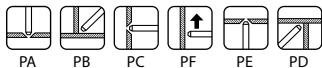
SPECIAL PROPERTIES

- the electrode provides a stable arc and low spatter;
- deposited metal has high strength, resistance to hot cracks, therefore this electrode is suitable for repair welding of parts made of grey, forged and high-strength cast iron, as well as products working under high loads;
- deposition rate factor: 0,13 – 0,18 g/A·min ;
- electrodes consumption per 1 kg of deposited metal: 1,3 – 1,6 kg.

RE-DRYING BEFORE WELDING

- permissible moisture content in the coating before use is not more than 0,5%;
- if the electrode coating is moistened above normal, dry at 250±10 °C for 60 minutes.

WELDING POSITIONS



ISO 6947

CERTIFICATION



TYPE OF COATING

graphite-basic

WELD METAL CHEMICAL

COMPOSITION, % (TYPICAL DATA)

Ni	Fe
54,46	43,44

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %
≥350	≥250	≥6

DEPOSITED WELD METAL HARDNESS

Hardness, HB
165 – 218

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm			
2,5	3,0	3,2	4,0
50 – 80	70 – 100	80 – 110	120 – 150

Welding should be carried out with a direct current of reverse polarity, "+" on the electrode, or alternating current from a transformer with idle voltage of 50 V.

PACKAGING DATA

CI-NiFe Ø 2,5; Ø 3,0; Ø 3,2 mm are packed in a mini tube of 3 pcs ; Ø 4,0 mm are packed in a mini tube of 2 pcs.

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
2,5	300	58 – 59	1,0
3,0	350	35 – 36	1,0
3,2	350	31 – 32	1,0
4,0	350	20 – 21	1,0



CI-NiCu TM MONOLITH

EN ISO 1071: E C NiCu-B 1
AWS A5.15: E NiCu-B

PURPOSE AND SCOPE OF APPLICATION

CI-NiCu electrodes are used for welding without heating or with slight heating with short joints of 20...30 mm long, welding of casting defects and surfacing of parts made of gray, high-strength and malleable cast iron. Most suitable for welding of the first layer in joints requiring high density, as well as for welding of joints requiring increased surface cleanliness after mechanical processing. After applying each seam, the welded area is hammered with light blows of a hammer.

TERMS OF USE

- welding is continued after cooling the welding place in air to a temperature not higher than 60°C.
- use for repair welding only.

SPECIAL PROPERTIES

- obtaining of deposited metal with high processability, as well as corrosion-resistant features in aggressive liquids and hot gases;
- metal deposited with the help of these electrodes, due to the low hardness of the last layers, is easily cut or abrasively processed;
- melting temperature of this alloy is similar to the melting temperature of cast iron, therefore, during the welding process, the alloy is well mixed with cast iron;
- nickel and copper in the alloy contribute to the graphitization of cast iron in the alloy zone, i.e. reduce the risk of a significant bleaching zone formation;
- since the alloy has good plastic properties, the weld metal is resistant to cracking;
- deposition rate factor: 0,13 – 0,18 g/A·min ;
- electrodes consumption per 1 kg of deposited metal: 1,3 – 1,6 kg.

RE-DRYING BEFORE WELDING

- permissible moisture content in the coating before use is not more than 0,5%;
- if the electrode coating is moistened above normal, redry at 250±10 °C for 60 minutes.

TYPE OF COATING special

WELD METAL CHEMICAL COMPOSITION, % (TYPICAL DATA)

Ni	Cu
68,00	30,00

WELD METAL MECHANICAL PROPERTIES

Temporary resistance, N / mm ²	Yield strength, MPa	Elongation, %
≥190	≥300	≥15

DEPOSITED WELD METAL HARDNESS

Hardness, HB
165 – 218

WELDING PARAMETERS

Welding current strength, A for electrodes with a diameter of, mm	
3,0	4,0
80 – 110	110 – 140

Welding should be carried out with a direct current of reverse polarity, "+" on the electrode with an arc voltage of 23 – 27 V or alternating current from the transformer with an idle voltage of 50 V.

PACKAGING DATA

Diameter, mm	Length, mm	Number of electrodes in a pack, pcs	Pack weight, kg
3,0	350	33 – 36	1,0
4,0	350	20 – 21	1,0

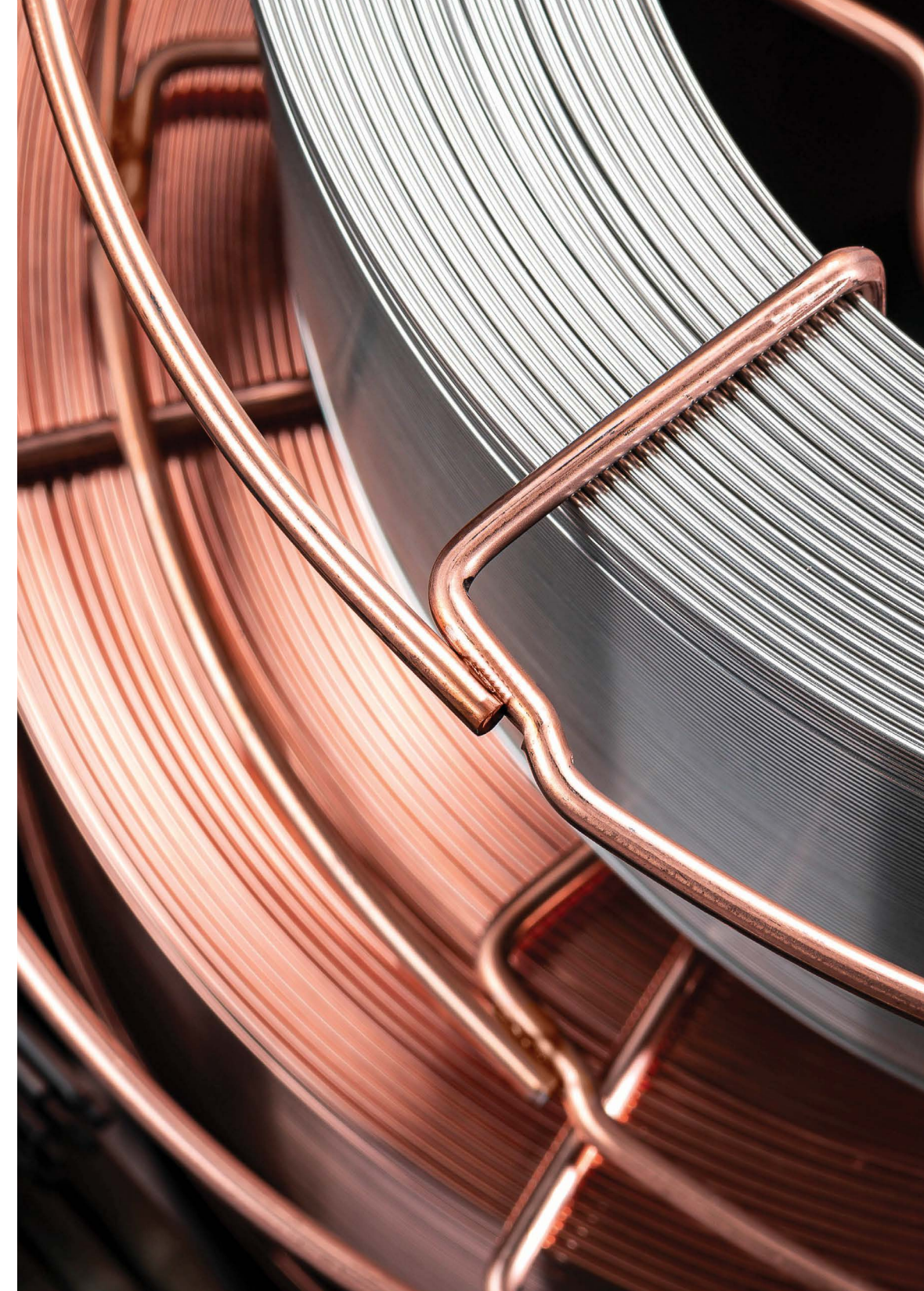
WELDING POSITIONS



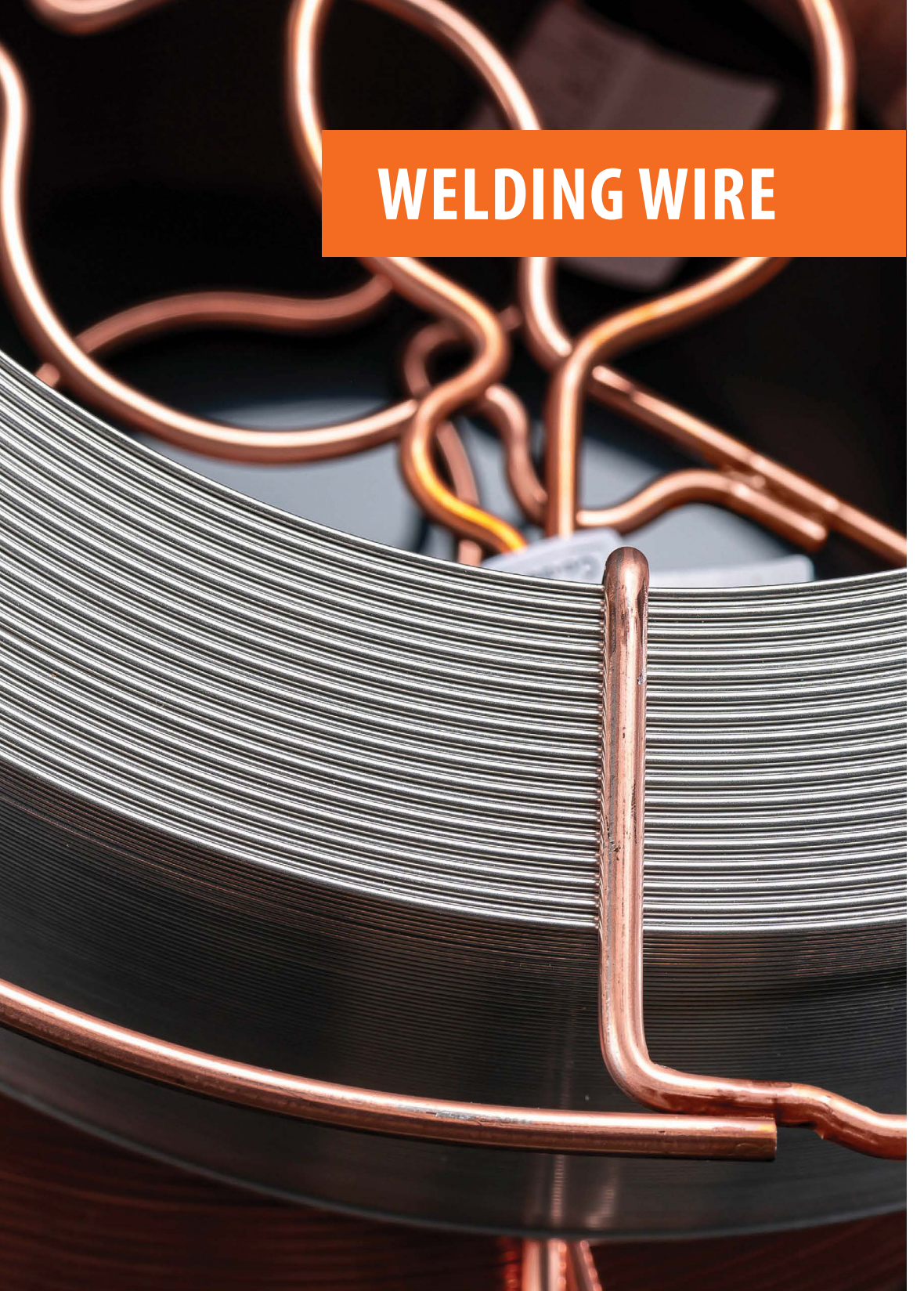
PA PF ISO 6947

CERTIFICATION





WELDING WIRE





WELDING WIRE G3Si1 TM MONOLITH

EN ISO 14341-A - G 42 4 M21 3Si1

AWS A5.18: ER70S-6

PURPOSE AND SCOPE OF APPLICATION

Copper-coated welding wire of G3Si1 grade is designed for automatic and semi-automatic welding of carbon and low-alloy steels with a yield strength of 420 N/mm². Welding wire is widely used for pipeline welding, in the shipbuilding industry, automotive and mechanical engineering, as well as in construction. The wire is used for working with both thin sheet metal and multi-pass welding.

TERMS OF USE

- the welding wire is used for welding (surfacing) of products, parts and structures made of carbon and low-alloy steels in a flat, vertical and overhead positions;
- welding can be carried out both in gas mixtures and in pure CO₂;
- to obtain a high-quality joint scale, rust and various oxide coatings must be removed;
- for multi-pass welding, the surface of the previous bead must be cleaned of slag.

SPECIAL PROPERTIES

- the wire undergoes plasma vacuum-arc treatment while being manufactured which ensures the cleanliness of the surface from non-metallic inclusions and the application of a high-quality copper coating, which improves the welding and technological properties of the wire;
- the use of G3Si1 welding wire allows you to improve the quality of finished parts and products by forming a clean and reliable welded joint.

TYPE OF COATING copper-coated

WIRE CHEMICAL COMPOSITION, %

C	Mn	Cu	Ni	S	Cr
0,06 – 0,14	1,3 – 1,6	≤ 0,35	≤ 0,15	≤ 0,025	≤ 0,15
Si	P	Al	V	Ti+Zr	Mo
0,7 – 1,0	≤ 0,025	≤ 0,02	≤ 0,03	≤ 0,15	≤ 0,15

Total content of copper does not exceed 0,35%.

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy KV -40° C, J
500 – 640	≥ 420	≥ 20	≥ 47

WELDING PARAMETERS

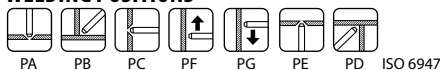
Nominal wire diameter, mm	Current strength, A	Voltage, V	Wire feed speed, m/h	Shielded gas consumption, l / min
0,6	45 – 150	13 – 23	260 – 400	6 – 8
0,8	60 – 200	16 – 22	260 – 400	6 – 8
1,0	80 – 290	16 – 30	160 – 400	8 – 10
1,2	120 – 380	16 – 32	150 – 400	8 – 12
1,6	220 – 550	26 – 36	100 – 350	12 – 16

Welding should be carried out with direct current of reverse polarity.

PACKAGING DATA

BS/KS 300 metal spool	D 270 plastic spool
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 / 18 kg
D 200 plastic spool	
Ø 0,6 mm; 0,8 mm; Ø 1,0 mm; Ø 1,2 mm	
Weight – 5 kg	
D 170 plastic spool	
Ø 0,6 mm; 0,8 mm; Ø 1,0 mm	
Weight – 1 kg / 2,5 kg	
K100 plastic spool	
Ø 0,6 mm; 0,8 mm	
Weight – 1 kg	

WELDING POSITIONS



CERTIFICATION



DB approval
no.: 42.288.02



(19436.01)



WELDING WIRE G4Si1 TM MONOLITH

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

PURPOSE AND SCOPE OF APPLICATION

Copper-coated welding wire of G4Si1 grade is designed for automatic and semi-automatic mechanized welding of carbon and low-alloy steels to obtain increased strength against G3Si1 grade. Welding wire is widely used for pipeline welding, in the shipbuilding industry, in automotive and mechanical engineering, as well as in construction. The wire is used when working with thin sheet metal, the seam is formed in one pass (several passes).

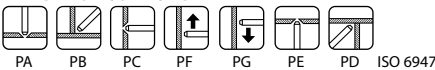
TERMS OF USE

- welding wire is used for welding (surfacing) of products, parts and structures made of carbon and low-alloy steels in the flat, vertical and overhead positions;
- welding can be carried out both in gas mixtures and in pure CO₂;
- to obtain a high-quality joint scale, rust and various oxide coatings must be removed
- for multi pass welding, the surface of the previous bead must be cleaned of slag if necessary.

SPECIAL PROPERTIES

- during the wire production process, plasma vacuum-arc treatment ensures effective surface cleaning, as a result of which the surface of the treated wire obtains specific silver color and high adhesive ability, which provides a solid and durable coating after further copper coating process;
- due to the high-quality coating and stable wire diameter along the entire length, constant wire feeding and economical consumption of copper conductive tips is ensured. Precision winding significantly increases the service life of expensive semi-automatic welding machines. It is possible to work with various types of welding equipment.
- Stable arc burning, which is observed in wide ranges of welding modes, minimal spatter loss, and the absence of overlaps and porosity in the welding seam are further features for the user.

WELDING POSITIONS



CERTIFICATION



DB approval
no.: 42.288.02



(19436.01)



Shipping Register
of Ukraine

TYPE OF COATING

copper-coated

WIRE CHEMICAL COMPOSITION, %

C	Mn	Cu	Ni	S	Cr
0,06 – 0,14	1,6 – 1,9	≤0,35	≤0,15	≤0,025	≤0,15
Si	P	Al	V	Ti+Zr	Mo
0,80 – 1,20	≤0,025	≤0,02	≤0,03	≤0,15	≤0,15

Total content of copper does not exceed 0,35%.

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Yield strength, MPa	Elongation, %	Impact energy KV-40° C, J
530 – 680	≥460	≥20	≥47

WELDING PARAMETERS

Nominal wire diameter, mm	Current strength, A	Voltage, V	Wire feed speed, m/h	Shielded gas consumption, l/min
0,6	45 – 150	13 – 23	260 – 400	6 – 8
0,8	60 – 200	16 – 22	260 – 400	6 – 8
1,0	80 – 300	16 – 30	160 – 400	8 – 10
1,2	120 – 380	19 – 32	150 – 400	8 – 12
1,6	220 – 550	26 – 36	100 – 350	12 – 16

Welding should be carried out with direct current of reverse polarity.

PACKAGING DATA

B5/K5 300 metal spool	D 270 plastic spool
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 / 18 kg
D 200 plastic spool	
Ø 0,6 mm; 0,8 mm; Ø 1,0 mm; Ø 1,2 mm	
Weight – 5 kg	
D 170 plastic spool	
Ø 0,6 mm; 0,8 mm; Ø 1,0 mm	
Weight – 1 kg / 2,5 kg	
K100 plastic spool	
Ø 0,6 mm; 0,8 mm	
Weight – 1 kg	



CORROSION-RESISTANT CHROMIUM-NICKEL WELDING WIRE ER308LSi TM MONOLITH

EN ISO 14343-A-G 19 9 LSi

AWS A5.9: ER308LSi

PURPOSE AND SCOPE OF APPLICATION

ER308LSi corrosion-resistant chromium-nickel welding wire is designed for semi-automatic welding of stainless steels of the following grades 03H17N14M2, 03H18N11, 06H18N11, 03H18N10, AISI 304L, AISI 304, AISI 321, AISI 347 and other austenitic steels of class 300. It is widely used in food, pharmaceutical, chemical, woodworking and pulp industries, mechanical engineering, reservoirs and pipelines production.

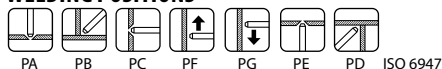
TERMS OF USE

- Welding is recommended to be carried out in gas mixtures (Ar+CO₂) with direct current of reverse polarity;
- precision winding ensures steady wire feeding to the welding area.
- increased wire rigidity allows the use of torch with up to 3 m line.

SPECIAL PROPERTIES

- excellent surface condition significantly reduces wire feeding ripples and improves welding stability;
- guaranteed mechanical properties of the deposited metal and increased corrosion resistance in aggressive environments at temperatures from -196 °C to 350 °C;
- high resistance to nitric and other acids was noted;
- the low carbon content reduces risks of intergranular corrosion formation without the introduction of ferritizers such as niobium and titanium, and the high content of deoxidizers ensures convenience and ease of use in the welding process.

WELDING POSITIONS



CERTIFICATION



TYPE OF COATING

chromium-nickel

WIRE CHEMICAL COMPOSITION, %

C	Mn	Si	P	S
≤0,03	1,00 – 2,50	0,65 – 1,00	≤0,030	≤0,030
Cu	Ni	Cr	Mo	
≤0,75	9,0 – 11,0	19,5 – 22,0	≤0,75	

WELD METAL MECHANICAL PROPERTIES

Tensile strength, MPa	Elongation, %
≥520	≥30

FERRITE NUMBER IN THE DEPOSITED METAL

8 FN

WELDING PARAMETERS

Nominal wire diameter, mm	Current strength, A	Voltage, V	Shielded gas consumption, l/min
0,8	55 – 160	15 – 24	11,8
0,9	65 – 220	15 – 28	
1,0	80 – 240	15 – 28	
1,2	100 – 300	15 – 29	

Welding should be carried out with direct current of the reverse polarity (DC+).

PACKAGING DATA

D 270 plastic spool
Ø 0,8 mm; Ø 0,9 mm; Ø 1,0 mm; Ø 1,2 mm
Weight – 15 kg
D 200 plastic spool
Ø 0,8 mm; Ø 0,9 mm; Ø 1,0 mm; Ø 1,2 mm
Weight – 5 kg
D 170 plastic spool
Ø 0,8 mm; Ø 0,9 mm; Ø 1,0 mm
Weight – 1 kg /2,5 kg

ANNEX | Certificates

Approval signs



Certificate of conformity of products to national standards (Ukrainian Certification)



Welding Consumables Approval Certification according to VA 918 490



Shipping Register of Ukraine welding consumables approval certificate



Certificate of compliance with technical regulations



The Canadian Welding Bureau is a certification and registration organization for companies



Toxicity is reduced

TUV approval

Certificate on the Approval of a manufacturer of Welding Consumables pursuant to VdTUV-Merkblatt Schweißtechnik 1153:2017



Quality Management System Certification according to the International Standard ISO 9001:2015



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

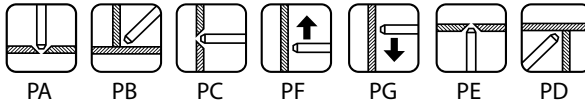
BUREAU VERITAS

Certification of Welding Consumables for the Shipbuilding Industry

RINA

Certification of Welding Consumables for the Shipbuilding Industry

WELDING POSITIONS - EN 287/EN ISO 6947



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 stored in appropriate conditions shelf-life of electrodes are unlimited.

Recommendations on storage:

- Keep in original packing.
- Protect from rain, humidity and moisture impact.
- Keep products 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 and welding wire.
- All open packages with welding materials should be sealed tightly.

Storing of electrodes in the unheated rooms doesn't exclude products 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 electrodes should be re-dried 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 are packed in safe three-layer packing (inner hermetic polyethylene film, cardboard box and outer heat-shrink wrap).



Convenient packing for comfortable and easy handling:

- **Weight of packing:** packs of 0.5 kg, 1 kg, 2.5 kg and 5 kg; folders for 3, 5, 10 electrodes.



Each electrode is marked. Each pack has manufacturing date and lot number indicated on it, that ensures maintaining of product quality control beyond the manufacturing facilities.

20 kg corrugated box

20 x 1 kg packs in a box

40 x 0.5 kg packs in a box

8 x 2.5 kg tubes in a box



ANNEX | Package

Packing for transportation:

For railway, truck and container transportation, goods are put on wooden pallets and additionally are wrapped around with stretch film.

Each pallet includes a quality certificate and a packing list.



Combined goods pallet is possible to be arranged on your request.

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, i.e. electrodes that are stored in tubes are less exposed to moisture from the environment.



Tube packing

Monolith RC welding electrodes.

- diameter 2.5 mm / 3 mm / 3.2 mm in 1 kg and 2.5 kg.

ANNEX | Package

■ MINI-PACKING

Branded packing for electrodes with indication of the main technical characteristics of electrodes on the label. Mini tubes are a convenient and efficient option for small amounts of electrodes, as well as an excellent opportunity to buy a small trial batch.

Mini-tubes

Welding electrodes: Monolith M-347, Monolith M-308L, Monolith M-309L, Monolith M-316L, Monolith M-NiFe



Blister

Blister unit pack.



Folders

A practical variant of packaging made of ordinary cardboard, which allows you to try the quality of products without buying a full pack. Is available on request for electrodes of all types and brands.



■ VACUUM PACKING (NEW PRODUCT)

Cardboard packs are covered with branded deaerated metallized bag. The main advantage of vacuum packaging is that it remains completely hermetically sealed 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 7018-1, Monolith 7018-1 H4R, Monolith M-347, Monolith M-307, Monolith M-308L, Monolith M-309L, Monolith M-316L, Monolith M-318, Monolith M-NiFe.

ANNEX | Package

■ WELDING WIRE IN DRUMS

Since 2018 PlasmaTec Company has been packing welding wire into 250 kg drums. Welding wire is wound in layer into drum. Diameters of wire: 0.8, 1.0, 1.2 and 1.6 mm.

Specification of a drum:

- inner diameter – 508 mm
- thickness of wall – 2.0 mm
- height – 810 mm

Application area – automatic welding of low carbon and low alloyed steels in gas mixture (Ar80%+CO₂-20%) or pure CO₂.

In order to be able to use this type of packing, you will need a reusable hood with a flexible tube.



Advantages of welding wire in drums.

Welding wire in 250 kg drums has the following advantages as compared to 1 kg and 18 kg spools:

- Allows to avoid regular replacement of spools with wire.
- Excludes possibility of dust particles and facing get into the feeding mechanism.
- Reduces wire loss while being re-installed into the wire feeding mechanism.
- Eliminates the risks of stealing the wire due to its weight and size
- Suitable for automatic welding.
- Production performance is significantly higher due to continuous machine work.
- Possibility to perform long seam welding.

Important! It is necessary to install the drum with wire on special designated flat place near the welding equipment. Keep the area clear from foreign materials, moisture and fire; prevent a drum from leaning, falling down and impacts.



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1 Electrodes for carbon and low alloyed steels

Monolith RC	13
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Monolith R	15
Monolith 6010	16
Monolith RB	17
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2 Electrodes for creep-resisting steels

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HR-3U	29
RS-39	30

3 Electrodes for stainless steels

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Monolith M-308L	32
Monolith M-309L	33
Monolith M-310	34
Monolith M-312	35
Monolith M-316L	36
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4 Electrodes for hard-facing

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6 MIG/MAG Welding wire

Welding wire G3Si1	52
Welding wire G4Si1	53
Corrosion-resistant chromium-nickel welding wire ER308LSi	54

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