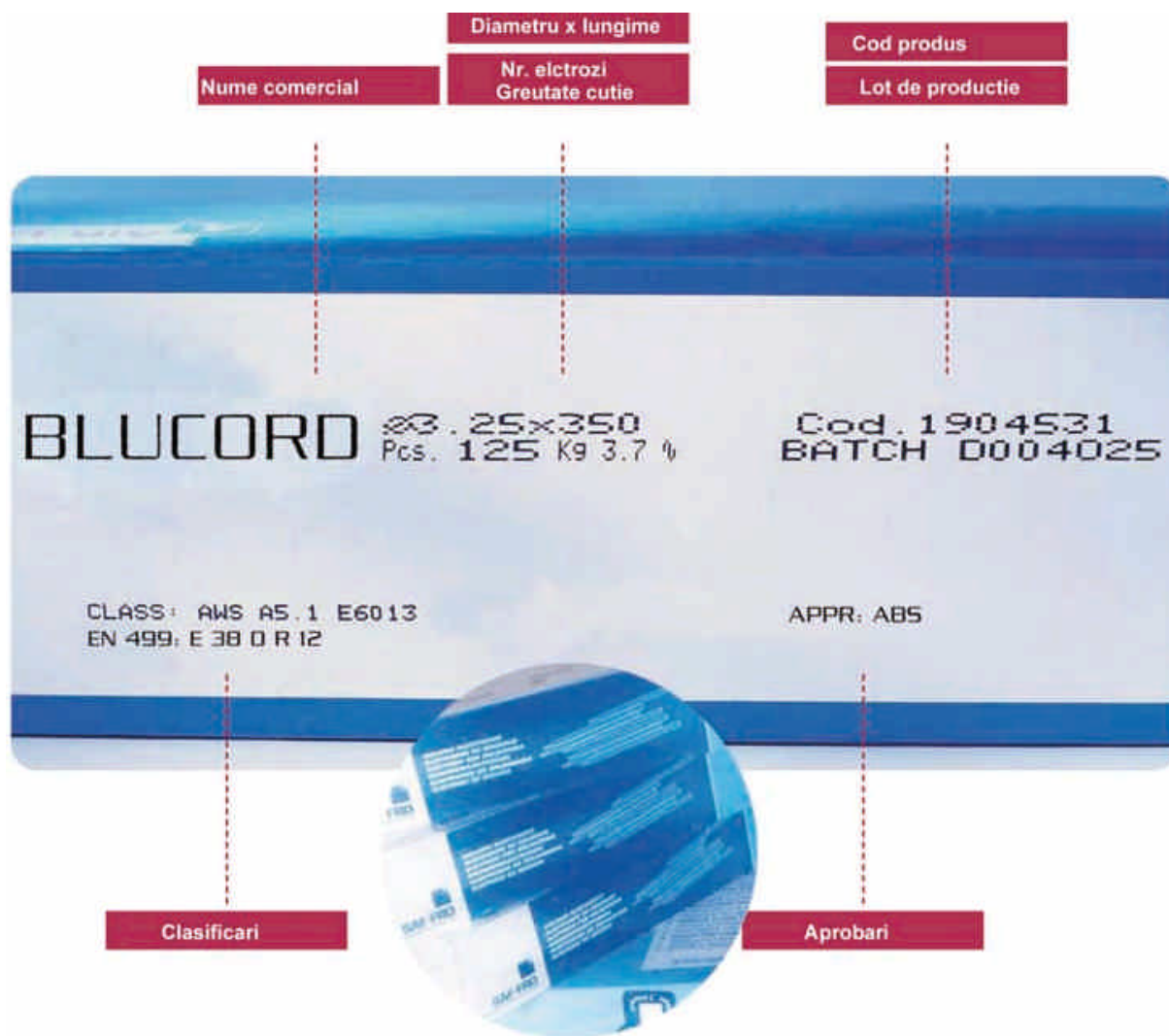


ELECTROZI WELDING ELECTRODES



GHID CITIRE ETICHETA / INSTRUCTIONS FOR LABEL READING



SUPERTIT FIN

ELECTROD RUTILIC / RUTILE ELECTRODE



CLASIFICARE / STANDARDS

AWS A5.1: E 6013	LRS: 2Y H15	BV: 2HH
EN ISO 2560-A: E 38 0 R 12	TÜV: E 42 0 R 12	GL: 2Y H15
	DB: N° 10.037.03	DNV: 2
	ANR: 2H	ABS: 2

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrozi cu invelis rutilic de grosime medie, recomandati in special pentru sudarea constructiilor metalice usoare, tablelor subtiri din otel carbon. Sunt indicati pentru sudarea otelurilor nealiate cu continut de carbon de maxim 0,25%, pentru structuri usoare, utilizate pentru temperaturi pana la 0°C, ca de exemplu:

- OL 37.3; OL 44.2; OL 44.3 - STAS 500/2
- OLT 35 - STAS 8183
- S185, S235, S275, S355 - EN 10025
- P235, P265, P295, P 335 - EN 10028-2

Amorsare si reamorsare usoara. Arcul este stabil, stropirea este foarte redusa atat in curent continuu cat si in curent alternativ. Aspect estetic al cordonului. Buna detasabilitate a zgurii.

MAIN FEATURES

Rutile medium coated electrode, especially developed for welding mild steels for light metallic constructions and thin sheets. Suitable for use in structural engineering, shipbuilding and vehicle, made of steels with max. 0.25%, for a service temperature up to 0°C, like:

- OL 37.3; OL 44.2; OL 44.3 - STAS 500/2
- OLT 35 - STAS 8183
- S185, S235, S275, S355 - EN 10025
- P235, P265, P295, P 335 - EN 10028-2

Excellent striking and restriking qualities. The electrode welds with a stable arc and very spattering loss. The slag is self-releasing.

DOMENII DE APLICATIE

Constructii metalice

MAIN APPLICATIONS

Metal working industry

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT:

DC-, AC
Tensiune de mers in gol = min. 50V /
Minimum 50V open circuit voltage

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P					
0.06 - 0.10	0.30 - 0.60	0.20 - 0.50	max. 0.03	max. 0.03					

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Limita de curgere/Yield strenght N/mm ²	Rezistenta la rupere/Tensile strenght N/mm ²	Alungirea/Elongation A 5d %	Kv J 0°C
430 - 470	490 - 600	min. 24	min. 47

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.

STORAGE - REBAKING

Keep dry and store at room temperature.

CURENTI DE SUDARE / AMPERAGE

1.60	2.00	2.50	3.20	4.0	5.0				
30 - 50	40 - 60	60 - 90	110 - 135	160 - 180	180 - 210				

AMBALARE / PACKING

Diametru	mm	1.60	2.00	2.50	2.50	3.20	3.20	4.0	4.0	5.0
Lungime / Length	mm	250	300	300	350	350	450	350	450	450
Greutate pe electrod / Weight per electrode	g	5.90	11.80	16.00	19.50	31.95	41.80	48.10	64.50	97.20
Nr de fire pe pachet / Pcs. per innerbox	n°	591	323	237	230	139	13	92	92	60
Greutate pachet / Weight per innerbox	kg	3.5	3.8	3.8	4.5	4.5	5.8	4.5	5.8	6.0
Nr de fire pe cutie / Pcs. per outerbox	n°	2364	1292	948	690	418	418	276	276	180
Greutate pe cutie / Weight per outerbox	kg	14.0	11.4	11.4	13.5	13.5	17.4	13.5	17.4	18.0
Cod / Code		W0002 88257	W0002 88258	W0002 88259	W0002 88260	W0002 88261	W0002 88262	W0002 88263	W0002 88264	W0002 88265

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

SUPERTIT

ELECTROD RUTILIC / RUTILE ELECTRODE

CLASIFICARE / STANDARDS

AWS A5.1: E 6013
EN ISO 2560-A: E38 0 RR 12

AUTORIZARI / APPROVALS

TÜV: E 42 0 RR 12	GL: 2Y H15
BV: 2 HH	DNV: 2
ABS: 2	LRS: 2m H15
ANR: 2H	

CARACTERISTICI PRINCIPALE

Electrozi rutilici cu invelis gros avand un domeniu larg de utilizare pentru constructii din oteluri carbon si slab aliate cu mangan. Se recomanda pentru sudarea constructiilor metalice, industria de vagoane si autovehicule, cazane etc. din oteluri ca:

- OL 37.3; OL 44.2; OL 44.3 - STAS 500/2
- OL 52 se va suda numai la grosimi mici, structuri nerigidizate, exploatate la temperaturi pana la 0°C.
- OLT 35; OLT 45 - STAS 8183.
- S185, S235, S275, S355 - EN 10025
- P235, P265, P295, P335 - EN 10028-2

Amorsare si reamorsare usoara. Arcul este stabil, stropirea este foarte redusa atat in curent continuu cat si alternativ. Aspect estetic al cordonului. Buna detasabilitate a zgurii.

MAIN FEATURES

It is a heavy covered rutile electrode designed for producing particularly smooth and finely rippled welds. Supertit is a general purpose electrode. Suitable for use in structural engineering, shipbuilding and vehicle, boiler and tank construction, made of steels like:

- OL 37.3; OL 44.2; OL 44.3 - STAS 500/2
- OL 52 for small thickness
- OLT 35; OLT 45 - STAS 8183.
- S185, S235, S275, S355 - EN 10025
- P235, P265, P295, P335 - EN 10028-2

Excellent striking and restriking qualities. The electrode welds with a stable arc and very low spattering loss. The slag is self-releasing.

DOMENII DE APLICATIE

Constructii metalice, cazane, santiere navale etc.
Industria de vagoane si autovehicule

MAIN APPLICATIONS

Structural engineering, boiler, shipbuilding
Metal working industry (carrioad, carriage, vehicle).

POZITII DE SUDARE / WELDING POSITIONS


1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+, AC

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P				
0.06 - 0.10	0.40 - 0.70	0.20 - 0.60	≤ 0.020	≤ 0.030				

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J 0°C
Stare sudată/As welded	490 - 600	≥ 430	≥ 22	≥ 47

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.

STORAGE - REBAKING

Keep dry and store at room temperature.

CURENTI DE SUDARE / AMPERAGE

2.50	3.20	4.00	5.00				
60 - 90	110 - 135	160 - 180	180 - 210				

AMBALARE / PACKING

Diametru	mm	2.50	3.20	3.20	4.00	5.00		
Lungime / Length	mm	350	350	450	450	450		
Greutate pe electrod / Weight per electrode	g	22.22	35.05	46.79	68.13	105.00		
Nr de fire pe pachet / Pcs. per innerbox	n°	180	114	117	80	52		
Greutate pachet / Weight per innerbox	kg	4.0	4.0	5.5	5.5	5.5		
Nr de fire pe cutie / Pcs. per outerbox	n°	540	342	351	240	156		
Greutate pe cutie / Weight per outerbox	kg	12.0	12.0	16.5	16.5	16.5		
Cod / Code		050202 250 350	050202 325 350	050202 325 450	050202 400 450	050202 500 450		

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BLUCORD

ELECTROD RUTILIC / RUTILE ELECTRODE



CLASIFICARE / STANDARDS

AWS A5.1:	E 6013
GOST:	9467 - 75; Э 50-Е51 1
EN ISO 2560 - A:	E 380 R12

AUTORIZARI / APPROVALS

ABS:	2
LRS:	2m2YmH15
DNV:	2
BV:	2HH

CARACTERISTICI PRINCIPALE

Electrod cu invelis rutilic recomandat sudarii otelurilor carbon, in constructii navale, constructii civile si lucrari de cazangerie. Recomandati la sudarea imbinarilor greu de pregatit si din table necuratate, cu o buna patrundere in sanfren. Bun aspect al sudurii si desprindere usoara a zgurii.

MAIN FEATURES

Rutile covered electrode suitable for carbon steel welding, suitable for shipbuilding, metal working industry. Suitable on bad prepared joint and dirty sheets, with good penetration in groove. Good bead appearance and slag removal.

DOMENII DE APLICATIE

Constructii metalice, navale, civile.

MAIN APPLICATIONS

Metal working industry, shipbuilding.

POZITII DE SUDARE / WELDING POSITIONS



1G	2F	2G	3G	4G	5G	AWS
PA	PB	PC	PF	PE	PF	EN

CURRENT / CURRENT: DC-, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P				
0.04 - 0.09	0.40 - 0.70	0.20 - 0.40	≤ 0.030	≤ 0.030				

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J 0°C
Stare sudată/As welded	510 - 550	≥ 430	≥ 24	≥ 47
Dupa/after 610°Cx 1h				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.

STORAGE - REBAKING

Keep dry and store at room temperature.

CURENTI DE SUDARE / AMPERAGE

1.60	2.0	2.50	3.20	4.0	5.0	6.0		
20 - 35	40 - 60	65 - 90	100 - 140	140 - 180	170 - 230	200 - 260		

AMBALARE / PACKING

Diametru	mm	1.60	2.00	2.50	3.20	4.0	5.0	6.0
Lungime / Length	mm	250	300	350	450	450	450	450
Greutate pe electrod / Weight per electrode	g	5.7	10.5	20.0	42.0	62.1	92.9	133.0
Nr de fire pe pachet / Pcs. per innerbox	n°	600	360	230	140	95	70	45
Greutate pachet / Weight per innerbox	kg	3.4	3.8	4.6	5.9	5.9	6.5	6.0
Nr de fire pe cutie / Pcs. per outerbox	n°	2400	1440	690	420	285	210	135
Greutate pe cutie / Weight per outerbox	kg	13.6	15.2	13.8	17.7	17.7	19.5	18.0
Cod / Code		W0002 88273	W0002 88274	W0002 88276	W0002 88278	W0002 88280	W0002 88281	W0002 88282

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

SAFER GF 160

ELECTROD RUTILIC / RUTILE ELECTRODE

CLASIFICARE / STANDARDS

AWS A5.1: E 7024
 GOST: 9467 - 75; Э 50-E 51 2
 EN ISO 2560 - A: E 42 0 RR 73

AUTORIZARI / APPROVALS

DNV: 2

CARACTERISTICI PRINCIPALE

Electrod rutilic cu randament mare de depunere, aproximativ 165%. Recomandat lucrurilor de sudare unde se cere inalta productivitate, iar in particular pentru tehnica multi-proces. Usor de amorsat si de reamorsat, desprindere usoara a zgurei, bun aspect al baii de metal topit. Electrocul poate fi folosit cu tehnica "touch".

MAIN FEATURES

Rutile covered electrode for high recovery aprox. 165%. Suitable for welding work when high productivity is desired, and particularly for multi-run technique. Easy striking and restriking, easy slag removal, good appearance beads. Electrode can be used with "touch" technique.

DOMENII DE APLICATIE

Constructii metalice

MAIN APPLICATIONS

Metal working industry

POZITII DE SUDARE / WELDING POSITIONS


1G 2F AWS
 PA PB EN

CURRENT / CURRENT: DC-, AC

RANDAMENT / EFFICIENCY: 165%

ANALIZA CHIMICA A METALULUI DEPUS % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P					
0.04 - 0.10	0.60 - 1.20	0.20 - 0.60	≤ 0.03	≤ 0.03					

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J 0°C
Stare sudată/As welded	510 - 570	≥ 430	≥ 24	≥ 47
Dupa/after 620°C x 1h				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.

STORAGE - REBAKING

Keep dry and store at room temperature.

CURENTI DE SUDARE / AMPERAGE

3.20	4.0	5.0							
110 - 120	190 - 200	290 - 310							

AMBALARE / PACKING

Diametru	mm	3.20	4.0	5.0					
Lungime / Length	mm	450	450	450					
Greutate pe electrod / Weight per electrode	g	71.1	107.6	148.1					
Nr de fire pe pachet / Pcs. per innerbox	n°	76	51	39					
Greutate pachet / Weight per innerbox	kg	5.4	5.5	5.8					
Nr de fire pe cutie / Pcs. per outerbox	n°	228	153	117					
Greutate pe cutie / Weight per outerbox	kg	16.2	16.5	17.3					
Cod / Code		W0002 88286	W0002 88287	W0002 88288					

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

SAFER GF 180

ELECTROD RUTILIC / RUTILE ELECTRODE



CLASIFICARE / STANDARDS

AWS A5.1:	E 7024
GOST:	9467 - 75; Э 50-E 51 2
EN ISO 2560 - A:	E 42 0 RR 74

AUTORIZARI / APPROVALS

DB:	10.116.08	GL:	2/P
ABS:	2	LRS:	2/P
BV:	2Y	RMRS:	2
DNV:	2		

CARACTERISTICI PRINCIPALE

Electrod rutilic de mare randament, destinat sudarii tablelor de grosimi mari in pozitie orizontala. Randamentul de depunere este de circa 180%. Proprietati mecanice excelente, cu un aspect al cordonului foarte regulat. Zgura se desprinde foarte usor.

MAIN FEATURES

Rutile coated electrode for high recovery. Suitable for high thickness welding in flat position. The recovery is about 180%. Good mechanical properties. Good bead appearance and easy slag removal.

DOMENII DE APLICATIE

Recipienti
Constructii metalice
Industria constructoare de masini

MAIN APPLICATIONS

Vessels
Metal working industry
Industrial machinery construction

POZITII DE SUDARE / WELDING POSITIONS



1G 2F AWS
PA PB EN

CURRENT / CURRENT: DC-, AC

RANDAMENT / EFFICIENCY: 180%

ANALIZA CHIMICA A METALULUI DEPUS % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P				
0.04 - 0.09	0.50 - 1.10	0.30 - 0.60	≤ 0.025	≤ 0.025				

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J 0°C
Stare sudată/As welded	490 - 550	≥ 430	≥ 24	≥ 47

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.

STORAGE - REBAKING

Keep dry and store at room temperature.

CURENTI DE SUDARE / AMPERAGE

3.20	4.0	5.0						
120 - 140	200 - 220	310 - 330						

AMBALARE / PACKING

Diametru	mm	3.20	4.0	5.0				
Lungime / Length	mm	450	450	450				
Greutate pe electrod / Weight per electrode	g	71.0	105.2	159.0				
Nr de fire pe pachet / Pcs. per innerbox	n°	79	51	33				
Greutate pachet / Weight per innerbox	kg	5.6	5.4	5.2				
Nr de fire pe cutie / Pcs. per outerbox	n°	237	153	99				
Greutate pe cutie / Weight per outerbox	kg	16.8	16.1	15.7				
Cod / Code		W0002 88289	W0002 88290	W0002 88291				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

FLEXAL 60

ELECTROD CELULOZIC / CELLULOSIC ELECTRODE

CLASIFICARE / STANDARDS

AWS A5.1:	E 6010	LRS:	3m
GOST:	9467-75: Э 46-E43 2	ABS:	3
EN ISO 2560 - A:	E 35 3 C 21	DNV:	3
		TÜV:	E 35 3 C 21

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod cu invelis celulozic, recomandat atat pentru sudarea stratului de radacina cat si a stratului doi si a celor de umplere la tevilor destinate constructiei de magistrale pentru transportul de gaze si de produse petroliere. Sudarea in toate pozitiile, prioritar sudarea vertical descendenta. Recomandat pentru API 5LX42, X52, X56 - cu rezistenta la rupere < 500 Mpa. Desprindere usoara a zgurei, usurinta in controlul arcului.

MAIN FEATURES

Cellulosic coated electrode for pipe welding particularly recommended for 1st run and filling run on pipe lines. Very good for all welding positions especially for vertical down method for steels with strength up to 500 Mpa. Suitable for welding steels according to API 5LX42, X52, X56. Light slag with little interference for easy arc control.

DOMENII DE APLICATIE

Tevi-conducte magistrale

MAIN APPLICATIONS

Pipeline

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF 5G PG AWS EN

CURRENT / CURRENT:

DC - strat de radacina;
DC + straturi de umplere

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUZ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P				
0.06 ÷ 0.16	0.30 ÷ 0.80	0.10 ÷ 0.40	≤ 0.015	≤ 0.025				

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -30°C
Stare sudată/As welded	440 ÷ 570	≥ 355	≥ 24	≥ 47

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Reuscare: 1h la 110°C

STORAGE - REBAKING

Keep dry and store at room temperature.
Rebaking: 1h at 110°C

CURENTI DE SUDARE / AMPERAGE

2.50	3.20	4.00	5.00					
60 ÷ 80	85 ÷ 120	120 ÷ 160	160 ÷ 190					

AMBALARE / PACKING

Diametru	mm	2.50	3.20	4.00	5.00			
Lungime / Length	mm	350	350	350	350			
Greutate pe electrod / Weight per electrode	g	16.2	26.7	40	60			
Nr de fire pe pachet / Pcs. per innerbox	n°	555	355	237	158			
Greutate pachet / Weight per innerbox	kg	9.0	9.50	9.50	9.50			
Nr de fire pe cutie / Pcs. per outerbox	n°	1146	678	454	320			
Greutate pe cutie / Weight per outerbox	kg	18.00	19.00	19.00	19.00			
Cod / Code		W0002 88292	W0002 88293	W0002 88294	W0002 88295			

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

FLEXAL 70

ELECTROD CELULOZIC / CELLULOSIC ELECTRODE



CLASIFICARE / STANDARDS

AWS A5.1:	E 7010 P1
GOST:	9467-75: Э 50–E51 3
EN ISO 2560 - A:	E 42 2 Mo C 21

AUTORIZARI / APPROVALS

LRS:	3m3Ym
ABS:	3
DNV:	3
TÜV:	E 42 2 Mo C 21

CARACTERISTICI PRINCIPALE

Electrod cu invelis celulozic, recomandat atat pentru sudarea stratului de radacina cat si a stratului doi si a celor de umplere la tevilor destinate constructiei de magistrale pentru transportul de gaze si de produse petroliere. Sudarea in toate pozitiile, prioritar sudarea verticala descendent. Recomandat pentru API 5LX56, X60, - cu rezistenta la rupere < 600 Mpa. Desprindere usoara a zgurei, usurinta in controlul arcului.

MAIN FEATURES

Cellulosic coated electrode for pipe welding particularly recommended for 1st run and filling run on pipe lines. Very good for all welding positions especially for vertical down method for steels with strength up to 600 Mpa. Suitable for welding steels according to API 5LX56, X60. Light slag with little interference for easy arc control.

DOMENII DE APLICATIE

Tevi-conducte magistrale

MAIN APPLICATIONS

Pipeline

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF 5G PG AWS EN

CURRENT / CURRENT:

DC - strat de radacina;

DC + straturi de umplere

RANDAMENT / EFFICIENCY:

100%

ANALIZA CHIMICA A METALULUI DEPUZ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Mo				
0.06 ÷ 0.12	0.30 ÷ 0.80	0.10 ÷ 0.40	≤ 0.015	≤ 0.010	0.30 ÷ 0.65				

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -20°C
Stare sudată/As welded	480 ÷ 610	≥ 415	≥ 22	≥ 47

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.

Reuscare: 1h la 110°C

STORAGE - REBAKING

Keep dry and store at room temperature.

Rebaking: 1h at 110°C

CURENTI DE SUDARE / AMPERAGE

2.50	3.20	4.00	5.00						
60 ÷ 80	85 ÷ 120	120 ÷ 160	160 ÷ 190						

AMBALARE / PACKING

	mm	2.50	3.20	4.00	5.00				
Diametru	mm	2.50	3.20	4.00	5.00				
Lungime / Length	mm	350	350	350	350				
Greutate pe electrod / Weight per electrode	g	16.2	26.7	40	60				
Nr de fire pe pachet / Pcs. per innerbox	n°	555	355	237	158				
Greutate pachet / Weight per innerbox	kg	9.0	9.50	9.50	9.50				
Nr de fire pe cutie / Pcs. per outerbox	n°	1719	716	480	302				
Greutate pe cutie / Weight per outerbox	kg	18.00	19.00	19.00	19.00				
Cod / Code		W0002 88296	W0002 88297	W0002 88298	W0002 88299				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

CLASIFICARE / STANDARDS

AWS A5.1:	E 8010 G
GOST:	9467-75: Э 55-E51 3
EN ISO 2560 - A:	E 46 3 1Ni Mo C 21

AUTORIZARI / APPROVALS

LRS:	3m3Ym
ABS:	3
DNV:	3
TÜV:	E 46 3 1Ni Mo C 25

CARACTERISTICI PRINCIPALE

Electrod cu invelis celulozic, recomandat atat pentru sudarea stratului de radacina cat si a stratului doi si a celor de umplere la tevilor destinate constructiei de magistrale pentru transportul de gaze si de produse petroliere. Sudarea in toate pozitiile, prioritar sudarea vertical descendenta. Recomandat pentru API 5LX60, X65, X70 - cu rezistenta la rupere < 650 Mpa. Desprindere usoara a zgurei, usurinta in controlul arcului.

MAIN FEATURES

Cellulosic coated electrode for pipe welding particularly recommended for 1st run and filling run on pipe lines. Very good for all welding positions especially for vertical down method for steels with strength up to 650 Mpa. Suitable for welding steels according to API 5LX60, X65, X70. Light slag with little interference for easy arc control.

DOMENII DE APLICATIE

Tevi-conducte magistrale

MAIN APPLICATIONS

Pipeline

POZITII DE SUDARE / WELDING POSITIONS


1G PA 2F PB 2G PC 3G PF 4G PE 5G PF 5G PG AWS EN

CURRENT / CURRENT: DC - strat de radacina;
DC + straturi de umplere

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Mo	Ni			
0.06 ÷ 0.17	0.70 ÷ 1.00	0.12 ÷ 0.25	≤ 0.015	≤ 0.020	0.20 ÷ 0.40	0.40 ÷ 0.80			

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -30°C
Stare sudată/As welded	550 ÷ 680	≥ 460	≥ 20	≥ 47

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Reuscare: 1h la 110°C

STORAGE - REBAKING

Keep dry and store at room temperature.
Rebaking: 1h at 110°C

CURENTI DE SUDARE / AMPERAGE

2.50	3.20	4.00	5.00						
60 ÷ 80	85 ÷ 120	120 ÷ 160	160 ÷ 190						

AMBALARE / PACKING

Diametru	mm	2.50	3.20	4.00	5.00				
Lungime / Length	mm	350	350	350	350				
Greutate pe electrod / Weight per electrode	g	15.9	26.7	39.9	60.9				
Nr de fire pe pachet / Pcs. per innerbox	n°	565	355	238	156				
Greutate pachet / Weight per innerbox	kg	9.0	9.50	9.50	9.50				
Nr de fire pe cutie / Pcs. per outerbox	n°	1152	716	492	316				
Greutate pe cutie / Weight per outerbox	kg	18.00	19.00	19.00	19.00				
Cod / Code		W0002 88300	W0002 88301	W0002 88302	W0002 88303				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

SUPERBAZ

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE



CLASIFICARE / STANDARDS

EN 499:	E 42 4 B 42 H5
AWS A5.1:	E 7018
EN ISO 2560 - A:	E 42 4 B 42 H5

AUTORIZARI / APPROVALS

LRS:	3m3Ym H5	DB:	N° 10.116.04
DNV:	3Y H10	ABS:	3Y
TÜV:	E42 4B	ANR:	3YHH
BV:	3YHH	GL:	3YH10

CARACTERISTICI PRINCIPALE

Electrozi bazici cu pulbere de fier in invelis, destinati structurilor puternic solicitate static si dinamic si sectiunilor groase din oteluri slab aliate, la temperaturi de pana la -40°C. Se recomanda pentru sudarea otelurilor urmatoare:

- OL 44.4; OL 52.2; OL 52.4; OL 50 - STAS 500/2
- K 41.6a; K47.6a - STAS 2883/3
- OT 450.1; OT 450.2; OT 450.3; OT 500.1; OT 500.2; OT 500.3 - STAS 600
- A32; D32; D36 - STAS 8324
- OCS 44.4a; OCS 52.5a - STAS 9021
- S185, S235, S275, S355 - EN 10025
- P235, P265, P295, P335 - EN 10028-2
- S275; S355; S420 - EN 10113-3

Arcul arde stabil. Bun aspect al cordonului cu stropire redusa. Zgura acopera bine randul de sudura, iar dupa solidificare se desprinde usor. Continutul de hidrogen difuzibil: max. 5 cm³/ 100g M.D. Randamentul nominal efectiv: RE = 116%.

DOMENII DE APLICATIE

Recipienti sub presiune, inclusiv pentru industria chimica si petrochimica, constructia de nave, sudarea tevelor, fabricarea platformelor marine.

MAIN FEATURES

Heavy covered basic type electrode, designed for works highly strained at static and dynamic loadings. It is used in structural engineering, boilers, tanks and vehicle constructions and also bridges and shipbuilding. It is recommended for a service temperature down to 40°C. It is recommended for the materials:

- OL 44.4; OL 52.2; OL 52.4; OL 50 - STAS 500/2
- K 41.6a; K47.6a - STAS 2883/3
- OT 450.1; OT 450.2; OT 450.3; OT 500.1; OT 500.2; OT 500.3 - STAS 600
- A32; D32; D36 - STAS 8324
- OCS 44.4a; OCS 52.5a - STAS 9021
- S185, S235, S275, S355 - EN 10025
- P235, P265, P295, P335 - EN 10028-2
- S275; S355; S420 - EN 10113-3

The electrode welds with a stable arc and a very low spattering loss. The slag is easy to remove. It deposits a low hydrogen content weld metal. The diffusible hydrogen content of weld metal places the electrode in class B - low hydrogen content - max. 5 cm³ / 100 g M.D. Weld metal recovery: RE = 116%.

MAIN APPLICATIONS

Vessels, boilers fabrication including for chemical petrochemical industry; ship buildings, pipes fabricatio; off-shore fabrication.

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+, AC

ANALIZA CHIMICA A METALULUI DEPUZ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P					
0.05 - 0.9	0.80 - 1.20	0.25 - 0.65	≤ 0.015	≤ 0.025					

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -40°C
Stare sudată/As welded	510 - 640	≥ 430	≥ 24	≥ 47
Dupa/after 620°Cx 1h	500 - 620	≥ 420	≥ 22	≥ 47

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei. Inainte de sudare electrozii se vor usca in mod obligatoriu timp de 2 ore la 250 ÷ 300°C.

STORAGE - REBAKING

Keep dry and store at room temperature. Rebaking: 2h min. at 250 ÷ 300°.

CURENTI DE SUDARE / AMPERAGE

2.00	2.50	3.20	4.00	5.00	6.00				
50 - 80	65 - 90	120 - 140	160 - 190	210 - 230	210 - 230				

AMBALARE / PACKING

Diametru	mm	2.00	2.50	2.50	3.20	3.20	4.00	4.00	5.00	6.00
Lungime / Length	mm	300	300	350	350	450	350	450	450	450
Greutate pe electrod / Weight per electrode	g	12.40	18.90	22.30	35.70	46.70	51.00	67.80	100.90	137.10
Nr de fire pe pachet / Pcs. per innerbox	n°	283	180	180	112	112	80	80	55	42
Greutate pachet / Weight per innerbox	kg	3.5	3.5	4.0	4.0	5.5	4.0	5.5	5.5	6.0
Nr de fire pe cutie / Pcs. per outerbox	n°	1132	740	540	336	336	240	240	165	126
Greutate pe cutie / Weight per outerbox	kg	10.5	10.5	12.0	12.0	16.5	12.0	16.5	16.5	18.0
Cod / Code		W0002 88304	W0002 88305	W0002 88306	W0002 88307	W0002 88308	W0002 88309	W0002 88310	W0002 88311	W0002 88312
Cod / Code VPM (vacuum pack mediu)				W0002 88313	W0002 88314	W0002 88315	W0002 88316	W0002 88317	W0002 88318	

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BASICORD A

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE

CLASIFICARE / STANDARDS

AWS A5.1:	E 7018.1	GL:	4YH5	RINA:	4/4YDH5
GOST:	9467 - 75; Э 50А-Е 51 6	BV:	4Y40HHH	DNV:	4YH5
EN ISO 2560 - A:	E 46 4 B 32 H5	LRS:	3m-4Ym-H5	TÜV:	approved

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod bazic pentru sudarea otelurilor carbon si slab aliate. Excelentele caracteristici mecanice la temperaturi joase recomanda acest electrod pentru realizarea structurilor sudate de mare importanta cum ar fi poduri, recipiente sub presiune, constructii navale si platforme marine. Continutul scazut de hidrogen difuzibil asigura o mare rezistenta la fisurarea la rece. Sudabilitate excelenta in toate pozitiile de sudare, cu exceptia pozitiei vertical descendente. Stropire foarte redusa atat in curent alternativ cat si in curent continuu, cu o rata mare de depunere si un aspect estetic al cordonului.

MAIN FEATURES

Low hydrogen electrode for welding of Carbon-Manganese and/or alloyed steels. Excellent mechanical properties of weld metal at low temperature makes application of this electrode suitable for quality structural works, bridges, pressure vessels, ship-building and off shore structures. Low hydrogen content of weld metal gives an high cold crack resistance and Charpy V nocht value down to -46°C. Excellent weldability in all position except vertical down. High deposit rate and good bead appearance. Very low spatter both in DC and AC.

DOMENII DE APLICATIE

Recipienti sub presiune, inclusiv pentru industria chimica si petrochimica, constructia de nave, sudarea tevelor, fabricarea platformelor marine.

MAIN APPLICATIONS

Vessels, boilers fabrication including for chemical petrochemical industry; ship buildings; pipes fabrication; off-shore fabrication.

POZITII DE SUDARE / WELDING POSITIONS



CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 120%

ANALIZA CHIMICA A METALULUI DEPUȘ / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cu	Ni	Cr	Mo	V
0.04 - 0.08	1.20 - 1.60	≤ 0.50	≤ 0.015	≤ 0.015	≤ 0.05	≤ 0.05	≤ 0.05	≤ 0.01	≤ 0.02

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -40°C	Kv J -46°C
Stare sudată/As welded	530 - 660	≥ 460	≥ 26	≥ 50	≥ 40
Dupa/after 610°C x 1h	500 - 640	≥ 420	≥ 26	≥ 50	≥ 40

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei. Odata deschis pachetul, a se pastra la temperatura de 90° - 150° C. H₂ difuzibil ≤ 3 dupa reuscare la 400° - 420° C x 1h (max 5 ori). ml/100g ≤ 5 dupa expunere in atmosfera (80% u.r. -27° C - 9h).

STORAGE - REBAKING

Keep dry and store at room temperature. Once opened, store at 90° - 150° C till used. H₂ diffusible ≤ 3 after rebaking 400° - 420° C x 1h (max 5 times). ml/100 ≤ 5 after exposed (80% u.r. -27° C - 9h).

CURENTI DE SUDARE / AMPERAGE

2.0	2.5	3.20	4.0	5.0	6.0				
30 - 70	60 - 100	90 - 140	120 - 190	180 - 240	200 - 270				

AMBALARE / PACKING

Diametru	mm	2.0	2.5	2.5	3.20	4.0	5.0	6.0	
Lungime / Length	mm	300	300	350	450	450	450	450	
Greutate pe electrod / Weight per electrode	g	10.9	18.9	22.2	46.4	68.7	106.0	150.0	
Nr de fire pe pachet / Pcs. per innerbox	n°	330	180	180	120	80	50	40	
Greutate pachet / Weight per innerbox	kg	3.6	3.4	4.0	5.6	5.5	5.3	6.0	
Nr de fire pe cutie / Pcs. per outerbox	n°	990	540	720	360	240	150	120	
Greutate pe cutie / Weight per outerbox	kg	10.8	10.2	16.0	16.8	16.5	15.9	18.0	
Cod / Code		W0002 88409	W0002 88410	W0002 88411	W0002 88412	W0002 88413	W0002 88414	W0002 88415	

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TENSILFRO 2000

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE

CLASIFICARE / STANDARDS

AWS A5.1:	E 7018.1 H4R
GOST:	9467 - 75; Э 50А-Е 51 7
EN ISO 2560 - A:	E 46 5 B 32 H5

AUTORIZARI / APPROVALS

ABS:	3H5-3Y	DNV:	4YH5
LRS:	3m-4Ym-H5	RINA:	4D/4YDH5
TÜV:	approved	RINA:	E 52BT40D40
DB:	approved	GL:	4Y40H5

CARACTERISTICI PRINCIPALE

Electrod bazic pentru sudarea oțelurilor carbon și slab aliate. Invelisul acestui electrod a fost studiat pentru a asigura o absorbție scăzută de umiditate și de asemenea un conținut foarte scăzut de hidrogen difuzibil în metalul depus (<4ml/100g). Excelentele caracteristici mecanice ale metalului depus recomandă acest electrod pentru executarea structurilor sudate de mare importanță. Conținutul scăzut de hidrogen difuzibil asigură o rezistență marită la fisurarea la rece și de asemenea valori crescute ale rezilienței până la temperatura de -50°C. Caracteristici excelente de sudabilitate în toate pozițiile de sudare cu excepția poziției vertical descendente. Stropire foarte redusă atât în curent continuu cât și în curent alternativ, cu o rată mare de depunere.

MAIN FEATURES

Low hydrogen electrode for welding of Carbon-Manganese and/or alloyed steels. Its coating has been developed in order to ensure low moisture absorption properties and consequently an extra low diffusible hydrogen content in the weld metal (<4ml/100g). Excellent mechanical properties of weld metal at low temperature makes application of this electrode suitable for quality structural works. Low hydrogen content of weld metal gives a high cold crack resistance and Charpy V notch value down to -50°C. Excellent weldability in all position except vertical down. High deposit rate and good bead appearance. Very low spatter both in DC and AC.

DOMENII DE APLICATIE

Construcții navale, recipiente sub presiune, inclusiv pentru industria chimică/petrolieră; fabricarea țevilor; construcția platformelor marine; poduri + cai ferate + construcții civile (poduri, viaducte).

MAIN APPLICATIONS

Shipbuilding; vessels, boilers fabrication (including for chemical/petrochemical industry); metal working industry, rails, bridges; pipes fabrication; off-shore.

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 120%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni	Cr	Mo	V
0.04 - 0.08	1.20 - 1.60	≤ 0.50	≤ 0.015	≤ 0.015	≤ 0.05	≤ 0.05	≤ 0.01	≤ 0.02

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -50°C
Stare sudată/As welded	530 - 660	≥ 460	≥ 26	≥ 80
Dupa/after 620°C x 1h	500 - 640	≥ 420	≥ 26	≥ 80

DEPOZITARE - CALCINARE

A se păstra în locuri uscate la temperatura camerei.
Odată deschis pachetul, a se păstra la temperatura de 90° - 150° C.
H₂ difuzibil ≤ 3 după reuscare la 400° - 420° C x 1h (max 5 ori).
ml/100g ≤ 5 după expunere în atmosferă (80% u.r. -27° C - 9h).

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C till used.
H₂ diffusible ≤ 3 after rebaking 400° - 420° C x 1h (max 5 times).
ml/100 ≤ 5 after exposed (80% u.r. -27° C - 9h).

CURENTI DE SUDARE / AMPERAGE

2.0	2.5	3.20	4.0	5.0	6.0			
30 - 70	60 - 100	90 - 140	120 - 190	180 - 240	220 - 280			

AMBALARE / PACKING

Diametru	mm	2.0	2.5	2.5	3.20	3.20	4.0	5.0	6.0
Lungime / Length	mm	300	300	350	350	450	450	450	450
Greutate pe electrod / Weight per electrode	g	11.9	18.9	21.2	35.5	45.6	69.5	106.7	145.7
Nr de fire pe pachet / Pcs. per innerbox	n°	275	180	180	120	120	80	50	40
Greutate pachet / Weight per innerbox	kg	3.3	3.4	3.8	4.3	5.5	5.6	5.3	5.8
Nr de fire pe cutie / Pcs. per outerbox	n°	825	540	540	360	360	240	150	120
Greutate pe cutie / Weight per outerbox	kg	9.9	10.2	11.4	12.9	16.5	16.8	15.9	17.4
Cod / Code		W0002 88444	W0002 88445	W0002 88446	W0002 88447	W0002 88448	W0002 88449	W0002 88450	W0002 88451

Datele menționate pot fi modificate fără o notificare prealabilă. / The above data may change without prior notice.

SAFER N 49

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE



CLASIFICARE / STANDARDS

AWS A5.1:	E 7016 H8	
GOST:	9467 - 75; Э 50А-Е 51 3	
EN ISO 2560 - A:	E 38 0B 1 2 H10	

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrozi bazici cu invelis dublu, destinati sudarii structurilor puternic solicitate pana la temperaturi de -20°C, din oteluri carbon si slab aliate. Pot fi utilizati atat in curent continuu cat si alternativ, cu un bun aspect al sudurii, usoara desprindere a zgurii. Acest electrod este foarte usor de folosit si de sudori cu putina experienta.

MAIN FEATURES

Double-coated basic electrode with controlled hydrogen content (<8ml/100gr). Suitable for carbon and low alloy manganese steels welding. Good mechanical properties at low temperature (approved at -20°C). Good welding arc in alternate current too, with good bead appearance. Easy slag removal. This electrode is very easy to use even for unskilled welders.

DOMENII DE APLICATIE

Constructii feroviare si civile;
Sudarea tevilor;
Boilere;
Mentenananta.

MAIN APPLICATIONS

Metal working industry;
Pipes lines;
Coach builders;
Maintenance.

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cr	Ni	Mo	V
0.04 ÷ 0.08	1.00 ÷ 1.40	0.50 ÷ 0.75	≤ 0.030	≤ 0.030	≤ 0.20	≤ 0.30	≤ 0.30	≤ 0.08

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -20°C
Stare sudată/As welded	510 ÷ 560	≥ 400	≥ 26	≥ 80
Dupa/after 620°C x 1h				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150° C.
H₂ difuzibil (ml/100g): 8 dupa uscare la 250-300°C x 1h (max 5 ori)

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C.
H₂ diffusible (ml/100g): 8 after rebaking 250-300°C x 1h (max 5 times)

CURENTI DE SUDARE / AMPERAGE

2.00	2.50	3.20	4.00	5.00
40 ÷ 70	60 ÷ 90	120 - 160	140 - 180	190 - 230

AMBALARE / PACKING

Diametru	mm	2.50	3.20	4.00	5.00
Lungime / Length	mm	350	350	450	450
Greutate pe electrod / Weight per electrode	g	19.7	33.6	65.0	100.45
Nr de fire pe pachet / Pcs. per innerbox	n°	203	119	84	54
Greutate pachet / Weight per innerbox	kg	4.0	4.0	5.5	5.5
Nr de fire pe cutie / Pcs. per outerbox	n°	609	357	253	164
Greutate pe cutie / Weight per outerbox	kg	12.0	12.0	16.5	16.5
Cod / Code		W0002 88524	W0002 88525	W0002 88527	W0002 88528

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

CLASIFICARE / STANDARDS

EN ISO 2560-A:	E 50 6 Mn1 Ni1 B 42 H5
AWS A5.5:	E 8018-G

AUTORIZARI / APPROVALS

TÜV:	approved	GL:	4Y 42 H5
DB:	N° 10.116.16	BV:	5Y HHH
ANR:	4Y 46 HHH		

CARACTERISTICI PRINCIPALE

Electrozi bazici cu invelis gros destinati in special la structurile sudate puternic solicitate dinamic din oteluri cu limita de curgere ridicata, exploatare la temperaturi pana la -60°C. Se recomanda pentru oteluri ca:

- OL 60 - STAS 500/2
- OCS 55.5a; OCS 58.5a - STAS 9021
- K 52.7a - STAS 2883/3
- S275; S355 - EN 10025
- L290; L360; L415; L445 - EN 10028-2

Arcul arde stabil. Bun aspect al cordonului cu stropire redusa. Zgura acopera bine randul de sudura, iar dupa solidificare se desprinde usor. Continutul de hidrogen difuzibil: max. 5 cm³/100g M.D. Randalmentul nominal efectiv: RE = 113%.

DOMENII DE APLICATIE

Industria constructoare de masini. Constructii civile si feroviare. Platforme marine, recipienti sub presiune.

MAIN FEATURES

It is a heavy covered nickel alloy basic electrode designed for welding fine grained structural steels, with high yield strength, used at below-zero temperature down to -60°C. Nibaz 65 deposits a metal with high toughness at low temperature and also with low content of diffusible hydrogen. It is intended to be used for:

- OL 60 - STAS 500/2
- OCS 55.5a; OCS 58.5a - STAS 9021
- K 52.7a - STAS 2883/3
- S275; S355 - EN 10025
- L290; L360; L415; L445 - EN 10028-2

It welds with a stable arc; the slag is easy to remove. The diffusible hydrogen content of weld metal places the electrode in class A, very low hydrogen content - max. 5 cm³/100g weld metal. Weld metal recovery: RE = 113%.

MAIN APPLICATIONS

Industrial machinery construction. Metal working industry. Off-shore plants, vessels, boilers fabrication.

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+, AC

ANALIZA CHIMICA A METALULUI DEPUZ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni				
0.06 - 0.10	1.40 - 2.00	0.30 - 0.60	≤ 0.015	≤ 0.020	0.70 - 1.20				

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -60°C
Stare sudată/As welded	600 - 720	≥ 500	≥ 22	≥ 47
Dupa/after 620°C x 1h	550 - 720	≥ 460	≥ 20	≥ 47

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei. Inainte de sudare electrozii se vor usca in mod obligatoriu timp de 2 h la 250 ÷ 300°C.

STORAGE - REBAKING

Keep dry and store at room temperature. Rebaking: 2 h min. at 250 - 300°C.

CURENTI DE SUDARE / AMPERAGE

2.50	3.20	4.00	5.00					
65 - 90	130 - 150	160 - 190	200 - 250					

AMBALARE / PACKING

Diametru	mm	2.50	3.20	4.00	4.00	5.00		
Lungime / Length	mm	350	350	350	450	450		
Greutate pe electrod / Weight per electrode	g	22.60	36.50	47.50	68.50	103.50		
Nr de fire pe pachet / Pcs. per innerbox	n°	176	108	115	82	55		
Greutate pachet / Weight per innerbox	kg	4.0	4.0	5.5	5.5	5.5		
Nr de fire pe cutie / Pcs. per outerbox	n°	528	324	345	246	165		
Greutate pe cutie / Weight per outerbox	kg	12.0	12.0	16.5	16.5	16.5		
Cod / Code		W0002 88561	W0002 88562	W0002 88563	W0002 88564	W0002 88565		
Cod / Code VPM (vacuum pack mediu)		W0002 88567	W0002 88568	W0002 88569	W0002 88570	W0002 88571		

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

SAFER MD 56

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE



CLASIFICARE / STANDARDS

EN 757:	E 55 5 1Ni Mo B 32 H5	LRS:	4Y46H5	ABS:	8018-G
AWS A5.5:	E 8018-G	TÜV:	approved	DNV:	3Y46H5
GOST:	9467 - 75; Э 60-60 Г2H1 -7	BV:	UP		

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod bazic ce depune un metal slab aliat cu Ni si Mo, destinat sudarii otelurilor de constructie cu limita de curgere ridicata. Randament de depunere - aproximativ 120%. Amorsare usoara. Continut scazut al hidrogenului difuzibil in MD: 5ml/100g (ISO 3690) dupa calcinarea la 300°C - 350°C, 1 1/2 ore.

MAIN FEATURES

Basic coated electrode Ni-Mo low alloyed for welding high yield strength steels. Metal recovery approx. 120%. Easy striking. Low diffusible hydrogen content of weld metal: 5ml/100g(ISO 3690) after drying at 300°C - 350°C, 1 1/2 hours.

DOMENII DE APLICATIE

Industria constructoare de masini
Constructii civile si feroviare
Platforme marine

MAIN APPLICATIONS

Industrial machinery construction
Metal working industry
Off shore plants

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 120%

ANALIZA CHIMICA A METALULUI DEPUZ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni	Mo			
0.04 - 0.08	0.80 - 1.30	0.20 - 0.50	≤ 0.015	≤ 0.015	0.40 - 0.70	0.20 - 0.50			

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -40°C	Kv J -46°C
Stare sudată/As welded	600 - 680	≥ 500	≥ 25	≥ 80	≥ 47
Dupa/after 620°C x 1h	570 - 640	≥ 460	≥ 26	≥ 80	≥ 47

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei. Odata deschis pachetul, a se pastra la temperatura de 90° - 150° C. H₂ difuzibil ≤ 5 ml/100g dupa reuscare la 300° - 350° C x 1 1/2h (max. 5 ori).

STORAGE - REBAKING

Keep dry and store at room temperature. Once opened, store at 90° - 150° C till used. H₂ diffusible ≤ 5 ml/100g after rebaking 300° - 350° C x 1 1/2h (max 5 times)

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.0	5.0					
60 - 100	80 - 140	120 - 180	180 - 270					

AMBALARE / PACKING

Diametru	mm	2.50	3.20	4.0	5.0			
Lungime / Length	mm	350	450	450	450			
Greutate pe electrod / Weight per electrode	g	22.3	47.5	67.4	103			
Nr de fire pe pachet / Pcs. per innerbox	n°	180	115	80	55			
Greutate pachet / Weight per innerbox	kg	4.0	5.5	5.5	5.6			
Nr de fire pe cutie / Pcs. per outerbox	n°	540	345	240	165			
Greutate pe cutie / Weight per outerbox	kg	12.0	16.5	16.5	16.8			
Cod / Code		W0002 88576	W0002 88577	W0002 88578	W0002 88579			

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

SAFER MD 70

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE

CLASIFICARE / STANDARDS

EN 757(ISO 18275-A):	E 62 2Mn Mo B 32 H5	
AWS A5.5:	E 10018-D2	
DIN:	EY 62 75 Mn 2 Mo B	

AUTORIZARI / APPROVALS
CARACTERISTICI PRINCIPALE

Electrod bazic destinat sudarii otelurilor cu limita de curgere ridicata (> 600 N/mm²). Randalmentul este de aproximativ 115%. Compozitia chimica a metalului depus garanteaza valori optime ale tenacitatii la temperaturi scazute. Datorita continutului scazut de hidrogen (5 ml/100g MD), pericolul aparitiei fisurilor este practic inexistent. Se recomanda preincalzirea la 100-150°C a ansamblelor de grosimi mari si sollicitate puternic. Pentru calitatea lucrarii craterul de la sfarsitul sudurilor trebuie polizat.

MAIN FEATURES

Basic coated electrode for welding high strength steels (> 600 N/mm²). Metal recovery approximately 115%. The balanced chemical composition give excellent toughness at low temperature. Low hydrogen (5 ml/100g MD) deletes cracks problem. Preheating between 100 and 150°C for very thick and strongly-clamped assemblies. For quality work, the craters at the end of the weldings should be ground.

DOMENII DE APLICATIE

Industria constructoare de masini;
Constructii metalice;
Industria militara.

MAIN APPLICATIONS

Industrial machinery construction;
Metal working industry;
Military industry.

POZITII DE SUDARE / WELDING POSITIONS


1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC (U_o > 70V)

RANDAMENT / EFFICIENCY: 115%

ANALIZA CHIMICA A METALULUI DEPUȘ / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Mo				
0.09	1.90	0.50	≤ 0.010	≤ 0.018	0.40				

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -50°C	
Stare sudată/As welded	≥ 700	≥ 600	≥ 22	≥ 47	
Dupa/after 620°C x 1h					

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150° C.
H₂ difuzibil ≤ 5ml/ 100g dupa reuscare la 300° - 350° C x 2h (max. 5 ori).

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C.
H₂ diffusible (ml/100gr) ≤ 5 after rebaking 300° - 350° C x 2h (max 5 times).

CURENTE DE SUDARE / AMPERAGE

2.50	3.15	4.0	5.0					
60 - 100	100 - 110	150 - 170	200 - 220					

AMBALARE / PACKING: VPM (vacuum pack mediu)

Diametru	mm	2.5	3.15	4.0	5.0				
Lungime / Length	mm	350	350	350	450				
Greutate pe electrod / Weight per electrode	g	22.9	36.1	53.5	106.1				
Nr de fire pe pachet / Pcs. per innerbox	n°	179	113	78	39				
Greutate pachet / Weight per innerbox	kg	4.1	4.1	4.2	4.2				
Nr de fire pe cutie / Pcs. per outerbox	n°	537	339	234	117				
Greutate pe cutie / Weight per outerbox	kg	12.3	12.3	12.6	12.6				
Cod / Code		W0002 88572	W0002 88573	W0002 88574	W0002 88575				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

CLASIFICARE / STANDARDS

EN ISO 2560-A:	E 46 2 B 12 H10	TÜV DB
AWS A5.1:	E 8016 - G	
GOST:	9467 - 75; Э 50 - E 51 3	

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod bazic destinat sudarii otelurilor rezistente la coroziune atmosferica, cu un continut relativ ridicat de fosfor si cupru. Ideal pentru sudarea otelului Cor-Ten. Inalta rezistenta la coroziune atmosferica si la abraziune, si inalta rezistenta mecanica, in comparatie cu un otel carbon obisnuit, face ca otelul Cor-Ten sa fie utilizat in constructia structurilor mobile, a remorcilor, a masinilor de decopertat etc. De asemenea sunt foarte des utilizati pentru constructii edilitare, datorita culorii deosebite a stratului superficial. Metalul depus cu Tencor are aceleasi caracteristici cu otelul Cor-Ten.

MAIN FEATURES

Low hydrogen electrode for welding of steels having high atmospheric corrosion resistance and high content of P and Cu. Ideal for CorTen steel welding. Due to its characteristics of high atmospheric corrosion resistance and also mechanic resistance and also mechanic resistance, comparing to a simple Carbon steel, Cor-Ten is particularly suitable to build movable structures, as lorries, trailers etc. Cor-Ten is also used by building industries because of the particular colour of its surface which does not need any further painting. The deposit made by Tencor has the very same appearance as Cor-Ten steel.

DOMENII DE APLICATIE

Industria constructoare de masini, industria feroviara, industria auto, cladiri edilitare, etc.

MAIN APPLICATIONS

Metal working industry, railway, civil; car production; coachbuilders.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cu	Ni	Cr	Mo	V
0.03 - 0.08	0.60 - 0.90	0.50 - 1.00	≤ 0.020	≤ 0.020	0.20 - 0.50	0.30 - 0.50	0.30 - 0.70	≤ 0.10	≤ 0.05

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -20°C
Stare sudată/As welded	≥ 560	≥ 480	≥ 23	≥ 47
Dupa/after 620°C x 1h				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150° C.
Reuscare: 400° C timp de 1h.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C.
Rebaking: 400° C x 1h.

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.0	5.0					
60 - 90	80 - 140	110 - 180	170 - 240					

AMBALARE / PACKING

Diametru	mm	2.5	3.20	4.0	5.0			
Lungime / Length	mm	300	450	450	450			
Greutate pe electrod / Weight per electrode	g	18.3	44.2	64.7	96.7			
Nr de fire pe pachet / Pcs. per innerbox	n°	180	120	85	60			
Greutate pachet / Weight per innerbox	kg	3.3	5.3	5.5	5.8			
Nr de fire pe cutie / Pcs. per outerbox	n°	540	360	255	180			
Greutate pe cutie / Weight per outerbox	kg	10.2	15.9	16.5	17.4			
Cod / Code		W0002 88621	W0002 88622	W0002 88623	W0002 88624			

CLASIFICARE / STANDARDS

EN ISO 3580-A: E Mo B 42 H5
AWS A5.5: E 7018 A1

AUTORIZARI / APPROVALS

TÜV: E Mo B 32 H5

CARACTERISTICI PRINCIPALE

Electrozi cu invelis bazic, aliatii prin invelis, destinati pentru sudarea otelurilor slab aliate cu 0.5% Mo, termorezistente pana la temperatura de 500°C si a unor oteluri cu limita de curgere ridicata, cuprinsa intre 440-490 N/mm². Se recomanda pentru sudarea urmatoarelor tipuri de oteluri:

- 16 Mo 3, P295 G H, P355 G H - EN 10028-2
- 17 Mo 3, 14 Mo 6 - EN 10222-2

Arderea este linistita, stropirea foarte redusa, transferul se face in picaturi mari (globular), depunere uniforma. Zgura acopera bine sudura si se indeparteaza usor. La piesele subtiri nu este necesara preincalzirea, insa la grosimi mai mari de 10 mm se recomanda preincalzirea la o temperatura de 150-250°C, in functie de grosime. Dupa sudare se aplica o detensionare, prin mentinerea timp de 1 h la 620°C, urmata de o racire lenta. Continutul de hidrogen difuzibil: max. 5 cm³/100g M.D. dupa calcinare la 250-350°C min. 90 minute. Randalmentul nominal efectiv RE = 110%.

MAIN FEATURES

Basic covered electrode for welding low alloy steels with 0.5% Mo, heat resistant up to 500°C and for steels with high yield strength (440-490 N/mm²). Recommended for welding the following steels:

- 16 Mo 3, P295 G H, P355 G H - EN 10028-2
- 17 Mo 3, 14 Mo 6 - EN 10222-2
- Pipe steels StE 360.7 to StE 145.7 - EN 10208
- Fine grain structural steels: WStE255 to WStE 460.

Smooth burning, very low spattering loss, globular transfer (in large drops), uniform deposition. The slag properly covers the bead and is easily removable. Check and maintain preheat (150-250°C), interpass and postheat. The post weld heat treatment must be in accord to base metal specification. Diffusible hydrogen content: max. 5 cm³/100g weld metal. Effective nominal recovery: RE = 110%.

DOMENII DE APLICATIE

Recipienti sub presiune, inclusiv din industria chimica si petrochimica. Fabricarea tevelor. Incarcare.

MAIN APPLICATIONS

Vessels, boilers fabrication (including chemical-petrochemical industry); Piping fabrication; Hardfacing.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Mo			
≤ 0.10	0.40 - 0.90	≤ 0.80	≤ 0.025	≤ 0.03	0.40 - 0.65			

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -20°C
Stare sudată/As welded	490 - 620	≥ 400	≥ 22	≥ 47
Dupa/after 595±25°C x 1h	490 - 620	≥ 420	≥ 22	≥ 47

DEPOZITARE - CALCINARE

Ase pastra in locuri uscate la temperatura camerei. Inainte de sudare electrozii se vor usca in mod obligatoriu timp de 2h la 250 ÷ 300°C.

STORAGE - REBAKING

Keep dry and store at room temperature. Rebaking: 2h min. at 250 ÷ 300°C.

CURENTI DE SUDARE / AMPERAGE

2.50	3.20	3.20	4.00	5.00				
60 - 90	110 - 135	110 - 135	140 - 190	200 - 240				

AMBALARE / PACKING

Diametru	mm	2.50	3.20	3.20	4.00	4.00	5.00	
Lungime / Length	mm	350	350	450	350	450	450	
Greutate pe electrod / Weight per electrode	g	22.50	36.00	46.80	67.20	67.20	104.00	
Nr de fire pe pachet / Pcs. per innerbox	n°	176	112	115	82	82	55	
Greutate pachet / Weight per innerbox	kg	4.0	4.0	5.5	4.0	5.5	5.5	
Nr de fire pe cutie / Pcs. per outerbox	n°	528	336	345	246	246	165	
Greutate pe cutie / Weight per outerbox	kg	12.0	12.0	16.5	12.0	16.5	16.5	
Cod / Code		W0002 88650	W0002 88651	W0002 88652	W0002 88653	W0002 88654	W0002 88655	
Cod / Code VPM (vacuum pack mediu)		W0002 88657	W0002 88658	W0002 88659	W0002 88660	W0002 88661	W0002 88662	

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

FRO MO

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE



CLASIFICARE / STANDARDS

EN ISO 3580-A: E Mo B 32 H5
AWS A5.5: E7015 A1
GOST: 9467 - 75; Э 09M

AUTORIZARI / APPROVALS

TÜV: Approved

CARACTERISTICI PRINCIPALE

Electrod bazic destinat sudarii otelurilor carbon aliate cu molibden. Este recomandat pentru sudarea otelurilor cu compozitie chimica similara, utilizate in general in constructia recipientilor sub presiune, boilere si tubulaturi supuse la temperaturi de pana la 550° C. Recomandat de asemenea pentru depunerea de straturi antiuzura pe piese de uzura. Sudabilitatea optima asigura un aspect regulat al cordonului de sudura. Temperatura de preincalzire, temperatura intre straturi si tratamentul termic dupa sudare trebuie sa corespunda cu specificatia pentru materialul de baza.

MAIN FEATURES

Basic coated electrode for moly low alloy steels welding. Suitable for pressure vessels, boiler and piping for high temperature service till 550° C. Used also for machinable hardfacing. Good weldability in all positions except for vertical down. Check and maintain preheat, interpass and postheat. the post weld heat treatment must be in accord to base metal specifications.

DOMENII DE APLICATIE

Recipienti sub presiune, inclusiv din industria chimica si petrochimica. Fabricarea tevilor. Incarcare.

MAIN APPLICATIONS

Vessels, boilers fabrication (including chemical-petrochemical industry) Piping fabrication. Hardfacing.

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PE PF PF EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 120%

ANALIZA CHIMICA A METALULUI DEPUȘ / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Mo				
≤ 0.05	0.50 - 0.90	≤ 0.60	≤ 0.015	≤ 0.012	0.40 - 0.60				

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J +20°C	Kv J -20°C
Stare sudată/As welded					
Dupa/after 620°C x 1h	510 - 610	≥ 420	≥ 24	≥ 90	≥ 47

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150° C.
H₂ difuzibil ≤ 10 dupa reuscare la 350° - 370° C x 1h (max. 5 ori)
ml/100g ≤ 5 dupa reuscare la 400° - 420° C x 1h (max. 5 ori).

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C.
H₂ diffusible (ml/100gr) ≤ 10 after rebaking 350° - 370° C x 1h (max. 5 times); ≤ 5 after rebaking 400° - 420° C x 1h (max. 5 times).

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.0	5.0						
65 - 95	90 - 130	125 - 165	170 - 220						

AMBALARE / PACKING

Diametru	mm	2.5	3.20	4.0	5.0				
Lungime / Length	mm	300	350	350	450				
Greutate pe electrod / Weight per electrode	g	18.8	35.7	51.3	106.0				
Nr de fire pe pachet / Pcs. per innerbox	n°	165	115	80	50				
Greutate pachet / Weight per innerbox	kg	3.1	4.1	4.1	5.3				
Nr de fire pe cutie / Pcs. per outerbox	n°	495	345	240	150				
Greutate pe cutie / Weight per outerbox	kg	9.3	12.3	12.3	15.9				
Cod / Code		W0002 88641	W0002 88642	W0002 88643	W0002 88644				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

CLASIFICARE / STANDARDS

EN ISO 3580-A: E Cr Mo 1 B 42 H5
AWS A5.5: E 8018 B 2

AUTORIZARI / APPROVALS

TÜV: E Cr Mo 1 B 42 H5

CARACTERISTICI PRINCIPALE

Electrod cu invelis bazic destinat otelurilor termorezistente solificate la temperaturi de regim de pana la 550°C. Se recomanda in special pentru:

- 13 CrMo 4 5 - EN 10028-2
- 14 CrMo 4 5 - EN 10222-2
- 25 CrMo 4 - EN 10083-1

Arcul se amorseaza usor si se mentine stabil. Invelisul se topeste uniform si cu stropire redusa. Zgura se solidifica rapid, acopera uniform cusatura si se desprinde usor. Continutul de hidrogen difuzibil: max. 5 cm³/100g M.D. dupa calcinare la 250 - 350°C. Randamentul nominal efectiv RE = 110%.

MAIN FEATURES

Basic covered electrode for welding low alloy steels with 0.5% Mo and 1.0% Cr, heat resistant up to 550°C, suitable for pressure vessels boilers and piping. Recommended for welding the following steels:

- 13 CrMo 4 5 - EN 10028-2
- 14 CrMo 4 5 - EN 10222-2
- 25 CrMo 4 - EN 10083-1

Smooth burning, very low spattering loss, uniform deposition, good striking and restriking. The slag properly covers the bead and is easily removable. Check and maintain preheat, interpass and postheat. The post weld heat treatment must be in accord to base metal specifications. Diffusible hydrogen content: max. 5 cm³/100g weld metal. Effective nominal recovery: RE = 110%.

DOMENII DE APLICATIE

Recipienti sub presiune, inclusiv pentru industria chimica si petrochimica. Fabricarea tevelor. Incarcare.

MAIN APPLICATIONS

Vessels, boilers fabrication (including chemical and petrochemical); Piping fabrication. Hardfacing.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cr	Mo			
≤ 0.12	0.70 - 0.90	≤ 0.80	≤ 0.020	≤ 0.015	1.00 - 1.50	0.45 - 0.65			

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -20°C	
Stare sudată/As welded					
Dupa/after 690° ± 10°C x 1h	550 - 680	≥ 460	≥ 20	≥ 47	

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei. Inainte de sudare electrozii se vor usca in mod obligatoriu timp de 2 h la 250 ÷ 300°C.

STORAGE - REBAKING

Keep dry and store at room temperature. Rebaking: 2h min. at 250 ÷ 300°C.

CURENTI DE SUDARE / AMPERAGE

2.50	3.20	4.00	5.00						
60 - 90	110 - 135	140 - 190	200 - 240						

AMBALARE / PACKING

Diametru	mm	2.5	3.20	3.20	4.00	5.00			
Lungime / Length	mm	350	350	450	450	450			
Greutate pe electrod / Weight per electrode	g	22.5	36.5	47.5	67.8	100.0			
Nr de fire pe pachet / Pcs. per innerbox	n°	176	108	115	82	55			
Greutate pachet / Weight per innerbox	kg	4.0	4.0	5.5	5.5	5.5			
Nr de fire pe cutie / Pcs. per outerbox	n°	528	324	345	246	165			
Greutate pe cutie / Weight per outerbox	kg	12.0	12.0	16.5	16.5	16.5			
Cod / Code		W0002 88664	W0002 88665	W0002 88666	W0002 88668	W0002 88669			
Cod / Code VPM (vacuum pack mediu)		W0002 88671	W0002 88672	W0002 88673	W0002 88675	W0002 88676			

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

CROMOBAZ V

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE



CLASIFICARE / STANDARDS

EN ISO 3580-A: ECrMoV1 B 42 H5
AWS A5.5: E 9018-G

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrozi cu invelis bazic destinati sudarii otelurilor termorezistente cu 1% Cr, 0,5% Mo si 0,2% V, solicitate la temperaturi de regim de pana la 550 °C. Se recomanda in special pentru:

- sudarea otelurilor de tipul 12VMoCr10; 12 CrMoV3 - STAS 8184/87

Arcul se amorseaza usor si se mentine stabil. Invelisul se topeste uniform si cu stropire redusa. Zgura se solidifica rapid, acopera uniform cusatura si se desprinde usor. Continutul de hidrogen difuzibil: max. 5 cm³/100g M.D. dupa calcinare la 250-350 °C minim 90 minute. Randamentul nominal efectiv: RE=110% .

MAIN FEATURES

Basic covered electrode for welding low alloy steels with 0.5% Mo, 1% Cr and 0.2% V heat resistant up to 550°C, suitable for pressure vessels boilers and piping. Recommended for welding the following steels:

- 12VMoCr10; 12 CrMoV3 - STAS 8184/87.

Smooth burning, very low spattering loss, uniform deposition, good striking and restriking. The slag properly covers the bead and is easily removable. Check and maintain preheat, interpass and postheat. The post weld heat treatment must be in accord to base metal specifications. Diffusible hydrogen content: max. 5cm³/100g weld metal. Effective nominal recovery: RE=110%.

DOMENII DE APLICATIE

Industria constructoare de masini. Constructii civile si feroviare. Platforme marine, recipienti sub presiune.

MAIN APPLICATIONS

Industrial machinery construction. Metal working industry. Off shore plants, vessels, boilers fabrication.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC

ANALIZA CHIMICA A METALULUI DEPUZ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cr	Mo	V		
0.06 - 0.14	0.40 - 1.10	< 0.50	≤ 0.020	≤ 0.015	0.85 - 1.35	0.40 - 0.60	0.10 - 0.40		

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -20°C	
Stare sudată/As welded					
Dupa/after 690°C x 1h	620 - 750	≥ 530	≥ 18	≥ 47	

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei. Inainte de sudare electrozii se vor usca in mod obligatoriu timp de 2 h la 250 ÷ 300°C.

STORAGE - REBAKING

Keep dry and store at room temperature. Rebaking: 2h min. at 250 ÷ 350°C.

CURENTI DE SUDARE / AMPERAGE

2.50	3.20	4.00	5.00						
60 - 90	110 - 135	140 - 190	200 - 240						

AMBALARE / PACKING

	mm	2.50	3.20	4.00					
Diametru	mm	2.50	3.20	4.00					
Lungime / Length	mm	350	350	450					
Greutate pe electrod / Weight per electrode	g	22.50	36.50	67.80					
Nr de fire pe pachet / Pcs. per innerbox	n°	177	108	81					
Greutate pachet / Weight per innerbox	kg	4.0	4.0	5.5					
Nr de fire pe cutie / Pcs. per outerbox	n°	528	324	34					
Greutate pe cutie / Weight per outerbox	kg	12.0	12.0	16.5					
Cod / Code		050146 250 350	050146 325 350	050146 325 350					

SAF-FRO CD 60 SC

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE

CLASIFICARE / STANDARDS

EN ISO 3580-A:	E CrMo 1 B 12 H5	
AWS A5.1:	E 8018 B 2	
GOST:	9467 - 75; Э 09X1M Similar	

AUTORIZARI / APPROVALS
CARACTERISTICI PRINCIPALE

Electrod cu invelis bazic, cu continut scazut de carbon destinat sudarii otelurilor aliate cu Cr si Mo, rezistente la temperaturi inalte, cu compozitie similara. Recomandat pentru sudarea boilerelor, recipientilor sub presiune si tubulaturilor ce sunt supuse la temperaturi de circa +570°C. Poate fi utilizat de asemenea ca material de adaos pentru sculele uzate. Continutul scazut de carbon al metalului depus reduce riscul de aparitie al fisurarii la cald in timpul executarii sudurii. Temperatura de preincalzire, temperatura intre straturi si tratamentul termic dupa sudare trebuie sa fie acelasi ca cel pentru materialul de baza.

MAIN FEATURES

Basic coated electrode for Cr - Mo low alloy steels welding, creep resisting steels. Suitable for pressure vessels, boiler and piping for high temperature service till 570°C. Used also for machinable hardfacing. The low carbon content avoid hot cracking risk during welding. Check and maintain preheat, interpass and postheat. The post weld heat treatment must be in accord to base metal specification.

DOMENII DE APLICATIE

Recipienti sub presiune, inclusiv pentru industria chimica si petrochimica; Fabricarea tevilor; Incarcare.

MAIN APPLICATIONS

Vessels, boilers fabrication (including and chemical and petrochemical); Piping fabrication; Hardfacing.

POZITII DE SUDARE / WELDING POSITIONS


1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUZ % (valori tipice) / ALL - WELD METAL CHEMICAL ANALYSIS % (typical values)

C	Mn	Si	S	P	Cr	Mo	X factor		
0.05	0.70	0.4	0.008	0.013	1.2	0.50	< 15 ppm		

CARACTERISTICI MECANICE (valori tipice) / MECHANICAL PROPERTIES (typical values)

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J -20°C	
Stare sudată/As welded					
Dupa/after rate of 200°C up to 700°C x 1h	630	540	≥ 23	≥ 150	

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150° C.
H₂ difuzibil ≤ 5 dupa reuscare la 300° - 350° C x 1 1/2h (max. 5 ori)

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C.
H₂ diffusible (ml/100gr) ≤ 5 after rebaking 300° - 350° C x 1 1/2h (max. 5 times);

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.0	5.0					
65 - 95	90 - 130	125 - 165	170 - 220					

AMBALARE / PACKING

	mm	2.5	3.20	4.0	5.0			
Diametru	mm	350	350	450	450			
Lungime / Length	mm	20.3	34.6	64.9	93.5			
Greutate pe electrod / Weight per electrode	g	195	115	85	60			
Nr de fire pe pachet / Pcs. per innerbox	n°	4.0	4.0	5.5	5.6			
Greutate pachet / Weight per innerbox	kg	585	345	255	120			
Nr de fire pe cutie / Pcs. per outerbox	n°	12.0	12.0	16.5	16.8			
Greutate pe cutie / Weight per outerbox	kg	W0002	W0002	W0002	W0002			
Cod / Code		88677	88678	88679	88680			

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

SAF-FRO CD 65 SC

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE



CLASIFICARE / STANDARDS

EN ISO 3580-A: E CrMo 2 B12 H5	BV TÜV
AWS A5.5: E 9018 B 3	ABS
GOST: 9467 - 75; Э 09X2M1	DNV

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod cu invelis bazic, cu continut scazut de carbon destinat sudarii otelurilor aliate cu Cr si Mo, rezistente la temperaturi inalte, cu compozitie similara. Recomandat pentru sudarea boilerelor, recipientilor sub presiune si tubulaturilor ce sunt supuse la temperaturi de circa +600°C. Poate fi utilizat de asemenea pentru incarcari dure ce pot fi prelucrate. Continutul scazut de carbon al metalului depus reduce riscul de aparitie al fisurarii la cald in timpul executarii sudarii. Temperatura de preincalzire, temperatura intre straturi si tratamentul termic dupa sudare trebuie sa fie acelasi ca cel pentru materialul de baza.

MAIN FEATURES

Basic coated electrode for Cr-Mo low alloy steels welding, creep resisting steels. Suitable for pressure vessels, boiler and piping for high temperature service till 600°C. Used also for machinable hardfacing. The low carbon content avoid hot cracking risk during welding. Check and maintain preheat, interpass and postheat. The post weld heat treatment must be in accord to base metal specification.

DOMENII DE APLICATIE

Recipienti sub presiune, inclusiv pentru industria chimica si petrochimica; Fabricarea tevilor; Incarcare.

MAIN APPLICATIONS

Vessels, boilers fabrication (including chemical and petrochemical); Piping fabrication; Hardfacing.

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+

RANDAMENT / EFFICIENCY: 120%

ANALIZA CHIMICA A METALULUI DEPUȘ / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cr	Mo			
0.05	0.70	0.30	≤ 0.008	≤ 0.013	2.30	1.00			

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J 0°C	Kv J -20°C
Stare sudată/As welded					
Dupa/after 620°C x 1h	650	540	22	160	110

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150°C.
H₂ difuzibil ≤ 5 dupa reuscare 350° - 370° C x 1h (max 5 ori);

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150°C.
H₂ diffusible (ml/100gr) ≤ 5 after rebaking 350° - 370° C x 1h (max. 5 times).

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.0	5.0					
65 - 95	90 - 130	125 - 185	190 - 240					

AMBALARE / PACKING

Diametru	mm	2.5	3.20	4.0	5.0			
Lungime / Length	mm	350	350	450	450			
Greutate pe electrod / Weight per electrode	g	20.6	35.5	65.3	93.7			
Nr de fire pe pachet / Pcs. per innerbox	n°	195	115	85	60			
Greutate pachet / Weight per innerbox	kg	4.0	4.0	5.5	5.6			
Nr de fire pe cutie / Pcs. per outerbox	n°	585	345	255	120			
Greutate pe cutie / Weight per outerbox	kg	12.0	12.0	12.6	16.8			
Cod / Code		W0002 88566	W0002 88687	W0002 88689	W0002 88690			

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

CLASIFICARE / STANDARDS

DIN 8555:	E 7UM 250K
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AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod cu invelis bazic, care depune un material cu 13% Mn destinat incarcarii dure a pieselor din otel austenitic manganos, oteluri carbon si slab aliate, supuse la socuri violente si abraziune: cupe de excavator, ace de cale ferata, malaxoare. Este indicat sa se limiteze supraincalzirea in timpul incarcarii ($t < 300^{\circ}\text{C}$), in scopul prevenirii riscului de fragilizare.

MAIN FEATURES

Electrodes with basic coating, with deposit of about 13% Manganese intended for hardfacing of parts made of manganese, carbon and alloy steels subjected to abrasion and violent impact: jaw crusher excavator buker edges and coupled points railway. Limit the heating of repaired parts ($t < 300^{\circ}\text{C}$) to prevent risk of fragilization.

DOMENII DE APLICATIE

Incarcare

MAIN APPLICATIONS

Hardfacing

POZITII DE SUDARE / WELDING POSITIONS



1G 2F AWS
PA PB EN

CURRENT / CURRENT:

DC+, AC

RANDAMENT / EFFICIENCY:

100%

DURITATE / HARDNESS:

200 HB min. / 500 HB

(dupa ecruisare / after hammer-harden)

ANALIZA CHIMICA A METALULUI DEPUZ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	Ni	Cr					
0.60	14.5	0.10	4.20	4.50					

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment					
Stare sudată/As welded	200 HB min				
Dupa ecruisare/after hammer-harden	500 HB				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de $90^{\circ} - 150^{\circ}\text{C}$.
Reuscare: 1 1/2 h la $200 - 250^{\circ}\text{C}$ x 5 maxim.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at $90^{\circ} - 150^{\circ}\text{C}$ till used.
Rebaking: 1 1/2 h at $200-250^{\circ}\text{C}$, max 5 times.

CURENTI DE SUDARE / AMPERAGE

3.15	4.00								
100 ÷ 200	150 ÷ 170								

AMBALARE / PACKING

Diametru	mm	3.2	4.00						
Lungime / Length	mm	450	450						
Greutate pe electrod / Weight per electrode	g	44.0	70.3						
Nr de fire pe pachet / Pcs. per innerbox	n°	140	90						
Greutate pachet / Weight per innerbox	kg	6.00	6.00						
Nr de fire pe cutie / Pcs. per outerbox	n°	420	270						
Greutate pe cutie / Weight per outerbox	kg	18.00	18.00						
Cod / Code		W0002 89031	W0002 89032						

EI 16 Mn

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE



CLASIFICARE / STANDARDS

DIN 8555: E7-UM-200/50-KP

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod cu invelis bazic, care depune un material cu ~16% Mn destinat incarcarii dure a pieselor din otel austenitic manganos, oteluri carbon si slab aliate, supuse la socuri violente si abraziune: cupe de excavator, ace de cale ferata, malaxoare. Electrozii suzeaza cu arc stabil si fara stropi, topire uniforma si linistita. Zgura se desprinde usor dupa solidificare.

MAIN FEATURES

Electrodes with basic coating, with deposit of about ~16% Manganese intended for hardfacing of parts made of manganese, carbon and alloy steels subjected to abrasion and violent impact: jaw crusher excavator buker edges and coupled points railway. Weld with a stable arc and very low spattering loss. The slag is easy to remove.

DOMENII DE APLICATIE

Incarcare

MAIN APPLICATIONS

Hardfacing

POZITII DE SUDARE / WELDING POSITIONS



1G 2F AWS
PA PB EN

CURRENT / CURRENT: DC+

RANDAMENT / EFFICIENCY: 100%

DURITATE / HARDNESS: 20 HRC min. / 50 HRC

(dupa ecruisare / after hammer-harden)

ANALIZA CHIMICA A METALULUI DEPUZ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	Cr	P	S				
0.50 - 0.70	14.0 - 17.0	max. 0.30	12.0 - 15.0	max. 0.07	max. 0.25				

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment					
Stare sudată/As welded	20 HRC min				
Dupa ecruisare/after hammer-harden	50 HRC min				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150°C.
Reuscare: 1 1/2 h la 200 - 250°C x 5 maxim.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150°C till used.
Rebaking: 1 1/2 h at 200-250°C, max 5 times.

CURENTI DE SUDARE / AMPERAGE

3.20	4.00	5.00							
130 ÷ 150	180 ÷ 200	260 - 260							

AMBALARE / PACKING

	mm	3.20	4.00	5.00					
Diametru	mm	3.20	4.00	5.00					
Lungime / Length	mm	450	450	450					
Greutate pe electrod / Weight per electrode	g	56.6	85.9	135.0					
Nr de fire pe pachet / Pcs. per innerbox	n°	97	64	41					
Greutate pachet / Weight per innerbox	kg	5.5	5.5	5.5					
Nr de fire pe cutie / Pcs. per outerbox	n°	291	192	123					
Greutate pe cutie / Weight per outerbox	kg	16.5	16.5	16.5					
Cod / Code		050133 325 450	050133 400 450	050133 500 450					

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

SAFER 345 B

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE

CLASIFICARE / STANDARDS

DIN 8555:	E 1 UM 300
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AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod cu invelis bazic destinat incarcarii otelurilor carbon-mangan supuse la uzura metal pe metal, dar si abraziune moderata. Metalul depus este prelucrabil. Recomandat la incarcarea ghidajelor pentru laminare, senilelor, sinelor si a masinilor pentru industria de constructii.

MAIN FEATURES

Basic coated electrode for hardfacing of carbon manganese steels under metal to metal wear applications and light abrasion. Deposited weld metal is machinable. Particularly suited for hardfacing of rollers, tracks, rails and machines for building industry.

DOMENII DE APLICATIE

Incarcare

MAIN APPLICATIONS

Hardfacing

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

DURITATE / HARDNESS: 320 HB

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cr	Mo			
0.05 ÷ 0.11	≤ 1.30	≤ 0.60	≤ 0.030	≤ 0.030	1.00 ÷ 1.50	0.50 ÷ 1.50			

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment					
Stare sudată/As welded	320 HB				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150°C.
Reuscare: 1 1/2 h la 300 - 350°C x 5 maxim.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150°C till used.
Rebaking: 1 1/2 h at 300-350°C, max 5 times.

CURENTI DE SUDARE / AMPERAGE

4.00									
150 ÷ 170									

AMBALARE / PACKING

Diametru	mm	4.00							
Lungime / Length	mm	450							
Greutate pe electrod / Weight per electrode	g	69.2							
Nr de fire pe pachet / Pcs. per innerbox	n°	80							
Greutate pachet / Weight per innerbox	kg	5.5							
Nr de fire pe cutie / Pcs. per outerbox	n°	210							
Greutate pe cutie / Weight per outerbox	kg	16.5							
Cod / Code		W0002 89033							

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

SAFER R 400

ELECTROD RUTILIC / RUTILE ELECTRODE



CLASIFICARE / STANDARDS

DIN 8555: E 1 UM 400

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod cu invelis rutilic, usor de folosit, care depune un material cu aspect bun si rezistent la uzura metal pe metal. Usoara detasare a zgurei. Duritatea in stare sudata este de 240 - 290 HB, si dupa o calire cu apa ajunge la 400 HB. Recomandat pentru incarcarea ghidajelor de laminare, a senilelor, a echipamentelor de lucru din agricultura si a echipamentelor civile.

MAIN FEATURES

Rutile coated hardfacing electrode, easy to use, depositing chromium steel, with good appearance and good for metal to metal wear applications. Hardness in as welded state is 240 - 290 HB and after water quenched is 400 HB. Suitable for surfacing rails and track equipment, agricultural and civil works equipment.

DOMENII DE APLICATIE

Incarcare

MAIN APPLICATIONS

Hardfacing

POZITII DE SUDARE / WELDING POSITIONS



1G PA
2F PB
AWS EN

CURRENT / CURRENT:

DC-, AC

RANDAMENT / EFFICIENCY:

100%

DURITATE / HARDNESS:

240 - 290 HB / 400 HB

(dupa calire / after water quenching)

ANALIZA CHIMICA A METALULUI DEPUZ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	Cr	P	S				
0.10	0.80	0.30	≤ 0.030	≤ 0.030	2.40				

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment				
Stare sudată/As welded	204 - 290 HB			
Dupa calire/after quenching	400 HB			

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150°C.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150°C till used.

CURENTI DE SUDARE / AMPERAGE

3.15	4.00	5.00						
80 ÷ 100	115 ÷ 135	150 - 170						

AMBALARE / PACKING

	mm	3.2	4.00	5.00				
Diametru	mm	3.2	4.00	5.00				
Lungime / Length	mm	450	450	450				
Greutate pe electrod / Weight per electrode	g	38.3	56.8	86.3				
Nr de fire pe pachet / Pcs. per innerbox	n°	160	115	80				
Greutate pachet / Weight per innerbox	kg	6.0	6.5	6.9				
Nr de fire pe cutie / Pcs. per outerbox	n°	480	345	240				
Greutate pe cutie / Weight per outerbox	kg	18.0	19.5	20.7				
Cod / Code		W0002 89035	W0002 89036	W0002 89037				

SAFER R 600

ELECTROD RUTILIC / RUTILE ELECTRODE

CLASIFICARE / STANDARDS

DIN 8555:	E 2 UM 55 G
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AUTORIZARI / APPROVALS
CARACTERISTICI PRINCIPALE

Electrod cu invelis rutilic de grosime medie, care depune un otel aliat cu crom, foarte dur, cu structura martensitica. Metalul depus poate fi prelucrat prin polizare. Inainte de incarcare este necesara preincalzirea, mai ales pentru piesele groase. Recomandat pentru incarcarea subansamblelor supuse la abraziune si soc. De exemplu: cupe de excavator, senile de tractor, echipamente miniere etc.

MAIN FEATURES

Semi-thick rutile coated electrode, depositing a chromium steel, very hard, with martensitic structure. Weld metal can be grinded. Preheating is always necessary, especially for large workpieces under medium impacts and abrasion wear. Same applications: mechanical shovels, crawler shoes, mining equipment etc.

DOMENII DE APLICATIE

Incarcare

MAIN APPLICATIONS

Hardfacing

POZITII DE SUDARE / WELDING POSITIONS


1G PA 2F PB AWS EN

CURRENT / CURRENT: DC-, AC
RANDAMENT / EFFICIENCY: 100%
DURITATE / HARDNESS: 51 - 57 HRC

ANALIZA CHIMICA A METALULUI DEPUS % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cr			
0.60	1.10	1.00	≤ 0.030	≤ 0.030	2.80			

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment				
Stare sudată/As welded	51 ÷ 57 HRC			

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
 Odata deschis pachetul, a se pastra la temperatura de 90° - 150°C.

STORAGE - REBAKING

Keep dry and store at room temperature.
 Once opened, store at 90° - 150°C till used.

CURENTI DE SUDARE / AMPERAGE

3.2	4.00	5.00					
85 ÷ 105	115 ÷ 135	150 ÷ 170					

AMBALARE / PACKING

	mm	3.2	4.00	5.00			
Diametru	mm	3.2	4.00	5.00			
Lungime / Length	mm	450	450	450			
Greutate pe electrod / Weight per electrode	g	40.6	61.6	97.5			
Nr de fire pe pachet / Pcs. per innerbox	n°	135	90	60			
Greutate pachet / Weight per innerbox	kg	5.5	5.5	5.8			
Nr de fire pe cutie / Pcs. per outerbox	n°	405	270	180			
Greutate pe cutie / Weight per outerbox	kg	16.5	16.5	17.4			
Cod / Code		W0002 89038	W0002 89039	W0002 89040			

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

EI 58 H

ELECTROD RUTIL-BAZIC / RUTIL-BASIC ELECTRODE



CLASIFICARE / STANDARDS

DIN 8555: E16-60 coated

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrodul EI 58H este un electrod cu invelis ruti-bazic pentru incarcarea prin sudare a subansamblelor supuse la soc si la abraziune. Electrozii sudeaza cu arc stabil, fara stropi, topire uniforma linistita. Zgura se desprinde usor dupa solidificare.

MAIN FEATURES

The electrode EI 58H is a rutile-basic covered electrode for hardfacing. parts subject to extremely severe working conditions, involving a combination of impact and abrasion. Electrodes weld with a stable arc and very low spattering loss. The slag is easy to remove.

DOMENII DE APLICATIE

Incarcare

MAIN APPLICATIONS

Hardfacing

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G AWS
PA PB PC EN

CURRENT / CURRENT: DC (+), AC

RANDAMENT / EFFICIENCY: 100%

DURITATE / HARDNESS: the first layer - 550 HB /
the second layer - 57-62 HRC

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Cr	Mo	V	Si				
0.40 - 0.60	0.20 - 0.40	6.50 - 8.00	0.40 - 0.60	0.40 - 0.60	0.40 - 0.60				

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment					
Stare sudată/As welded	57 ÷ 62 HRC				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.

Electrozii se vor usca in mod obligatoriu timp de 2 h la 250° ÷ 300°C.

STORAGE - REBAKING

Keep dry and store at room temperature.

Rebaking: 2 h min. at 250° ÷ 300°C.

CURENTI DE SUDARE / AMPERAGE

3.20	4.00	5.00							
100 ÷ 120	140 ÷ 160	180 - 210							

AMBALARE / PACKING

Diametru	mm	3.20	3.20	4.00	5.00				
Lungime / Length	mm	350	450	450	450				
Greutate pe electrod / Weight per electrode	g	37	48.5	70.5	112.5				
Nr de fire pe pachet / Pcs. per innerbox	n°	108	113	78	49				
Greutate pachet / Weight per innerbox	kg	4.0	5.5	5.5	5.5				
Nr de fire pe cutie / Pcs. per outerbox	n°	324	339	234	147				
Greutate pe cutie / Weight per outerbox	kg	12.0	16.5	16.5	16.5				
Cod / Code		050123 325 350	050123 325 450	050123 400 450	050123 500 450				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

EI 62 H

ELECTROD RUTIL-BAZIC / RUTIL-BASIC ELECTRODE

CLASIFICARE / STANDARDS

DIN 8555:	E14 - 60
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AUTORIZARI / APPROVALS
CARACTERISTICI PRINCIPALE

Electrodul EI 62H este un electrod cu invelis ruti-bazic pentru incarcarea prin sudare a pieselor supuse frecarii metal pe metal si usoara abraziune. Electrozii sudeaza cu arc stabil, fara stropi, topire uniforma si linistita. Zgura se desprinde usor dupa solidificare.

MAIN FEATURES

The electrode EI 62H is a rutile-basic covered electrode for hardfacing. The weld metal has an excellent resistance to low-stress abrasion and metal to metal wear. Electrodes weld with a stable arc and very low spattering loss. The slag is easy to remove.

DOMENII DE APLICATIE

Incarcare

MAIN APPLICATIONS

Hardfacing

POZITII DE SUDARE / WELDING POSITIONS


1G	2F	2G	AWS
PA	PB	PC	EN

CURRENT / CURRENT: DC (+)

RANDAMENT / EFFICIENCY: 100%

DURITATE / HARDNESS: 55 - 60 HRC

ANALIZA CHIMICA A METALULUI DEPUS % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Cr	Mo	V	W	Si			
0.70 - 1.00	0.30 - 0.60	3.50 - 5.00	2.50 - 9.50	1.50 - 2.50	2.00 - 3.00	0.80 - 1.60			

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment					
Stare sudată/As welded	55 ÷ 60 HRC				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Electrozii se vor usca in mod obligatoriu timp de 2 h la 250° ÷ 300°C.

STORAGE - REBAKING

Keep dry and store at room temperature.
Rebaking: 2 h min. at 250° ÷ 300°C.

CURENTI DE SUDARE / AMPERAGE

3.20	4.00	5.00						
135 ÷ 150	180 ÷ 200	220 ÷ 250						

AMBALARE / PACKING

Diametru	mm	3.2	4.00	5.00				
Lungime / Length	mm	450	450	450				
Greutate pe electrod / Weight per electrode	g	56.5	80.2	124.0				
Nr de fire pe pachet / Pcs. per innerbox	n°	99	69	44				
Greutate pachet / Weight per innerbox	kg	5.5	5.5	5.8				
Nr de fire pe cutie / Pcs. per outerbox	n°	297	207	132				
Greutate pe cutie / Weight per outerbox	kg	16.5	16.5	16.5				
Cod / Code		050124 325 450	050124 400 450	050124 500 450				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

SAFDUR 800 E

ELECTROD BAZIC-GRAFIT / BASIC-GRAPHITE ELECTRODE



CLASIFICARE / STANDARDS

DIN 8555: E 2 UM 55 G

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod cu invelis bazic-grafitic cu randament de 200%, ce depune o fonta speciala cu 5% crom. Duritatea obtinuta este de aproximativ 750 HV. Numarul maxim de strat-uri recomandat este de 3 strat-uri. Recomandat la aplicatii de abraziune severa la temperatura ($t < 650^{\circ}\text{C}$). Aplicatii: in industria metalurgica, in cariere, fabrici de ciment, in agricultura.

MAIN FEATURES

Basic-graphite coated electrode, with 200% recovery, depositing a special chromium cast iron. As-welded hardness is 750 HV approx. Number of layers limited to 3. Resistance to severe abrasion at temperatures ($t < 650^{\circ}\text{C}$). Same applications: iron and steel-making, quarries, cement plants, agriculture.

DOMENII DE APLICATIE

Incarcare

MAIN APPLICATIONS

Hardfacing

POZITII DE SUDARE / WELDING POSITIONS



1G 2F AWS
PA PB EN

CURRENT / CURRENT: DC-, AC

RANDAMENT / EFFICIENCY: 200%

DURITATE / HARDNESS: 750 HV (approx. 62 HRC)

ANALIZA CHIMICA A METALULUI DEPUS % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	Mo	Cr	Nb	V	W		
0.50	1.30	1.1	5	24.5	6	1.2	2.5		

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment					
Stare sudată/As welded	750 HV				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Reuscare: $150-175^{\circ}\text{C}$ x 1 1/2h. Pastrare la $90^{\circ} - 150^{\circ}\text{C}$.

STORAGE - REBAKING

Keep dry and store at room temperature.
Rebaking: $150-175^{\circ}\text{C}$ x 1 1/2h. Store at $90^{\circ} - 150^{\circ}\text{C}$.

CURENTI DE SUDARE / AMPERAGE

3.15	4.00								
110 - 130	150 - 170								

AMBALARE / PACKING

Diametru	mm	3.15	4.00						
Lungime / Length	mm	450	450						
Greutate pe electrod / Weight per electrode	g	50.9	98.9						
Nr de fire pe pachet / Pcs. per innerbox	n°	85	55						
Greutate pachet / Weight per innerbox	kg	4.3	5.4						
Nr de fire pe cutie / Pcs. per outerbox	n°	255	165						
Greutate pe cutie / Weight per outerbox	kg	12.9	16.2						
Cod / Code		W0002 89041	W0002 89042						

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

STARINOX 307-15

ELECTROD BAZIC / LOW-HYDROGEN ELECTRODE

CLASIFICARE / STANDARDS

SR EN 1600 (EN ISO 3581-A):	E 18 8 Mn B 22
AWS A5.4:	E307-15*

AUTORIZARI / APPROVALS

TÜV:	E 18 8 Mn B 12
DB	

CARACTERISTICI PRINCIPALE

Electrozi inoxidabili cu invelis bazic aliat prin vergea si invelis; prin sudare depun un metal austenitic. Se recomanda pentru sudarea otelurilor sensibile la fisurare, otelurilor de imbunatatire, otelurilor inoxidabile rezistente pana la temperaturi de 850°C, otelului austenitic manganos si in imbinari eterogene indeosebi pentru grosimi mari. Se pot folosi si ca strat tampon.

Arcul se amorseaza usor si se mentine stabil. Invelisul se topeste uniform si cu stropire redusa. Zgura se solidifica rapid, acopera uniform cusatura si se desprinde usor. Profilul randului de sudura la imbinari de colt este usor convex.

DOMENII DE APLICATIE

Recipienti sub presiune; Incarcari; Constructii metalice, civile si feroviare.

MAIN FEATURES

Basic coated electrode alloyed through wire and cover. Recommended for welding of quenched and tempered steels, austenitic manganese steels, stainless steels with maximum temperature service +850°C and dissimilar steels especially for high thicknesses. Excellent mechanical properties and high crack resistance. Applications for buffer layers.

Easy striking and restriking and smooth arc. The cover melts uniformly with reduced spattering. Slag solidifies quickly, covers the weld uniformly and is easy to remove. Layer profile for corner welds is slightly convex.

MAIN APPLICATIONS

Vessels; Hardfacing; Metal working industry.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni	Cr	FN (WRC)		
≤ 0.15	4.50 - 7.50	≤ 0.90	≤ 0.025	≤ 0.035	7.00 - 11.0	18.0 - 21.0	5.0 - 10.0		

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 4d	Kv J +20°C	
Stare sudată/As welded	≥ 500	≥ 350	≥ 30	≥ 47	

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei. Odata deschis tubul, a se pastra la 90° - 150°C. Inainte de sudare electrozii se vor usca in mod obligatoriu timp de 2 h la 250 ÷ 300°C.

STORAGE - REBAKING

Keep dry and store at room temperature. Once opened, store at 90° - 150°C till use. Rebaking: 2 h min. at 250 ÷ 300°C.

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.00							
60 - 80	80 - 100	110 - 140							

AMBALARE / PACKING: TUB / CAN

Diametru	mm	2.50	3.20	4.0					
Lungime / Length	mm	300	350	350					
Greutate pe electrod / Weight per electrode	g	18.5	34.6	53.57					
Nr de fire pe pachet / Pcs. per innerbox	n°	200	130	85					
Greutate pachet / Weight per innerbox	kg	3.7	4.5	4.5					
Nr de fire pe cutie / Pcs. per outerbox	n°	600	390	255					
Greutate pe cutie / Weight per outerbox	kg	11.1	13.5	13.5					
Cod / Code		050311 250 300	050311 325 350	050311 400 350					

Ambalarea in tuburi metalice ofera posibilitatea pastrarii electrozilor in medii cu umiditate atmosferica ridicata, eliminand necesitatea calcinarii dupa desigilarea tubului timp de maxim 4h. Capacul din plastic nu permite rostogolirea tubului si permite protectia electrozilor dupa desigilarea tubului.

Packaging in tin cans offers the possibility of keeping the electrodes in highly humid environments, thus eliminating the necessity of rebaking once the can opened. The plastic cap does not allow the can to roll over and protects the electrodes once the can opened.

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

STARINOX 307-16

ELECTROD SEMI-BAZIC / SEMI-BASIC ELECTRODE



CLASIFICARE / STANDARDS

SR EN 1600 (EN ISO 3581-A):	E 18 8 Mn R 12
AWS A5.4:	E307-16*

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrozii inoxidabili cu invelis rutilic aliat prin vergea si invelis; prin sudare depun un metal austenitic. Se recomanda pentru sudarea otelurilor sensibile la fisurare, otelurilor de imbunatatire, otelurilor inoxidabile rezistente pana la temperaturi de 850°C, otelului austenitic manganos si in imbinari eterogene indeosebi pentru grosimi mari. Se pot folosi si ca strat tampon. Arcul se amorseaza usor si se mentine stabil. Invelisul se topeste uniform si cu stropire reduca. Zgura se solidifica rapid, acopera uniform cusatura si se desprinde usor. Profilul randului de sudura la imbinari de colt este usor convex.

DOMENII DE APLICATIE

Recipienti sub presiune; Incarcari; Constructii metalice, civile si feroviare.

MAIN FEATURES

Rutile electrodes alloyed through wire and cover. Recommended for welding of quenched and tempered steels, austenitic manganese steels, stainless steels with maximum temperature service +850°C and dissimilar steels especially for high thicknesses. Excellent mechanical properties and high crack resistance. Applications for buffer layers. Easy striking and restriking and smooth arc. The cover melts uniformly with reduced spattering. Slag solidifies quickly, covers the weld uniformly and is easy to remove. Layer profile for corner welds is slightly convex.

MAIN APPLICATIONS

Vessels; Hardfacing; Metal working industry.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni	Cr	FN (WRC)		
≤ 0.15	5.00 - 8.00	≤ 1.50	≤ 0.030	≤ 0.040	7.00 - 11.0	17.0 - 21.0	5.0 - 10.0		

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 4d	Kv J +20°C
Stare sudată/As welded	≥ 550	≥ 320	≥ 30	≥ 47

DEPOZITARE - CALCINARE

Inainte de sudare, electrozii se vor pastra in locuri uscate la temperatura camerei.

Odata deschis tubul, a se pastra la 90° - 150°C.

STORAGE - REBAKING

Keep dry and store at room temperature.

Once opened, store at 90° - 150°C till use.

CURENTI DE SUDARE / AMPERAGE

2.00	2.50	3.20	4.00	5.00				
30 - 60	60 - 80	80 - 100	110 - 140	130 - 180				

AMBALARE / PACKING: TUB / CAN

Diametru	mm	2.00	2.50	3.20	4.00	5.00		
Lungime / Length	mm	300	300	350	350	350		
Greutate pe electrod / Weight per electrode	g	11.21	18.50	34.60	53.57	78.85		
Nr de fire pe pachet / Pcs. per innerbox	n°	330	200	130	85	58		
Greutate pachet / Weight per innerbox	kg	3.7	3.7	4.5	4.5	4.5		
Nr de fire pe cutie / Pcs. per outerbox	n°	990	600	390	255	174		
Greutate pe cutie / Weight per outerbox	kg	11.1	11.1	13.5	13.5	13.5		
Cod / Code		050311 200 300	050311 250 300	050311 325 350	050311 400 350	050311 500 350		

Ambalarea in tuburi metalice ofera posibilitatea pastrarii electrozilor in medii cu umiditate atmosferica ridicata, eliminand necesitatea calcinarii dupa desigilarea tubului timp de maxim 4h. Capacul din plastic nu permite rostogolirea tubului si permite protectia electrozilor dupa desigilarea tubului.

Packaging in tin cans offers the possibility of keeping the electrodes in highly humid environments, thus eliminating the necessity of rebaking once the can is opened. The plastic cap does not allow the can to roll over and protects the electrodes once the can is opened.

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

CLASIFICARE / STANDARDS

SR EN 1600 (EN ISO 3581-A): AWS A5.4:	E 199 L R 12 E308L-16
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AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrozi cu invelis semi-bazic ce depun un metal cu un continut de carbon de max. 0.04%, destinat sudarii otelurilor inoxidabile austenitice cu 16-20% Cr si 8-12% Ni de tipul AISI 302, 304, 304L, 305. Rezistenta buna la coroziune intercrystalina. Comportare la sudura excelenta, fara stropire, dupa solidificare zgura se indeparteaza foarte usor. Temperatura maxima de lucru +300°C. Metalul depus are un continut de ferita controlat.

Alte materiale de baza pentru care se recomanda:

- X 5 CrNi 189, X 3 CrNi 189, X 10 CrNiTi 18.10 - DIN 17440
- W1.4301, W1.4306, W1.4541, W1.4550 - Werkstoff.

DOMENII DE APLICATIE

Recipienti, inclusiv pentru industria chimică și petrochimică;
Fabricarea tevilor; Constructii civile.

MAIN FEATURES

Semi-basic electrode suitable for welding of austenitic steels having 16-20% Cr and 8-10% Ni (i.e. AISI 308 and 308L). Deposit with a carbon content max. 0.04%. Particularly suitable for food industry, chemical and nuclear applications. High resistance to intergranular corrosion. Excellent weldability with a spatter free arc; self releasing slag combined with a very smooth bead appearance. Maximum service temperature: +300°C.

It is recommended for the materials:

- X 5 CrNi 189, X 3 CrNi 189, X 10 CrNiTi 18.10 - DIN 17440
- W1.4301, W1.4306, W1.4541, W1.4550 - Werkstoff.

MAIN APPLICATIONS

Vessels, boilers fabrication (including chemical and petrochemical);
Pipes fabrication; Metal working industry

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+, AC

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni	Cr	FN (WRC)		
≤ 0.04	0.50 - 1.00	0.60 - 0.90	0.020	≤ 0.030	9.0 - 11.0	18.0 - 21.0	5.0 - 10.0		

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 4d	Kv J +20°C
Stare sudată/As welded	≥ 520	≥ 350	≥ 35	≥ 60

DEPOZITARE - CALCINARE

Inainte de sudare, electrozii se vor pastra in locuri uscate la temperatura camerei. Odata deschis tubul, a se pastra la 90° - 150°C.

STORAGE - REBAKING

Keep dry and store at room temperature. Once opened, store at 90° - 150°C till use.

CURENTI DE SUDARE / AMPERAGE

2.00	2.50	3.20	4.00	5.00				
30 - 60	60 - 80	80 - 100	110 - 140	130 - 180				

AMBALARE / PACKING: TUB / CAN

Diametru	mm	2.00	2.50	3.20	4.00	5.00		
Lungime / Length	mm	300	300	350	350	350		
Greutate pe electrod / Weight per electrode	g	11.21	18.5	34.60	53.57	78.85		
Nr de fire pe pachet / Pcs. per innerbox	n°	330	200	130	85	58		
Greutate pachet / Weight per innerbox	kg	3.7	3.7	4.5	4.5	4.5		
Nr de fire pe cutie / Pcs. per outerbox	n°	990	600	390	255	174		
Greutate pe cutie / Weight per outerbox	kg	11.1	11.1	13.5	13.5	13.5		
Cod / Code		050303 200 300	050303 250 300	050303 325 350	050303 400 350	050303 500 350		

Ambalarea in tuburi metalice ofera posibilitatea pastrarii electrozilor in medii cu umiditate atmosferica ridicata, eliminand necesitatea calcinarii dupa desigilarea tubului timp de maxim 4h. Capacul din plastic nu permite rostogolirea tubului si permite protectia electrozilor dupa desigilarea tubului.

Packaging in tin cans offers the possibility of keeping the electrodes in highly humid environments, thus eliminating the necessity of rebaking once the can opened. The plastic cap does not allow the can to roll over and protects the electrodes once the can opened.

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

FRO INOX E308L - 16

ELECTROD SEMI-BAZIC / SEMI-BASIC ELECTRODE



CLASIFICARE / STANDARDS

AWS A5.4 :	E 308L-16
EN 1600 (EN ISO 3581-A):	E 199 L B 12

AUTORIZARI / APPROVALS

TÜV: approved

CARACTERISTICI PRINCIPALE

Electrod universal ce depune un metal cu un continut de carbon de maxim 0.04%, destinat sudarii otelurilor inoxidabile austenitice de tipul AISI 302, 304, 304L, 305. Rezistenta buna la coroziunea intercrystalina. Amorsare foarte buna cu o detasabilitate buna a zgurii. Temperatura maxima de lucru +300°C. Metalul depus are un continut de ferita controlat.

MAIN FEATURES

Coated electrode depositing a low carbon content weld metal, max 0.04%. Suitable for welding of austenitic steels type AISI 302, 304, 304L, 305. Good resistance to intercrystalline corrosion. Good striking and excellent weldability with soft fusion. Easy removable slag. Maximum service temperature +300°C. Weld metal with controlled Ferrite content.

DOMENII DE APLICATIE

Constructii navale; Recipienti sub presiune, inclusiv pentru industria chimica si petrochimica; Fabricarea tevelor.

MAIN APPLICATIONS

Ship building; Vessels, boilers fabrication (chemical and petrochemical); Pipes fabrication.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cu	Ni	Cr	Mo	FN (WRC)
≤ 0.04	0.50 - 2.00	≤ 0.90	≤ 0.025	≤ 0.025	≤ 0.10	9.0 - 11.0	18.0 - 21.0	≤ 0.20	5.0 - 10.0

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J +20°C
Stare sudată/As welded	≥ 520	≥ 350	≥ 35	≥ 60

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la 90° - 150°C.
Calcinare: 1 h la 350°C max. 5 ori.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150°C.
Rebaking: 1h at 350°C, max 5 times.

CURENTE DE SUDARE / AMPERAGE

2.0	2.5	3.20	4.0	5.0				
30 - 60	50 - 80	60 - 100	100 - 140	130 - 180				

AMBALARE / PACKING: VPM (vacuum pack mediu)

Diametru	mm	2.0	2.5	2.5	3.20	4.0	5.0		
Lungime / Length	mm	300	300	350	350	350	350		
Greutate pe electrod / Weight per electrode	g	11.2	17.9	20.5	34.8	52.5	80.0		
Nr de fire pe pachet / Pcs. per innerbox	n°	310	190	190	120	80	50		
Greutate pachet / Weight per innerbox	kg	3.5	3.4	3.9	4.1	4.2	4.0		
Nr de fire pe cutie / Pcs. per outerbox	n°	930	570	570	360	240	150		
Greutate pe cutie / Weight per outerbox	kg	11.5	10.2	11.7	12.3	12.6	12.0		
Cod / Code		W0002 88719	W0002 88720	W0002 88721	W0002 88722	W0002 88723	W0002 88724		

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

STARINOX E308L - HP

ELECTROD RUTILIC / RUTILE ELECTRODE

CLASIFICARE / STANDARDS

EN 1600 (EN ISO 3581-A): AWS A5.4:	E 199 L R 22 E 308L-17
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AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod cu invelis rutilic, cu emisii de fum reduse, pentru sudarea otelurilor inoxidabile austenice Cr-Ni. Reducerea emisiilor de fum contribuie la imbunatatirea mediului de lucru pentru sudori si spatii inchise. Temperatura maxima de lucru +300°C. Transferul metalului se face in picaturi fine, topire buna, usoara desprindere a zgureii. Ambalare vacuum: fara necesitate calcinare si conditii speciale de depozitare.

MAIN FEATURES

Fume reduced, coated electrode for welding austenitic stainless Cr-Ni. The reduced fume formation contributes to an improved working environment, for welders and in workshops. For operating temperatures of up to +300°C. Fine metal droplet transfer, good fusion, easy slag removal, excellent striking and restriking. Vacuumpacked: no redrying, no special storing conditions.

DOMENII DE APLICATIE

Constructii navale; Recipienti sub presiune, inclusiv pentru industria chimica si petrochimica; Fabricarea tevelor.

MAIN APPLICATIONS

Ship building; Vessels, boilers fabrication (chemical and petrochemical); Pipes fabrication.

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DE PUS % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni	Cr	FN (WRC)		
≤ 0.03	0.80	0.90	≤ 0.020	≤ 0.025	10.50	19.00	5 - 10		

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J +20°C	
Stare sudată/As welded	≥ 520	≥ 350	≥ 30	≥ 50	

DEPOZITARE - CALCINARE

Ambalare vacuum.
Odata deschis pachetul, a se pastra la 90° - 150° C.
Reuscarea electrozilor la 250-300° C / 2h max. de 5 ori.

STORAGE - REBAKING

*Vacuum packed.
Once opened, store at 90° - 150°C.
Re-dry moist electrodes 250-300°C / 2h max 5 times.*

CURENTE DE SUDARE / AMPERAGE

2.5	3.20	4.0						
70 - 80	110 - 120	125 - 135						

AMBALARE / PACKING: (VPS)

Diametru	mm	2.5	3.20	4.0				
Lungime / Length	mm	300	350	350				
Greutate pe electrod / Weight per electrode	g	18.6	35.2	53.3				
Nr de fire pe pachet / Pcs. per innerbox	n°	28	22	18				
Greutate pachet / Weight per innerbox	kg	0.52	0.78	0.95				
Nr de fire pe cutie / Pcs. per outerbox	n°	448	308	216				
Greutate pe cutie / Weight per outerbox	kg	8.3	10.8	11.5				
Cod / Code		W0002 88850	W0002 88851	W0002 88852				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

STARINOX 309L

ELECTROD SEMI-BAZIC / SEMI-BASIC ELECTRODE



CLASIFICARE / STANDARDS

SR EN 1600 (EN ISO 3581-A):	E 23 12 L R 12
AWS A5.4:	E309L-16

AUTORIZARI / APPROVALS

LRS:	309L
DNV:	309L

CARACTERISTICI PRINCIPALE

Electrozi cu invelis semi-bazic ce depun un metal cu un continut de carbon de max. 0.04%, destinat sudarii otelurilor inoxidabil austenitice cu 22-25% Cr si 12-14% Ni de tipul AISI 309 si pentru oteluri refractare. Este destinat de asemenea sudarii imbinarilor eterogene. Indicad in particular pentru realizarea straturilor tampon in cazul incarcarii otelurilor carbon cu otel inoxidabil de tipul 308 si 316. Comportare la sudura excelenta, fara stropire, dupa solidificare zgura se indeparteaza foarte usor. Temperatura maxima de lucru +1000°C. Metalul depus are un continut de ferita controlat.

MAIN FEATURES

Semi-basic electrode suitable for welding of austenitic steels having 22-25% Cr and 12-14% Ni (i.e. AISI 309). Maximum service temperature: +1000°C. High resistance to embrittlement. Suitable for joining of dissimilar steels. Excellent weldability with a spatter free arc; self releasing slag combined with a very smooth bead appearance.

DOMENII DE APLICATIE

Recipienti sub presiune, inclusiv industria chimica si petrochimica; Strat tampon in cazul placarii.

MAIN APPLICATIONS

Vessels, boilers fabrication (including chemical and petrochemical); First layer for stainless weld overlay.

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+, AC

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni	Cr	FN (WRC)
≤ 0.04	0.50 - 1.00	0.50 - 0.90	≤ 0.020	≤ 0.025	12.0 - 14.0	22.50 - 24.50	8.0 - 14.0

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J +20°C
Stare sudată/As welded	≥ 520	≥ 400	≥ 30	≥ 60

DEPOZITARE - CALCINARE

Înainte de sudare electrozii se vor pastra in locuri uscate la temperatura camerei. Odata deschis pachetul, a se pastra la 90° - 150° C.

STORAGE - REBAKING

Keep dry and store at room temperature. Once opened, store at 90° - 150° C.

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.0
60 - 80	80 - 100	110 - 140

AMBALARE / PACKING: TUB / CAN

Diametru	mm	2.5	3.20	4.00
Lungime / Length	mm	300	350	350
Greutate pe electrod / Weight per electrode	g	18.85	34.6	53.57
Nr de fire pe pachet / Pcs. per innerbox	n°	197	130	85
Greutate pachet / Weight per innerbox	kg	3.7	4.5	4.5
Nr de fire pe cutie / Pcs. per outerbox	n°	591	390	255
Greutate pe cutie / Weight per outerbox	kg	11.1	13.5	13.5
Cod / Code		050303 250 300	050303 325 350	050303 400 350

Ambalarea in tuburi metalice ofera posibilitatea pastrarii electrozilor in medii cu umiditate atmosferica ridicata, eliminand necesitatea calcinarii dupa desigilarea tubului. Capacul din plastic nu permite rostogolirea tubului si permite protectia electrozilor dupa desigilarea tubului.

Packaging in tin cans offers the possibility of keeping the electrodes in highly humid environments, thus eliminating the necessity of rebaking once the can opened. The plastic cap does not allow the can to roll over and protects the electrodes once the can opened.

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

FRO INOX E309L - 16

ELECTROD SEMI-BAZIC / SEMI-BASIC ELECTRODE

CLASIFICARE / STANDARDS

EN 1600 (EN ISO 3581-A): AWS A5.4:	E 23 12 L B 12 E 309L-16
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AUTORIZARI / APPROVALS

TÜV: approved

CARACTERISTICI PRINCIPALE

Electrod universal cu continut scazut de carbon, de maxim 0.04%, destinat sudarii otelurilor inoxidabile austenitice cu un continut de 23% Cr si 13% Ni tip AISI 309 si pentru oteluri refractare. Este destinat de asemenea sudarii imbinarilor disimilare. Indicat in mod particular in cazul depunerii primului strat pe otel tip AISI 308. Sudabilitate excelenta cu o detasabilitate foarte buna a zgurii. Temperatura maxima de lucru + 1000° C. Metalul depus are un continut controlat de ferita.

MAIN FEATURES

Coated electrode depositing low carbon content weld metal, max 0.04%. Suitable for welding of austenitic steels with 23% Cr and 13% Ni type AISI 309 and of high temperature service steels. It is suitable for joining steels of heterogeneous composition like AISI 308L to carbon steels and for first layer fo weld overlay in 308L. Good weldability with easy removal slag. Maximum service temperature + 1000°C. Weld metal with a controlled Ferrite content.

DOMENII DE APLICATIE

Recipienti sub presiune, inclusiv industria chimica si petrochimica; Primul strat in cazul sudarii otelurilor inoxidabile.

MAIN APPLICATIONS

Vessels, boilers fabrication (including chemical and petrochemical); First layer for stainles weld overlay.

POZITII DE SUDARE / WELDING POSITIONS


1G 2F 2G 3G AWS
PA PB PC PF EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cu	Ni	Cr	Mo	FN (WRC)
≤ 0.04	0.50 - 2.50	0.50 - 0.90	≤ 0.025	≤ 0.03	≤ 0.50	12.0 - 14.0	22.0 - 25.0	≤ 0.50	8.0 - 13.0

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J +20°C
Stare sudată/As welded	≥ 520	≥ 400	≥ 30	≥ 40

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei. Odata deschis pachetul, a se pastra la 90° - 150°C. Calcinare: 1 h la 350°C max. 5 ori.

STORAGE - REBAKING

Keep dry and store at room temperature. Once opened, store at 90° - 150°C. Rebaking: 1h at 350° C, max 5 times.

CURENTI DE SUDARE / AMPERAGE

2.0	2.5	3.20	4.0					
40 - 60	45 - 70	65 - 100	115 - 140					

AMBALARE / PACKING: VPM (vacuum pack mediu)

Diametru	mm	2.0	2.5	3.20	4.0			
Lungime / Lenght	mm	300	300	350	350			
Greutate pe electrod / Weight per electrode	g	11.6	19.3	36.2	53.8			
Nr de fire pe pachet / Pcs. per innerbox	n°	310	190	120	80			
Greutate pachet / Weight per innerbox	kg	3.6	3.7	4.3	4.3			
Nr de fire pe cutie / Pcs. per outerbox	n°	930	570	360	240			
Greutate pe cutie / Weight per outerbox	kg	10.8	11.1	12.9	12.9			
Cod / Code		W0002 88834	W0002 88835	W0002 88836	W0002 88837			

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

STARINOX E 309L HP

ELECTROD RUTILIC / RUTILE ELECTRODE



CLASIFICARE / STANDARDS

SR EN 1600 (EN ISO 3581-A): AWS A5.4:	E 199 L R 12 E309L-17
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AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod cu invelis rutilic, cu emisii de fum reduse, pentru sudarea otelurilor inoxidabile austenice 23% Cr - 13% Ni si a imbinarilor eterogene (otel inox cu otel carbon). Metalul depus consta din austenita cu aprox. 15% ferita delta. Reducerea emisiilor de fum contribuie la imbunatatirea mediului de lucru pentru sudori si spatii inchise. Temperatura maxima de lucru +300°C. Transferul metalului se face in picaturi fine, topire buna, usoara desprindere a zgurei. Ambalare vacuum: fara necesitate calcinare si conditii speciale de depozitare.

MAIN FEATURES

Fume reduced, coated electrode for welding austenitic stainless 23% Cr - 13% Ni and for joining dissimilar steels (stainless steel with carbon steel). Weld metal consists of austenite with approx. 15% delta-ferrite. The reduced fume formation contributes to an improved working environment, for welders and in workshops. For operating temperatures of up to +300°C. Fine metal droplet transfer, good fusion, easy slag removal, excellent striking and restraining. Vacuum packed: no redrying, no special storing conditions.

DOMENII DE APLICATIE

Constructii navale;
Recipiente sub presiune, inclusiv pentru industria chimica si petrochimica;
Fabricarea tevilor.

MAIN APPLICATIONS

Ship building;
Vessels, boilers fabrication (chemical and petrochemical);
Pipes fabrication.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUZ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni	Cr	FN (WRC)		
≤ 0.03	0.80	0.90	≤ 0.020	≤ 0.025	12.50	23.00	10 - 20		

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J +20°C	
Stare sudată/As welded	≥ 520	≥ 320	≥ 30	≥ 50	

DEPOZITARE - CALCINARE

Ambalare vacuum.
Odata deschis pachetul, a se pastra la 90° - 150° C.
Resuscatare electrozilor la 250-300° C / 2h max. de 5 ori.

STORAGE - REBAKING

Vacuum packed.
Once opened, store at 90° - 150° C.
Re-dry moist electrodes 250-300° C / 2h max 5 times.

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.0						
70 - 80	110 - 120	125 - 135						

AMBALARE / PACKING: (VPS)

Diametru	mm	2.5	3.20	4.0					
Lungime / Length	mm	300	350	350					
Greutate pe electrod / Weight per electrode	g	18.3	34.2	53.3					
Nr de fire pe pachet / Pcs. per innerbox	n°	28	22	18					
Greutate pachet / Weight per innerbox	kg	0.51	0.75	0.95					
Nr de fire pe cutie / Pcs. per outerbox	n°	448	308	216					
Greutate pe cutie / Weight per outerbox	kg	8.2	10.5	11.5					
Cod / Code		W0002 88856	W0002 88857	W0002 88858					

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

FRO INOX E309MoL - 16

ELECTROD SEMI-BAZIC / SEMI-BASIC ELECTRODE

CLASIFICARE / STANDARDS

EN 1600 (EN ISO 3581-A): AWS A5.4:	E 23 12 2 LR 12 E 309MoL-16	
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AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod destinat sudarii otelurilor inoxidabile austenitice cu un continut de 23% Cr, 13% Ni si 2.5% Mo tip AISI 309, 309Mo si pentru oteluri cu compozitie chimica diferita sau greu sudabile. Continutul de molibden mareste rezistenta la fisurare la cald. Indicativ in particular pentru efectuarea straturilor tampon in cazul incarcarii otelurilor carbon cu otel inoxidabil de tipul AISI 316. Operativitate excelenta cu o zgura autodetasabila. Temperatura maxima de lucru +1000°C. Metalul depus are un continut de ferita controlat.

MAIN FEATURES

Electrode for welding of austenitic stainless steels with 23% Cr, 13% Ni, 2.5% Mo like AISI 309, 309Mo, and dissimilar steels. Mo content of weld metal guarantees a high resistance against hot cracking. Suitable for buffer layers for cladding of carbon steels with AISI 316 steels. Excellent weldability spatter free arc and self-releasing slag. Maximum service temperature: +1000°C. Weld metal with controlled Ferrite content.

DOMENII DE APLICATIE

Constructii navale;
Recipienti sub presiune, inclusiv pentru industria chimica si petrochimica;
Incarcare si placare.

MAIN APPLICATIONS

Ship building;
Vessels, boilers fabrication (including chemical and petrochemical)
Hard facing and weld overlay.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cu	Ni	Cr	Mo	FN (WRC)
≤ 0.04	≤ 2.50	≤ 0.90	≤ 0.025	≤ 0.03	≤ 0.75	12.0 - 14.0	22.0 - 25.0	2.0 - 3.0	9.0 - 15.0

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J +20°C
Stare sudată/As welded	≥ 550	≥ 400	≥ 30	≥ 40

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la 90° - 150°C.
Calcinare: 1 h la 350°C max. 5 ori.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150°C.
Rebaking: 1h at 350° C, max 5 times.

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.0						
45 - 70	65 - 100	115 - 140						

AMBALARE / PACKING: VPM (vacuum pack mediu)

Diametru	mm	2.5	3.20	4.0				
Lungime / Length	mm	300	350	350				
Greutate pe electrod / Weight per electrode	g	19.0	36.7	55.0				
Nr de fire pe pachet / Pcs. per innerbox	n°	190	120	80				
Greutate pachet / Weight per innerbox	kg	3.6	4.4	4.4				
Nr de fire pe cutie / Pcs. per outerbox	n°	570	360	240				
Greutate pe cutie / Weight per outerbox	kg	10.8	13.2	13.2				
Cod / Code		W0002 88862	W0002 88863	W0002 88864				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

STARINOX 310

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE



CLASIFICARE / STANDARDS

SR EN 1600 (EN ISO 3581-A):	E 25 20 B 12
AWS A5.4:	E310-15

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod cu invelis bazic pentru sudarea otelurilor inoxidabile refractare cu 25% Cr si 20% Ni tip AISI 310. Destinat de asemenea sudarii imbinarilor disimilare, intre oteluri carbon si oteluri inoxidabile. Comportare buna la sudare, fara stropire, dupa solidificare zgura se indeparteaza usor. Temperatura maxima de lucru +1150°C. Alte materiale de baza care se recomanda:

- X 12 CrNi 25.21 - DIN 17440
- W1.4845, W1.4849 - Werkstoff

MAIN FEATURES

Full austenitic basic electrodes, suitable to weld heat resisting alloys (up to 1150°C), containing 25% Cr and 20% Ni (AISI 310). Excellent weldability with a spatter free arc; self-releasing slag combined with a very smooth bead appearance. It is recommended for the materials:

- X 12 CrNi 25.21 - DIN 17440
- W1.4845, W1.4849 - Werkstoff

DOMENII DE APLICATIE

Recipienti inclusiv pentru industria chimica si petrochimica; Incarcare si placare.

MAIN APPLICATIONS

Vessels, boilers fabrication (chemical and petrochemical); Hardfacing and weld overlay.

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+; AC

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni	Cr			
0.08 - 0.15	1.50 - 2.50	0.30 - 0.75	≤ 0.020	≤ 0.030	20.0 - 22.0	25.0 - 28.0			

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 4d	Kv J +20°C	
Stare sudată/As welded	≥ 550	≥ 400	≥ 30	≥ 60	

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei. Odata deschis pachetul, a se pastra la 90° - 150°C. Calcinare: 1 h la 280°C max. de 5 ori.

STORAGE - REBAKING

Keep dry and store at room temperature. Once opened, store at 90° - 150°C. Rebaking: 2 h min. at 250-300°C.

CURENTI DE SUDARE / AMPERAGE

2.50	3.20	4.0	5.00						
60 - 80	80 - 100	110 - 130	130 - 180						

AMBALARE / PACKING

	mm	2.5	3.20	4.0	5.0				
Diametru	mm	2.5	3.20	4.0	5.0				
Lungime / Length	mm	300	350	350	350				
Greutate pe electrod / Weight per electrode	g	18.5	34.6	53.57	78.85				
Nr de fire pe pachet / Pcs. per innerbox	n°	200	130	85	58				
Greutate pachet / Weight per innerbox	kg	3.7	4.5	4.5	4.5				
Nr de fire pe cutie / Pcs. per outerbox	n°	600	390	255	174				
Greutate pe cutie / Weight per outerbox	kg	11.1	13.5	13.5	13.5				
Cod / Code		050307 250 300	050307 325 350	050307 400 350	050307 500 350				

Ambalarea in tuburi metalice ofera posibilitatea pastrarii electrozilor in medii cu umiditate atmosferica ridicata, eliminand necesitatea calcinarii dupa desigilarea tubului. Capacul din plastic nu permite rostogolirea tubului si permite protectia electrozilor dupa desigilarea tubului.

Packaging in tin cans offers the possibility of keeping the electrodes in highly humid environments, thus eliminating the necessity of rebaking once the can is opened. The plastic cap does not allow the can to roll over and protects the electrodes once the can is opened.

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

FRO INOX E310-16

ELECTROD SEMI-BAZIC / LOW HYDROGEN ELECTRODE

CLASIFICARE / STANDARDS

EN 1600 (EN ISO 3581-A): AWS A5.4:	E 25 20 R 12 E 310-16	
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AUTORIZARI / APPROVALS
CARACTERISTICI PRINCIPALE

Electrod cu invelis semi-bazic pentru sudarea in toate pozitiile, cu exceptia pozitiei vertical descendente, a otelurilor inoxidabile integrale austenitice cu 25% Cr si 20% Ni tip AISI 310. Destinat de asemenea sudarii imbinarilor disimilare, intre oteluri carbon si oteluri inoxidabile. Temperatura maxima de lucru +1150° C.

MAIN FEATURES

Low hydrogen electrode for all positions welding except vertical down of fully austenitic stainless steels, like AISI 310. Suitable for joining dissimilar steels, like C steels with stainless. Maximum service temperature: +1150° C.

DOMENII DE APLICATIE

Recipienti, inclusiv pentru industria chimica si petrochimica; Incarcare si placare.

MAIN APPLICATIONS

Vessels, boilers fabrication (including chemical and petrochemical); Hardfacing and weld overlay.

POZITII DE SUDARE / WELDING POSITIONS


1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cu	Ni	Cr	Mo	FN
0.08 - 0.20	1.00 - 2.50	0.30 - 0.75	≤ 0.025	≤ 0.03	≤ 0.75	20.0 - 22.0	25.0 - 27.0	≤ 0.75	0

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J +20°C
Stare sudată/As welded	≥ 550	≥ 400	≥ 30	≥ 60
Dupa/after 620°C x 1h				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei. Odata deschis pachetul, a se pastra la 90° - 150° C. Calcinare: 1 h la 350° C max 5 ori.

STORAGE - REBAKING

Keep dry and store at room temperature. Once opened, store at 90° - 150° C. Rebaking: 1h at 350° C max 5 times.

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.0						
45 - 70	70 - 110	110 - 140						

AMBALARE / PACKING (vacuum pack mediu)

	mm	2.5	3.20	4.0				
Diametru	mm	2.5	3.20	4.0				
Lungime / Length	mm	300	350	350				
Greutate pe electrod / Weight per electrode	g	17.9	34.2	52.5				
Nr de fire pe pachet / Pcs. per innerbox	n°	190	120	80				
Greutate pachet / Weight per innerbox	kg	3.4	4.1	4.3				
Nr de fire pe cutie / Pcs. per outerbox	n°	570	360	240				
Greutate pe cutie / Weight per outerbox	kg	10.2	12.3	12.6				
Cod / Code		W0002 88868	W0002 88869	W0002 88870				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

FRO INOX E312-16

ELECTROD SEMI-BAZIC / LOW HYDROGEN ELECTRODE



CLASIFICARE / STANDARDS

EN 1600 (EN ISO 3581-A): AWS A5.4:	E 299 R 12 E 312-16
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AUTORIZARI / APPROVALS

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CARACTERISTICI PRINCIPALE

Electrod destinat sudarii otelurilor greu sudabile si pentru realizarea imbinarilor disimilare. Destinat realizarii straturilor tampon pentru incarcari. Rezistenta metalului depus la fisurare la cald recomanda acest electrod pentru realizarea unor aplicatii critice, chiar si atunci cand compozitia chimica a metalului de baza este necunoscuta. Operativitate excelenta, cordon cu aspect deosebit, stropi aproape inexistenti.

MAIN FEATURES

All applications electrode for welding of difficult to weld and dissimilar steels. Used for welding of buffer layers for hardfacing. The resistance of weld metal against hot cracks makes this electrode suitable for critical applications, even where base material chemical analysis is unknown. Excellent weldability, spatter free arc and very smooth bead appearance.

DOMENII DE APLICATIE

Constructii metalice, civile si feroviare;
Incarcari.

MAIN APPLICATIONS

Metal working industry;
Hardfacing.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUZ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cu	Ni	Cr	Mo	FN (WRC)
≤ 0.015	0.50 - 2.50	≤ 0.90	≤ 0.025	≤ 0.035	≤ 0.75	8.0 - 10.5	28.0 - 31.0	≤ 0.20	12.0 - 20.0

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J +20°C
Stare sudată/As welded	≥ 660	≥ 450	≥ 22	≥ 47
Dupa/after 620°C x 1h				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la 90° - 150° C.
Calcinare: 1 h la 350° C max 5 ori.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C.
Rebaking: 1h at 350° C max 5 times.

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.0	5.0					
50 - 70	70 - 95	90 - 120	110 - 155					

AMBALARE / PACKING (vacuum pack mediu)

	mm	2.5	3.20	4.0	5.0				
Diametru	mm	300	350	350	350				
Lungime / Length	mm	17.4	32.5	50.0	76				
Greutate pe electrod / Weight per electrode	g	190	120	80.0	50				
Nr de fire pe pachet / Pcs. per innerbox	n°	3.3	3.9	4.0	3.8				
Greutate pachet / Weight per innerbox	kg	570	360	240	150				
Nr de fire pe cutie / Pcs. per outerbox	n°	9.9	11.7	12.0	11.4				
Greutate pe cutie / Weight per outerbox	kg	W0002 88931	W0002 88932	W0002 88933	W0002 88934				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

CLASIFICARE / STANDARDS

SR EN 1600 (EN ISO 3581-A):	E 19 12 3 LR 12
AWS A5.4:	E 310L-16

AUTORIZARI / APPROVALS

LRS:	316L
DNV:	316L

CARACTERISTICI PRINCIPALE

Electrozi cu invelis semi-bazic ce depun un metal cu continut de carbon de maxim 0.04%, pentru sudarea otelurilor inoxidabile austenitice cu 18% Cr si 12% Ni si 2.5% Mo de tip AISI 316, 316L. Rezistenta buna la coroziune intercrystalina. Comportare buna la sudare, fara stropire, dupa solidificare zgura se indeparteaza usor. Temperatura maxima de lucru +300°C. Metalul depus are un continut de ferita controlat.

Alte materiale de baza pentru care se recomanda:

- X 5 CrNiMo 18.12, X 10 CrNiMoT 18.10, X 10 CrNiMoNb 8.10 - DIN 17440
- W1.4404, W1.4580, W1.4581, W1.4583 - Werkstoff

MAIN FEATURES

Semi-basic electrode suitable for welding of austenitic stainless containing 18-20% Cr and 11-13% Ni and 2.5-3% Mo (AISI 316 and 316L). Good chemical corrosion resistance. The low carbon content of the deposit guarantees a free of cracking welding. Maximum service temperature 300°C. Excellent weldability with a spatter free arc; self-releasing slag combined with a very smooth bead appearance. It is recommended for the materials:

- X 5 CrNiMo 18.12, X 10 CrNiMoT 18.10, X 10 CrNiMoNb 8.10 - DIN 17440
- W1.4404, W1.4580, W1.4581, W1.4583 - Werkstoff

DOMENII DE APLICATIE

Recipienti, inclusiv pentru industria chimica si petrochimica; Incarcare si placare.

MAIN APPLICATIONS

Vessels, boilers fabrication (including chemical and petrochemical); Hardfacing and weld overlay.

POZITII DE SUDARE / WELDING POSITIONS


1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC

ANALIZA CHIMICA A METALULUI DEPUȘ / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni	Cr	Mo	FN (WRC-92)
≤ 0.04	0.50 - 1.00	0.60 - 0.90	≤ 0.020	≤ 0.025	11.0 - 13.0	18.5 - 20.0	2.50 - 3.00	5.0 - 10.0

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 4d	Kv J +20°C
Stare sudată/As welded	≥ 520	≥ 350	≥ 30	≥ 60

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei. Odata deschis pachetul, a se pastra la 90° - 150°C.

STORAGE - REBAKING

Keep dry and store at room temperature. Once opened, store at 90° - 150°C till use.

CURENTE DE SUDARE / AMPERAGE

2.50	3.20	4.00						
60 - 80	80 - 100	110 - 130						

AMBALARE / PACKING

Diametru	mm	2.5	3.20	4.0				
Lungime / Length	mm	300	350	350				
Greutate pe electrod / Weight per electrode	g	18.5	34.6	53.57				
Nr de fire pe pachet / Pcs. per innerbox	n°	200	130	85				
Greutate pachet / Weight per innerbox	kg	3.7	4.5	4.5				
Nr de fire pe cutie / Pcs. per outerbox	n°	600	390	255				
Greutate pe cutie / Weight per outerbox	kg	11.1	13.5	13.5				
Cod / Code		050309 250 300	050309 325 350	050309 400 350				

Ambalarea in tuburi metalice ofera posibilitatea pastrarii electrozilor in medii cu umiditate atmosferica ridicata, eliminand necesitatea calcinarii dupa desigilarea tubului. Capacul din plastic nu permite rostogolirea tubului si permite protectia electrozilor dupa desigilarea tubului.

Packaging in tin cans offers the possibility of keeping the electrodes in highly humid environments, thus eliminating the necessity of rebaking once the can opened. The plastic cap does not allow the can to roll over and protects the electrodes once the can opened.

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

FRO INOX E316L-16

ELECTROD SEMI-BAZIC / LOW HYDROGEN ELECTRODE



CLASIFICARE / STANDARDS

EN 1600 (EN ISO 3581-A):	E 19 12 3 L B 12
AWS A5.4:	E 316L-16

AUTORIZARI / APPROVALS

TÜV: approved

CARACTERISTICI PRINCIPALE

Electrod cu un continut scazut de carbon, maxim 0.04%, pentru sudarea otelurilor inoxidabile austenitice cu un continut de 18% Cr, 12% Ni si 2.5% Mo tip AISI 316-316L. Continutul scazut de carbon reduce riscul aparitiei carburilor de crom si creste rezistenta la coroziune intergranulara, in timp ce continutul de molibden mareste rezistenta la fisurare la temperaturi inalte. Excelenta operativitate si fluiditatea baii de metal, impreuna cu detasabilitatea foarte buna a zgurii completeaza caracteristicile acestui electrod. Temperatura maxima de lucru e de +400° C.

MAIN FEATURES

Coated electrode with a low percentage of carbon, max 0.04% for welding stainless steel having 18% Cr, 12% Ni and 2.5% Mo type AISI 316-316L. The low percentage of carbon reduces the possibility of chromium carbide precipitation and increase the resistance to intercrystalline corrosion. Furthermore the content of Molybdenum guarantees a good resistance to heat cracking. Excellent weldability, good bead appearance and easy slag removal complete the features of this electrode. Maximum service temperature is +400° C.

DOMENII DE APLICATIE

Constructii navale; Recipienti sub presiune, inclusiv pentru industria chimica si petrochimica; Fabricarea tevilor; Placare.

MAIN APPLICATIONS

Ship building; Vessels, boilers fabrication (including chemical and petrochemical); Pipes fabrication; Weld overlay.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cu	Ni	Cr	Mo	FN (WRC)
≤ 0.04	0.50 - 2.00	≤ 0.90	≤ 0.025	≤ 0.03	≤ 0.75	11.0 - 13.0	17.0 - 20.0	2.5 - 3.0	4.0 - 8.0

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J +20°C
Stare sudată/As welded	≥ 490	≥ 350	≥ 30	≥ 60

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la 90° - 150° C.
Calcinare: 1 h la 350° C max 5 ori.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C.
Rebaking: 1h at 350° C max 5 times.

CURENTE DE SUDARE / AMPERAGE

1.60	2.0	2.5	3.20	4.0	5.0				
20 - 30	30 - 60	50 - 80	60 - 100	100 - 140	130 - 190				

AMBALARE / PACKING (vacuum pack mediu)

Diametru	mm	1.6	2.0	2.5	2.5	3.20	4.0	5.0	
Lungime / Length	mm	250	300	300	350	350	350	350	
Greutate pe electrod / Weight per electrode	g	5.4	11.2	18.1	21.1	34.2	52.3	84.4	
Nr de fire pe pachet / Pcs. per innerbox	n°	430	310	190	190	120	80	50	
Greutate pachet / Weight per innerbox	kg	2.3	3.5	3.4	4.0	4.1	4.2	4.2	
Nr de fire pe cutie / Pcs. per outerbox	n°	1290	930	570	570	360	240	150	
Greutate pe cutie / Weight per outerbox	kg	6.9	10.5	10.2	12.0	12.3	12.6	12.6	
Cod / Code		W0002 88784	W0002 88785	W0002 88786	W0002 88787	W0002 88788	W0002 88789	W0002 88790	

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

STARINOX E316L HP

ELECTROD RUTILIC / RUTILE ELECTRODE

CLASIFICARE / STANDARDS

EN 1600 (EN ISO 3581-A): AWS A5.4:	E 19 12 3 LR 22 E 316L-17	
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AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod cu invelis rutilic, cu emisii de fum reduse, pentru sudarea otelurilor inoxidabile austenice Cr-Ni-Mo. Reducerea emisiilor de fum contribuie la imbunatatirea mediului de lucru pentru sudori si spatii inchise. Temperatura maxima de lucru +400° C. Transferul metalului se face in picaturi fine, topire buna, usoara desprindere a zgureii. Ambalare vacuum: fara necesitate calcinare si conditii speciale de depozitare.

MAIN FEATURES

Fume reduced, coated electrode for welding austenitic stainless Cr-Ni-Mo. The reduced fume formation contributes to an improved working environment, for welders and in workshops. For operating temperatures of up to +400° C. Fine metal droplet transfer, good fusion, easy slag removal, excellent striking and restriking. Vacuumpacked: no redrying, no special storing conditions.

DOMENII DE APLICATIE

Constructii navale;
Recipienti sub presiune, inclusiv pentru industria chimica si petrochimica;
Fabricarea tevilor.

MAIN APPLICATIONS

*Ship building;
Vessels, boilers fabrication (chemical and petrochemical);
Pipes fabrication.*

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni	Cr	FN (WRC)		
≤ 0.03	0.80	0.90	≤ 0.020	≤ 0.025	10.80	19.10	5 - 10		

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J +20°C	
Stare sudată/As welded	≥ 520	≥ 450	≥ 30	≥ 50	

DEPOZITARE - CALCINARE

Ambalare vacuum.
Odata deschis pachetul, a se pastra la 90° - 150° C.
Reuscarea electrozilor la 250-300° C / 2h max. de 5 ori.

STORAGE - REBAKING

*Vacuumpacked.
Once opened, store at 90° - 150°C.
Re-dry moist electrodes 250-300°C / 2h max 5 times.*

CURENTE DE SUDARE / AMPERAGE

2.5	3.20	4.0						
70 - 80	110 - 120	125 - 135						

AMBALARE / PACKING (VPS)

	mm	2.5	3.20	4.0				
Diametru	mm	2.5	3.20	4.0				
Lungime / Length	mm	300	350	350				
Greutate pe electrod / Weight per electrode	g	18.3	34.2	53.3				
Nr de fire pe pachet / Pcs. per innerbox	n°	28	22	18				
Greutate pachet / Weight per innerbox	kg	0.51	0.75	0.95				
Nr de fire pe cutie / Pcs. per outerbox	n°	448	308	216				
Greutate pe cutie / Weight per outerbox	kg	8.2	10.5	11.5				
Cod / Code		W0002 88853	W0002 88854	W0002 88855				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

STARINOX 347

SEMI-BAZIC / SEMI-BASIC TYPE



CLASIFICARE / STANDARDS

SR EN 1600 (EN ISO 3581-A): AWS A5.4:	E 19 9 Nb R 12 E 347-16
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AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrozi cu invelis semi-bazic ce depun un metal cu un continut de carbon de max. 0.08%, destinat sudarii otelurilor inoxidabile austenitice cu 19.5% Cr si 10% Ni stabilizate cu Nb de tipul AISI 312. Niobiul si Titanul reduc riscul aparitiei carburilor de crom si cresc rezistenta la coroziune intercrystalina. Comportare la sudura excelenta, fara stropire, dupa solidificare, zgura se indeparteaza usor. Temperatura maxima de lucru +400° C. Metalul depus are un continut de ferita controlat. Materiale de baza pentru care se recomanda:

- X 10 CrNiTi 18.10, X 10 CrNiNb 18.10, -DIN 17440
- W1.4541, W1.4550, W1.4552, W1.4300 -Werkstoff

MAIN FEATURES

Semi-basic electrode suitable for welding of austenitic steels having 19.5% Cr and 10% Ni stabilized with Nb (i.e. AISI 312). Deposit with a carbon content max. 0.08%. Nb and Ti reduce chromium carbonate precipitation and increase intergranular corrosion resistance. Excellent weldability with a spatter free arc; self releasing slag. Maximum service temperature :+400° C.

It is recommended for the materials:

- X 10 CrNiTi 18.10, X 10 CrNiNb 18.10, -DIN 17440
- W1.4541, W1.4550, W1.4552, W1.4300 -Werkstoff

DOMENII DE APLICATIE

Recipienti, inclusiv pentru industria chimica si petrochimica;
Fabricarea tevilor; Constructii civile si feroviare.

MAIN APPLICATIONS

Vessels, boilers fabrication (including chemical and petrochemical);
Pipes fabrication; Metal working industry.

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+, AC

ANALIZA CHIMICA A METALULUI DEPUZ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni	Cr	N + Ta%	FN (WRC)
≤ 0.08	0.50 - 2.00	0.50 - 0.90	≤ 0.025	≤ 0.030	9.0 - 11.0	18.0 - 21.0	max. 1.00	5.0 - 10.0

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 4d	Kv J +20°C
Stare sudată/As welded	≥ 550	≥ 400	≥ 30	≥ 47

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis tubul, a se pastra la 90° - 150° C.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C.

CURENTI DE SUDARE / AMPERAGE

2.0	2.5	3.20	4.0	5.0					
30 - 60	60 - 80	80 - 100	110 - 140	130 - 180					

AMBALARE / PACKING

Diametru	mm	2.0	2.5	3.20	4.0	5.0			
Lungime / Length	mm	300	300	350	350	350			
Greutate pe electrod / Weight per electrode	g	11.2	18.7	34.6	53.5	83.3			
Nr de fire pe pachet / Pcs. per innerbox	n°	330	200	130	84	54			
Greutate pachet / Weight per innerbox	kg	3.7	3.7	4.5	4.5	4.5			
Nr de fire pe cutie / Pcs. per outerbox	n°	990	600	390	252	162			
Greutate pe cutie / Weight per outerbox	kg	11.1	11.1	13.5	13.5	13.5			
Cod / Code		050301 200 300	050301 250 300	050301 325 350	050301 400 350	050301 500 350			

Ambalarea in tuburi metalice ofera posibilitatea pastrarii electrozilor in medii cu umiditate atmosferica ridicata, eliminand necesitatea calcinarii dupa desigilarea tubului. Capacul din plastic nu permite rostogolirea tubului si permite protectia electrozilor dupa desigilarea tubului.

Packaging in tin cans offers the possibility of keeping the electrodes in highly humid environments, thus eliminating the necessity of rebaking once the can opened. The plastic cap does not allow the can to roll over and protects the electrodes once the can opened.

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

FRO INOX E347-16

ELECTROD SEMI-BAZIC / SEMI-BASIC ELECTRODE

CLASIFICARE / STANDARDS

AWS A5.4:	E 347-16	
EN 1600 (EN ISO 3581-A):	E 199 Nb B 12	

AUTORIZARI / APPROVALS
CARACTERISTICI PRINCIPALE

Electrod stabilizat pentru sudarea otelurilor cu 19.5% Cr, 10% Ni si Nb sau Ti tip AISI 321, 347. Niobiul si titanul reduc riscul aparitiei carburilor de crom si cresc rezistenta la coroziune intergranulara. Sudabilitate excelenta, detasabilitate foarte buna a zgurii, aspect al cordonului foarte regulat. Temperatura maxima de lucru +400°C.

MAIN FEATURES

Electrode stabilized for welding stainless steel having 19.5% Cr, 10% Ni and Nb or Ti type AISI 321, 347. Nb and Ti reduce chromium carbonate precipitation and increase intergranular corrosion resistance. Excellent weldability, good bead appearance and easy slag removal complete the features of this electrode. Maximum service temperature: +400°C.

DOMENII DE APLICATIE

Constructii navale;
Recipienti sub presiune, inclusiv pentru industria chimica si petrochimica;
Fabricarea tevilor;
Placare.

MAIN APPLICATIONS

Ship building;
Vessels, boilers fabrication (including chemical and petrochemical);
Pipes fabrication;
Weld overlay.

POZITII DE SUDARE / WELDING POSITIONS


1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Nb + Ta	Ni	Cr	Mo	FN (WRC)
≤ 0.08	0.50 - 2.00	0.50 - 0.90	≤ 0.025	≤ 0.03	≤ 1.00	9.0 - 11.0	18.0 - 21.0	≤ 0.75	5.0 - 10.0

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J +20°C
Stare sudată/As welded	≥ 550	≥ 400	≥ 30	≥ 40

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la 90° - 150° C.
Calcinare: 1 h la 350° C max 5 ori.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150°C.
Rebaking: 1h at 350° C max 5 times.

CURENTE DE SUDARE / AMPERAGE

2.0	2.5	3.20	4.0	5.0				
30 - 60	50 - 80	60 - 100	100 - 140	130 - 180				

AMBALARE / PACKING (vacuum pack mediu)

Diametru	mm	2.0	2.5	3.20	4.0	5.0		
Lungime / Length	mm	300	300	350	350	350		
Greutate pe electrod / Weight per electrode	g	11.0	18.4	35.0	52.5	82.0		
Nr de fire pe pachet / Pcs. per innerbox	n°	310	190	120	80	50		
Greutate pachet / Weight per innerbox	kg	3.4	3.5	4.2	4.2	4.1		
Nr de fire pe cutie / Pcs. per outerbox	n°	930	570	360	240	150		
Greutate pe cutie / Weight per outerbox	kg	10.2	10.5	12.6	12.6	12.3		
Cod / Code		W0002 88750	W0002 88751	W0002 88752	W0002 88753	W0002 88754		

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

FRO CROM 13/L

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE



CLASIFICARE / STANDARDS

EN 1600 (EN ISO 3581-A):	E13 B12	
AWS A5.4:	E410-25	
DIN 8555:	E 5 UM 400 CZ	

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod cu invelis bazic pentru sudarea otelurilor martensitice cu 12% Cr tip AISI 410. Utilizat pentru sudarea otelurilor cu aceeași compoziție chimică și a recipientelor ce lucrează la temperaturi înalte. Rezistența sporită la coroziune la temperaturi înalte și eroziune recomandă de asemenea acest electrod pentru realizarea încărcărilor oțelurilor carbon.

MAIN FEATURES

Basic coated electrode for martensitic stainless steels welding with 12% Cr type AISI 410. Normally used to weld steels with the same composition and for steam vessels. Good resistance to heat corrosion and erosion make this electrode suitable for hardfacing on carbon steels.

DOMENII DE APLICATIE

Recipienti sub presiune, inclusiv pentru industria chimică și petrochimică;
Încărcări.

MAIN APPLICATIONS

Vessels, boilers fabrication (including chemical and petrochemical);
Hardfacing.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cu	Ni	Cr	Mo
≤ 0.08	≤ 1.00	≤ 0.90	≤ 0.025	≤ 0.03	≤ 0.75	≤ 0.70	11.0 - 13.5	≤ 0.75

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	E % 5d		
Stare sudată/As welded	≥ 450	≥ 20		
Dupa/after 780°C x 1h				

DEPOZITARE - CALCINARE

A se păstra în locuri uscate la temperatura camerei.
Odata deschis pachetul, a se păstra la 90° - 150° C.
Calcinare: 1 h la 350° C max 5 ori.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C.
Rebaking: 1h at 350° C max 5 times.

CURENTE DE SUDARE / AMPERAGE

2.5	3.20	4.0	5.0				
65 - 95	85 - 140	120 - 190	190 - 240				

AMBALARE / PACKING

Diametru	mm	2.5	3.20	4.0	5.0			
Lungime / Length	mm	300	350	350	350			
Greutate pe electrod / Weight per electrode	g	18.0	38.2	55.0	86.0			
Nr de fire pe pachet / Pcs. per innerbox	n°	200	110	80	50			
Greutate pachet / Weight per innerbox	kg	3.6	4.2	4.4	4.3			
Nr de fire pe cutie / Pcs. per outerbox	n°	600	330	240	150			
Greutate pe cutie / Weight per outerbox	kg	10.8	12.6	13.2	12.9			
Cod / Code		W0002 88947	W0002 88948	W0002 88949	W0002 88950			

Datele menționate pot fi modificate fără o notificare prealabilă. / The above data may change without prior notice.

FRO CROM 13/4L

ELECTROD BAZIC / LOW HYDROGEN ELECTRODE

CLASIFICARE / STANDARDS

EN 1600 (EN ISO 3581-A):	E13 4 B12	
AWS A5.4:	E410NiMo-25	
DIN 8555:	E 5 UM 350 CZ	

AUTORIZARI / APPROVALS
CARACTERISTICI PRINCIPALE

Electrod cu invelis bazic pentru sudarea otelurilor inoxidabile martensitice, cu un continut de 12% Cr, 4.5% Ni si 0.5% Mo. Nichelul si molibdenul anuleaza efectul negativ al feritei asupra proprietatilor mecanice. Rezistenta buna la coroziune la temperaturi inalte si rezistenta la eroziune recomanda deasemenea acest electrod pentru incarcarea otelurilor carbon.

MAIN FEATURES

Basic coated electrode for martensitic stainless steels welding with 12% Cr, 4.5% Ni and 0.5% Mo. Ni and Mo delete the microstructural ferrite negative effect on mechanical properties. Good resistance to heat corrosion and erosion make this electrode suitable for hardfacing on carbon steels.

DOMENII DE APLICATIE

Recipienti sub presiune, inclusiv pentru industria chimica si petrochimica;
Incarcare.

MAIN APPLICATIONS

Vessels, boilers fabrication (including chemical and petrochemical);
Hardfacing.

POZITII DE SUDARE / WELDING POSITIONS


1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 115%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cu	Ni	Cr	Mo
≤ 0.06	≤ 1.00	≤ 0.90	≤ 0.025	≤ 0.03	≤ 0.75	4.5 - 5.0	11.0 - 12.5	0.40 - 0.70

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	Kv J +20°C	Kv J -20°C
Dupa/after 600°C x 1h	≥ 760	≥ 650	≥ 20	≥ 50	
Dupa/after 570°C x 4h	≥ 800	≥ 700	≥ 20	≥ 80	≥ 70

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la 90° - 150° C.
Calcinare: 1 h la 350° C max 5 ori.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150°C.
Rebaking: 1h at 350° C max 5 times.

CURENTE DE SUDARE / AMPERAGE

2.5	3.20	4.0						
65 - 95	85 - 140	120 - 190						

AMBALARE / PACKING

Diametru	mm	2.5	3.20	4.0				
Lungime / Length	mm	300	350	350				
Greutate pe electrod / Weight per electrode	g	18.5	38.3	56.3				
Nr de fire pe pachet / Pcs. per innerbox	n°	200	120	80				
Greutate pachet / Weight per innerbox	kg	3.7	4.6	4.5				
Nr de fire pe cutie / Pcs. per outerbox	n°	600	360	240				
Greutate pe cutie / Weight per outerbox	kg	11.1	13.8	13.5				
Cod / Code		W0002 88955	W0002 88956	W0002 88957				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

LEXAL ERS 22.9.3 N

ELECTROD RUTILIC-BAZIC / RUTILE-BASIC ELECTRODE



CLASIFICARE / STANDARDS

EN 1600 (EN ISO 3581-A):	E 22 9 3 3NL R 12
AWS A5.4:	E 2209-16

AUTORIZARI / APPROVALS

RINA:	E 2209	GL:	4462
DNV:	DUPLEX (Kv - 25°C)	LRS:	S 31803
BV:	up		
ABS:	E 2209		

CARACTERISTICI PRINCIPALE

Electrod destinat sudarii otelurilor inoxidabile Duplex cu un continut de 22% Cr, 9% Ni si 3% Mo. Rezistenta excelenta la corozie intergranulara, datorata si continutului foarte scazut de carbon. Excelenta operativitate, fara stropi; zgura autodetasabila si un aspect estetic al cordonului de sudura. Recomandat pentru sudarea imbinarilor eterogene ale Duplexului cu otel carbon.

MAIN FEATURES

Electrode suitable for welding of Duplex stainless steels having 22% Cr, 9% Ni and 3% Mo. Good resistance to intergranular corrosion, low carbon content. Excellent weldability with a spatter free arc; self releasing slag combined with a very smooth bead appearance. Suitable for Duplex to carbon steel dissimilar welding.

DOMENII DE APLICATIE

Constructii navale; recipienti sub presiune, inclusiv pentru industria chimica si petroliera; fabricarea tevilor; platforme marine.

MAIN APPLICATIONS

Shipbuilding; vessels, boilers fabrications (including for chemical, petrochemical industry); pipes fabrication; off-shore fabrication.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUS % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Ni	Cr	Mo	N	F% (Vol)
≤ 0.03	0.50 ÷ 1.50	0.50 ÷ 0.90	≤ 0.02	≤ 0.02	8.00 ÷ 10.0	21.0 ÷ 23.0	2.50 ÷ 3.00	0.10 ÷ 0.16	35 ÷ 60

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 4d	Kv J +20°C	Kv J -25°C
Stare sudată/As welded	≥ 700	≥ 600	≥ 25	≥ 47	≥ 30
Pitting Corrosion Test (according to ASTM G48 Method A / condition test: 24h exposure at +20°C)					

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei. Odata deschis pachetul, a se pastra la 90° - 150° C. Calcinare: 1 h la 350° C max 5 ori.

STORAGE - REBAKING

Keep dry and store at room temperature. Once opened, store at 90° - 150° C. Rebaking: 1h at 350° C max 5 times.

CURENTE DE SUDARE / AMPERAGE

2.50	3.20	4.0	5.0					
40 - 70	60 - 90	90 - 140	140 - 210					

AMBALARE / PACKING

Diametru	mm	2.50	3.20	4.00	5.00			
Lungime / Length	mm	300	350	350	350			
Greutate pe electrod / Weight per electrode	g	18.4	37.5	55.0	82.0			
Nr de fire pe pachet / Pcs. per innerbox	n°	190	120	80	50			
Greutate pachet / Weight per innerbox	kg	3.5	4.5	4.4	4.1			
Nr de fire pe cutie / Pcs. per outerbox	n°	570	360	240	150			
Greutate pe cutie / Weight per outerbox	kg	10.5	13.5	13.2	12.3			
Cod / Code		W0002 88899	W0002 88900	W0002 88901	W0002 88902			

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

CLASIFICARE / STANDARDS

AWS A5.3:	E 1 100	
DIN 1732:	EL-A1 99.5	

AUTORIZARI / APPROVALS
CARACTERISTICI PRINCIPALE

Electrod cu invelis special pentru sudarea aluminiului pur si aliat de tipul Al 99.9 - Mg 0.5. Arc stabil; este recomandat in special pentru sudarea in pozitie orizontala. Datorita caracterului foarte higroscopic al invelisului, electrozii trebuie pastrati in locuri uscate si trebuie calcinati inainte de utilizare. Se recomanda a se reusca electrozii la temperatura de 150 - 250°C. Desprinderea zgurii este foarte usoara. Poate fi folosit si pentru sudarea oxiacetilenica.

MAIN FEATURES

Special coated electrode for welding of pure aluminium and alloys like Al 99.9 - Mg 0.5. Good arc stability, excellent weldability in flat position. Due to high moisture absorption of the coating, electrode must be kept dry, eventually redried before using. Preheat of base material is recommended (150°C - 250°C). Slag on weld metal has to be removed accurately. Good results also when used in gas welding.

DOMENII DE APLICATIE

Constructia de masini si aplicatii electrice.

MAIN APPLICATIONS

Car, bus production and electro-domestic appliances.

POZITII DE SUDARE / WELDING POSITIONS


1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+
RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

Si	Cu	Al	Fe	Zn					
≤ 0.30	≤ 0.05	≥ 99.5	≤ 0.40	≤ 0.07					

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d		
Stare sudată/As welded	≥ 80	≥ 30	≥ 30		

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
 Mentinere 2 h la 110 - 120° C.

STORAGE - REBAKING

*Keep dry and store at room temperature.
 Rebaking: 2h at 110° - 120° C.*

CURENTI DE SUDARE / AMPERAGE

2.5	3.20								
40 - 70	60 - 90								

AMBALARE / PACKING

Diametru	mm	2.50	3.20						
Lungime / Length	mm	350	350						
Greutate pe electrod / Weight per electrode	g	8.0	13.3						
Nr de fire pe pachet / Pcs. per innerbox	n°	200	150						
Greutate pachet / Weight per innerbox	kg	1.6	2.0						
Nr de fire pe cutie / Pcs. per outerbox	n°	600	450						
Greutate pe cutie / Weight per outerbox	kg	4.8	6.0						
Cod / Code		W0002 89029	W0002 89030						

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

ALCORD 5 SI

ELECTROD SPECIAL / SPECIAL ELECTRODE



CLASIFICARE / STANDARDS

AWS A5.3:	E 4043	
DIN 1732:	EI AISi5	

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod cu invelis special pentru sudarea aliajelor de Al cu 5% Si si a aliajelor de tipul Al-Mg cu un continut de Mg mai mare de 2.5. Arc stabil; recomandat in special pentru sudarea in pozitie orizontala, cu arc scurt pentru a preveni aparitia stropilor. Preincalzirea materialului de baza este recomandata (150 - 250°C). Datorita caracterului foarte higroscopic al invelisului, electrozii trebuie pastrati in locuri uscate si trebuie calcinati inainte de utilizare. Desprinderea zgurii este foarte usoara. Poate fi folosit si pentru sudarea oxiacetilenica.

MAIN FEATURES

Special coating electrode for welding of aluminium alloys with 5% Silicon and Al-Mg-Si, Al-Mg alloys with Mg more than 2.5%. Good arc stability, it is recommended to weld with a short arc in order to prevent spattering. Preheat of base material is to be preferred (150° - 250° C) as well as an accurate slag removal. Due to high moisture absorption of coating product must be kept dry or reconditioned before using. Good results also when used in gas welding.

DOMENII DE APLICATIE

Constructia de masini si aplicatii electrice.

MAIN APPLICATIONS

Car, bus production and electro-domestic appliances.

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUZ % / ALL - WELD METAL CHEMICAL ANALYSIS %

Mn	Si	Cu	Mg	Zn	Ti	Al			
≤ 0.50	4.50 - 6.0	≤ 0.30	≤ 0.05	≤ 0.10	≤ 0.20	≤ 93.30			

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d		
Stare sudată/As welded	≥ 160	≥ 90	≥ 28		

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Mentineră 2 h la 110 - 120° C

STORAGE - REBAKING

Keep dry and store at room temperature.
Rebaking: 2h at 110° - 120° C.

CURENTI DE SUDARE / AMPERAGE

2.5	3.20								
40 - 70	60 - 90								

AMBALARE / PACKING

Diametru	mm	2.50	3.20						
Lungime / Length	mm	350	350						
Greutate pe electrod / Weight per electrode	g	8.0	13.3						
Nr de fire pe pachet / Pcs. per innerbox	n°	200	150						
Greutate pachet / Weight per innerbox	kg	1.6	2.0						
Nr de fire pe cutie / Pcs. per outerbox	n°	600	450						
Greutate pe cutie / Weight per outerbox	kg	4.8	6.0						
Cod / Code		W0002 89025	W0002 89026						

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

CLASIFICARE / STANDARDS

DIN 1732: EL - AISi12	
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AUTORIZARI / APPROVALS
CARACTERISTICI PRINCIPALE

Electrod cu invelis special pentru sudarea aliajelor de Al cu un continut de 12% Si. Electrocul sudeaza cu un arc stabil si este recomandat in special pentru sudarea in pozitie orizontala, cu arc scurt pentru a preveni aparitia stropilor. Preincalzirea materialului de baza este recomandata (150 - 250°C). Datorita caracterului foarte higroscopic al invelisului, electrozii trebuie pastrati in locuri uscate si trebuie calcinati inainte de utilizare. Desprinderea zgurii este foarte usoara. Poate fi folosit si pentru sudarea oxiacetilenica.

MAIN FEATURES

Special coating electrode for welding of aluminium alloys with Silicon content above 12%. Good arc stability, short arc technic to be recommended in order to minimize spattering. Preheat of base material is advised (150° - 250° C). Slag to be accurately removed. Due to high moisture absorption of coating, electrode must be kept dry or eventually redried before using. Good results also when used in gas welding.

DOMENII DE APLICATIE

Constructia de masini si aplicatii electrice.

MAIN APPLICATIONS

Car, bus production and electro-domestic appliances.

POZITII DE SUDARE / WELDING POSITIONS


1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+
RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ / ALL - WELD METAL CHEMICAL ANALYSIS %

Mn	Si	Fe	Al	Ti	Zn				
≤ 0.50	11.0 - 13.5	≤ 0.60	≤ 85.15	≤ 0.15	≤ 0.10				

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d		
Stare sudată/As welded	≥ 180	≥ 80	≥ 5		

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
 Mentinere 2 h la 110 - 120° C.

STORAGE - REBAKING

Keep dry and store at room temperature.
 Rebaking: 2h at 110° - 120° C.

CURENTI DE SUDARE / AMPERAGE

2.5	3.20								
40 - 60	60 - 90								

AMBALARE / PACKING

Diamentru	mm	2.50	3.20						
Lungime / Length	mm	350	350						
Greutate pe electrod / Weight per electrode	g	8.0	13.3						
Nr de fire pe pachet / Pcs. per innerbox	n°	200	150						
Greutate pachet / Weight per innerbox	kg	1.6	2.0						
Nr de fire pe cutie / Pcs. per outerbox	n°	600	450						
Greutate pe cutie / Weight per outerbox	kg	4.8	6.0						
Cod / Code		W0002 89027	W0002 89028						

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

STARCAST Nife

ELECTROD SPECIAL / SPECIAL ELECTRODE



CLASIFICARE / STANDARDS

AWS A5.15: E Nife-CI	
DIN 8573: E NiFeG3	
EN ISO 1071-A: E NiFeBG23	

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod fabricat cu o sarma de tip Ni-Fe si invelis grafitic, destinat sudarii fontelor, in special fontelor globulare. Metalul depus asigura proprietati mecanice ridicate si nu prezinta porozitati sau fisuri. Metalul depus poate fi prelucrat.

MAIN FEATURES

Electrode having an iron-nichel core wire and graphitic coating; it is suitable for welding of all kind of cast iron, particularly globular, white, black cast iron. Deposited weld metal ensures high mechanical properties and weld metal is free from porosities and cracks. Perfectly suitable for machining.

DOMENII DE APLICATIE

Industria constructoare de masini;
Batiuri de masini.

MAIN APPLICATIONS

Industrial machinery construction;
Coachbuilders.

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G AWS
PA PB PC PF PE EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUS % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	Cu	Ni	Fe	Al		
≤ 2.00	≤ 1.00	≤ 2.50	≤ 0.03	≤ 2.50	45.0 - 60.0	≥ 30.0	≤ 1.00		

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	HB
Stare sudată/As welded	400 - 579	296 - 434	6 - 18	165 - 218
Dupa/after 610°C x 1h				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150°C.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150°C till used.

CURENTI DE SUDARE / AMPERAGE

2.50	3.20	4.0						
30 - 80	50 - 100	80 - 130						

AMBALARE / PACKING (vacuum pack mediu)

Diametru	mm	2.50	3.20	4.0				
Lungime / Length	mm	300	350	350				
Greutate pe electrod / Weight per electrode	g	15.1	30.0	48.0				
Nr de fire pe pachet / Pcs. per innerbox	n°	65	75	55				
Greutate pachet / Weight per innerbox	kg	1.0	2.3	2.6				
Nr de fire pe cutie / Pcs. per outerbox	n°	780	450	330				
Greutate pe cutie / Weight per outerbox	kg	12.0	13.8	15.6				
Cod / Code		W0002 89009	W0002 89010	W0002 89011				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

CLASIFICARE / STANDARDS

AWS A5.15: E Ni - Cl	
DIN 8573: E Ni-G2	
EN ISO 1071-A: E Ni BG23	

AUTORIZARI / APPROVALS
CARACTERISTICI PRINCIPALE

Electrod fabricat cu o sarma din Ni pur si invelis grafitic, destinat sudarii fontelor, cu sau fara preincalzire (max. 300°C), in special fontelor globulare. Metalul depus asigura proprietati mecanice ridicate si nu prezinta porozitati sau fisuri. Metalul depus poate fi prelucrat. Se recomanda a se suda cu o energie liniara cat mai mica, cu randuri filiforme care pot fi prelucrate imediat pentru a preveni fisurarea.

MAIN FEATURES

Electrode having a pure nichel core wire and graphitic coating; it is suitable for cast iron welding without or with a low preheat (max 300°C). Also suitable for welding of cooper containing cast iron. Application in repairing gears, cams, motors. Weld metal is machinable. It is recommended to weld with as low as possible heat input, to deposit very short welds which can be machined immediatly after welding in order to prevent cracks.

DOMENII DE APLICATIE

Industria constructoare de masini;
Batiuri de masini.

MAIN APPLICATIONS

*Industrial machinery construction;
Coachbuilders.*

POZITII DE SUDARE / WELDING POSITIONS


1G PA 2F PB 2G PC 3G PF 4G PE AWS EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	Cu	Ni	Fe	Al		
≤ 2.0	≤ 2.50	≤ 4.0	≤ 0.03	≤ 2.50	≥ 85.0	≤ 8.0	≤ 1.0		

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	HB
Stare sudată/As welded	276 - 448	262 - 414	3 - 6	135 - 218
Dupa/after 620°C x 1h				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150°C.

STORAGE - REBAKING

*Keep dry and store at room temperature.
Once opened, store at 90° - 150°C.*

CURENTI DE SUDARE / AMPERAGE

2.50	3.20	4.0						
45 - 80	90 - 120	120 - 140						

AMBALARE / PACKING (vacuum pack mediu)

Diametru	mm	2.5	3.20	4.0				
Lungime / Length	mm	300	350	350				
Greutate pe electrod / Weight per electrode	g	16.0	30.6	45.8				
Nr de fire pe pachet / Pcs. per innerbox	n°	65	75	55				
Greutate pachet / Weight per innerbox	kg	1.0	2.3	2.5				
Nr de fire pe cutie / Pcs. per outerbox	n°	780	450	330				
Greutate pe cutie / Weight per outerbox	kg	12.0	13.8	15.0				
Cod / Code		W0002 89001	W0002 89002	W0002 89003				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

STARCAST BM

ELECTROD SPECIAL / SPECIAL ELECTRODE



CLASIFICARE / STANDARDS

AWS A5.15:	E Ni Cu-B
DIN 8573:	E Ni Cu G4
EN ISO 1071-A:	E Ni Cu BG23

AUTORIZARI / APPROVALS

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CARACTERISTICI PRINCIPALE

Electrod fabricat cu o sarma din aliaj tip Monel si invelis grafitic, destinat sudarii la rece, sau cu usoara preincalzire (max 300°C), a fontelor. Se recomanda pentru repararea pieselor din fonta sau pentru realizarea de imbinari intre fonta si otel. Metalul depus poate fi usor prelucrat prin aschiere. Pentru realizarea de imbinari se recomanda folosirea pentru straturi tampon a STARCAST Ni, iar pentru straturile de umplere a STARCAST BM.

MAIN FEATURES

Electrode having a monel core wire and graphitic coating; it is suitable for welding without or with a low preheat (max 300°C) of cast iron. It is recommended for repairing of castings and welding of cast iron steel. Good machinability of weld metal. For joint welding, it is recommended to create buffer layers by using STARCAST Ni and filling by STARCAST BM. Short welds technic is advised as so low heat input as possible.

DOMENII DE APLICATIE

Constructia de masini
Tinichigerie / instalatii

MAIN APPLICATIONS

Industrial machinery construction
Coachbuilders

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G AWS
PA PB PC PF PE EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUS % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	Cu	Ni	Fe			
0.35 - 0.55	≤ 2.30	≤ 0.75	≤ 0.025	30.0 - 35.0	65.0 - 70.0	3.0 - 6.0			

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 5d	HB
Stare sudată/As welded	400 - 579	296 - 434	6 - 18	162 - 218
Dupa/after 620°C x 1h				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150°C.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C till used.

CURENTI DE SUDARE / AMPERAGE

2.50	3.20	4.0						
45 - 80	90 - 120	120 - 140						

AMBALARE / PACKING (vacuum pack mediu)

Diametru	mm	2.50	3.20	4.0				
Lungime / Length	mm	300	350	350				
Greutate pe electrod / Weight per electrode	g	16.0	31.2	45.8				
Nr de fire pe pachet / Pcs. per innerbox	n°	65	75	55				
Greutate pachet / Weight per innerbox	kg	1.0	2.3	2.5				
Nr de fire pe cutie / Pcs. per outerbox	n°	780	450	330				
Greutate pe cutie / Weight per outerbox	kg	12.0	13.8	15.0				
Cod / Code		W0002 89017	W0002 89018	W0002 89019				

Datele mentionate pot fi modificate fara o notificare prealabila. / The above data may change without prior notice.

ALIN 182

ELECTROD SPECIAL / SPECIAL ELECTRODE

CLASIFICARE / STANDARDS

AWS A5.11: E Ni Cr Fe 3	
EN ISO 14172: E Ni 6182	

AUTORIZARI / APPROVALS
CARACTERISTICI PRINCIPALE

Electrod destinat sudarii aliajelor Ni-Cr-Fe, deasemenea pentru placarea cu aliaje Ni-Cr-Fe. Electrozii pot fi folositi pentru aplicatii cu temperaturi din domeniul criogenic pana la 480°C. Acesti electrozi pot fi de asemenea folositi in cazul sudarii otelurilor cu alte tipuri de aliaje pe baza de Ni.

MAIN FEATURES

Electrode suitable for welding Ni-Cr-Fe alloys, for welding the clad side of joints on steel clad with Ni-Cr-Fe alloy, and for surfacing steel with Ni-Cr-Fe weld metal. The electrode may be used for applications at temperatures ranging from cryogenic to about 480°C. These electrodes can also be used for welding steel to other Ni base alloys.

DOMENII DE APLICATIE

Industria chimica
Industria alimentara
Cuptoare
Recipienti sub presiune
Aplicatii la mare temperatura

MAIN APPLICATIONS

*Chemical plants
Food production plants
Ovens equipment
Pressure vessels
High temperature applications*

POZITII DE SUDARE / WELDING POSITIONS


1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cu	Ni	Cr	Nb + Ta	Fe
≤ 0.10	5.0 - 9.5	≤ 1.0	≤ 0.015	≤ 0.030	≤ 0.50	≥ 59.0	13.0 - 17.0	1.0 - 2.5	≤ 10.0

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 4d	Kv J -196°C
Stare sudată/As welded	≥ 550	≥ 410	≥ 30	≥ 60

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150° C.
Reuscare: 280° C timp de 1h (maxim 5 ori)

STORAGE - REBAKING

*Keep dry and store at room temperature.
Once opened, store at 90° - 150°C.
Rebaking: 1h at 280° C x 5 times max.*

CURENTE DE SUDARE / AMPERAGE

2.5	3.20	4.0	5.0					
50 - 70	75 - 95	100 - 130	140 - 170					

AMBALARE / PACKING

	mm	2.5	3.20	4.0	5.0			
Diametru	mm	300	350	350	350			
Lungime / Length	mm	18.5	36.0	52.9	80.0			
Greutate pe electrod / Weight per electrode	g	200	125	85	60			
Nr de fire pe pachet / Pcs. per innerbox	n°	3.7	4.5	4.5	4.8			
Greutate pachet / Weight per innerbox	kg	600	375	255	180			
Nr de fire pe cutie / Pcs. per outerbox	n°	11.1	13.5	13.5	14.4			
Greutate pe cutie / Weight per outerbox	kg	W0002 88969	W0002 88970	W0002 88971	W0002 88972			
Cod / Code								

SAFINEL 625

ELECTROD SPECIAL / SPECIAL ELECTRODE



CLASIFICARE / STANDARDS

AWS A5.11: E Ni Cr Mo 3
EN ISO 14172: E Ni 6625

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod destinat sudarii aliajelor Ni-Cr-Fe, deasemenea pentru placarea cu aliaje Ni-Cr-Fe. Electrozi pot fi folositi pentru aplicatii cu temperaturi din domeniul criogenic pana la 1100°C. Acesti electrozi pot fi de asemenea folositi in cazul sudarii otelurilor cu alte tipuri de aliaje pe baza de Ni. Rezistenta excelenta la coroziune tip pitting si coroziune fisuranta sub sarcina in mediu de acizi organici si minerali.

MAIN FEATURES

Electrode suitable for welding Ni-Cr-Fe alloys, for welding the clad side of joints on steel clad with Ni-Cr-Fe alloy, and for surfacing steel with Ni-Cr-Fe weld metal. The electrode may be used for applications at temperatures ranging from cryogenic to about 1100° C in air. These electrodes can also be used for welding steel to other Ni base alloys. Excellent resistance to pitting corrosion and tenso-corrosion, to organic and mineral acid.

DOMENII DE APLICATIE

Industria chimica
Industria alimentara
Cuptoare
Recipienti sub presiune
Aplicatii la mare temperatura

MAIN APPLICATIONS

Chemical plants
Food production plants
Ovens equipment
Pressure vessels
High temperature applications

POZITII DE SUDARE / WELDING POSITIONS



1G PA 2F PB 2G PC 3G PF 4G PE 5G PF AWS EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cu	Ni	Cr	Nb + Ta	Fe
≤ 0.10	≤ 1.00	≤ 0.75	≤ 0.020	≤ 0.030	8.0 - 10.0	≥ 55.0	20.0 - 23.0	3.15 - 4.15	≤ 7.0

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 4d	Kv J -196°C
Stare sudată/As welded	≥ 760	≥ 440	≥ 30	≥ 40
Dupa/after 620°C x 1h				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150° C.
Reuscare: 280° C timp de 1h (maxim 5 ori)

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C.
Rebaking: 1h at 280° C x 5 times max.

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.0	5.0					
50 - 70	75 - 95	100 - 130	140 - 170					

AMBALARE / PACKING

Diametru	mm	2.5	3.20	4.0	5.0			
Lungime / Length	mm	300	350	350	350			
Greutate pe electrod / Weight per electrode	g	16.9	32.8	50.6	76.5			
Nr de fire pe pachet / Pcs. per innerbox	n°	200	125	85	60			
Greutate pachet / Weight per innerbox	kg	3.4	4.1	4.3	4.6			
Nr de fire pe cutie / Pcs. per outerbox	n°	600	375	255	180			
Greutate pe cutie / Weight per outerbox	kg	10.2	12.3	12.9	13.8			
Cod / Code		W0002 88977	W0002 88978	W0002 88979	W0002 88980			

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ALIN 70/30

ELECTROD MONEL / MONEL ELECTRODE

CLASIFICARE / STANDARDS

AWS A5.11: E Ni Cu - 7
EN ISO 14172: E Ni 4060

AUTORIZARI / APPROVALS

CARACTERISTICI PRINCIPALE

Electrod destinat sudarii sau placarii aliajelor ce au compozitie chimica asemanatoare. Proprietati mecanice excelente pe metal depus. Inalta rezistenta la coroziune.

MAIN FEATURES

Electrode suitable for welding or facing alloys having the same chemical composition or weld overlay. Weld metal with excellent mechanical properties. High chemical corrosion resistance.

DOMENII DE APLICATIE

Instalatii de desalinizare
Tubulaturi

MAIN APPLICATIONS

Desalination plant
Piping

POZITII DE SUDARE / WELDING POSITIONS



1G 2F 2G 3G 4G 5G AWS
PA PB PC PF PE PF EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUȘ % / ALL - WELD METAL CHEMICAL ANALYSIS %

C	Mn	Si	S	P	Cu	Ni	Ti	Fe	altele
≤ 0.05	2.00 - 4.00	≤ 1.00	≤ 0.015	≤ 0.020	REM	62.0 - 68.0	≤ 1.00	≤ 2.50	≤ 0.50

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 4d		
Stare sudată/As welded	≥ 480	≥ 210	≥ 30		
Dupa/after 620°C x 1h					

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150° C.
Reuscare: 280° C timp de 1h (maxim 5 ori)

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C.
Rebaking: 1h at 280° C x 5 times max.

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.0							
50 - 70	75 - 100	90 - 130							

AMBALARE / PACKING: VPM (vacuum pack mediu)

Diametru	mm	2.5	3.20	4.0					
Lungime / Length	mm	300	350	350					
Greutate pe electrod / Weight per electrode	g	16.3	31.0	47.4					
Nr de fire pe pachet / Pcs. per innerbox	n°	240	145	95					
Greutate pachet / Weight per innerbox	kg	1.90	2.20	2.20					
Nr de fire pe cutie / Pcs. per outerbox	n°	720	435	285					
Greutate pe cutie / Weight per outerbox	kg	11.7	13.5	13.5					
Cod / Code		W0002 88989	W0002 88990	W0002 88991					

FRO Cu Sn

ELECTROD SPECIAL / SPECIAL ELECTRODE



CLASIFICARE / STANDARDS

AWS A5.6:	E CuSn-C
DIN 1733:	EI CuSn7

AUTORIZARI / APPROVALS

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CARACTERISTICI PRINCIPALE

Electrozi bazici cu vergea din bronz pentru sudarea aliajelor de cupru si bronz fosforos, sau pentru sudarea acestor aliaje cu fonte sau oteluri. Tratatamentul termic nu este necesar, dar este indicat pentru obtinerea unei ductilitati maxime, daca metalul depus este supus deformatiilor plastice la rece.

MAIN FEATURES

Basic coated electrode with bronze core wire for phosphor bronze and copper alloy welding. suitable also for joining brasses and, in some cases, for welding them to cast iron and carbon steel. Postweld heat treatment may not be necessary, but it is desirable for maximum ductility, particularly if the weld metal is cold worked.

DOMENII DE APLICATIE

Productia de automobile / aplicatii electromecanice.
Caroserii / instalatii.

MAIN APPLICATIONS

Car, bus production and electro-domestic appliances.
Coach builders.

POZITII DE SUDARE / WELDING POSITIONS



1G	2F	2G	3G	4G	AWS
PA	PB	PC	PF	PE	EN

CURRENT / CURRENT: DC+, AC

RANDAMENT / EFFICIENCY: 100%

ANALIZA CHIMICA A METALULUI DEPUS % / ALL - WELD METAL CHEMICAL ANALYSIS %

Sn	Fe	P	Al	Pb	Cu				
7.0 - 9.0	≤ 0.25	0.05 - 0.35	≤ 0.01	≤ 0.02	REM				

CARACTERISTICI MECANICE / MECHANICAL PROPERTIES

Tratament termic/Heat treatment	Rm N/mm ²	Rs N/mm ²	E % 4d	HB
Stare sudată/As welded	≥ 280		≥ 20	80 - 100
Dupa/after 620°C x 1h				

DEPOZITARE - CALCINARE

A se pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150° C.

STORAGE - REBAKING

Keep dry and store at room temperature.
Once opened, store at 90° - 150° C.

CURENTI DE SUDARE / AMPERAGE

2.5	3.20	4.0						
50 - 70	60 - 90	120 - 140						

AMBALARE / PACKING (vacuum pack mediu)

	mm	2.5	3.20	4.0				
Diametru	mm	300	350	350				
Lungime / Length	mm	15.7	29.7	45.8				
Greutate pe electrod / Weight per electrode	g	280	185	120				
Nr de fire pe pachet / Pcs. per innerbox	n°	2.2	2.75	2.75				
Greutate pachet / Weight per innerbox	kg	840	555	360				
Nr de fire pe cutie / Pcs. per outerbox	n°	13.2	16.5	16.5				
Greutate pe cutie / Weight per outerbox	kg	W0002	W0002	W0002				
Cod / Code		88995	88996	88997				

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