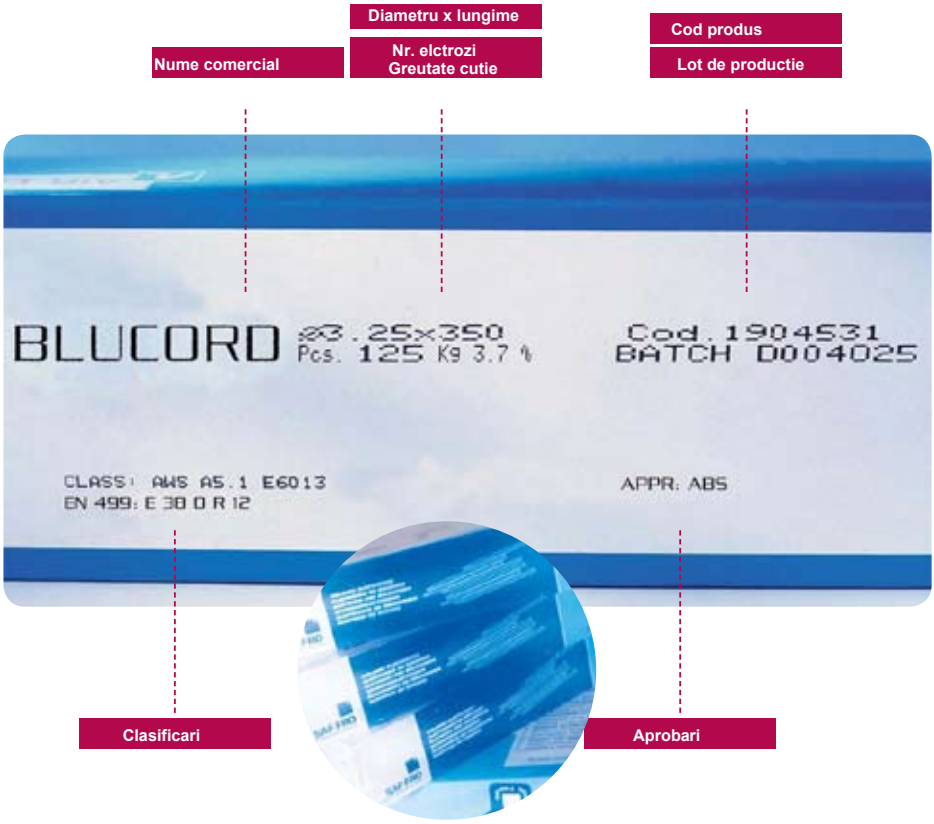
ELECTROZI
WELDING ELECTRODES

GHID CITIRE ETICHETA /
INSTRUCTIONS FOR LABEL READING



SUPERTIT FIN

ELECTROD RUTILIC / *RUTILE ELECTRODE*

CLASIFICARE / ***STANDARDS***

AWS A5.1:	E 6013
EN ISO 2560-A:	E 38 0 R 12

AUTORIZARI / ***APPROVALS***

LRS:	2Y H15	**BV:**	2HH
TÜV:	E 42 0 R 12	**GL:**	2Y H15
DB:	N° 10.037.04	**DNV:**	2
ANR:	2H	**ABS:**	2

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

CURENT / ***CURRENT:*** DC-, AC

Tensiune de mers in gol = min. 50V /

Minimum 50 V open circuit voltage

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rezistenta la rupere/Tensile strenght N/mm²	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 / *Lenght*	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 particular ly 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 (carioad, carriage, vehicle).

POZITII DE SUDARE / *WELDING POSITIONS*

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

CURENT / *CURRENT:* DC+, AC

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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 / *Lenght*	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			

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

BLUCORD

ELECTROD RUTILIC / *RUTILE ELECTRODE*

CLASIFICARE / ***STANDARDS***

AWS A5.1:	E 6013
GOST:	9467 - 75; Э 50–E51 1
EN ISO 2560 - A:	E 38 0 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

CURENT / ***CURRENT:*** DC-, AC

RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	E % 5d	Kv J 0°C
Stare sudată/*As welded*	510 - 550	≥ 430	≥ 24	≥ 47
Dupa/*after 610°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***

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 / *Lenght*	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 lucrarilor 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. Electrodul 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

CURENT / ***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/mm²	Rs N/mm²	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 / *Lenght*	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***

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 PA 2F PB AWS EN

CURENT / ***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/mm²	Rs N/mm²	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 / *Lenght*	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
GOST:	9467-75: Э 46-E43 2
EN ISO 2560 - A:	E 35 3 C 21

AUTORIZARI / *APPROVALS*

LRS:	3m
ABS:	3
DNV:	3
TÜV:	E 35 3 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 tevile destinate constructiei de magistrale pentru transportul de gaze si de produse petroliere. Sudarea in toate pozitiile, prioritar sudarea vertical descendent. 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 particulary 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. Ligh slag with little interference for easy arc control.

DOMENII DE APLICATIE

Tevi-conducte magistrale

MAIN APPLICATIONS

Pipeline

POZITII DE SUDARE / *WELDING POSITIONS*

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

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

RANDAMENT / *EFFICIENCY:* 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	E % 5d	Kv J 0°C
Stare sudată/*As welded*	440 ÷ 570	≥ 355	≥ 24	≥ 30

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 ÷ 75	85 ÷ 120	120 ÷ 160	160 ÷ 190						

AMBALARE / *PACKING*

Diametru	mm	2.50	3.20	4.00	5.00				
Lungime / *Lenght*	mm	350	350	350	350				
Greutate pe electrod / *Weight per electrode*	g	15.7	26.5	39.5	59.2				
Nr de fire pe pachet / *Pcs. per innerbox*	n°	573	339	227	160				
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 38 2 Mo C 21

AUTORIZARI / ***APPROVALS***

LBS:	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 tevile destinate constructiei de magistrale pentru transportul de gaze si de produse petroliere. Sudarea in toate pozitiile, prioritar sudarea vertical 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 particulary recommended for 1st run andfilling 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. Ligh slag with little interference for easy arc control.

DOMENII DE APLICATIE

Tevi-conducte magistrale

MAIN APPLICATIONS

Pipeline

POZITII DE SUDARE / ***WELDING POSITIONS***

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

CURENT / ***CURENT:*** DC - strat de radacina; DC + straturi de umplere

RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	E % 5d	Kv J -30°C
Stare sudată/*As welded*	480 ÷ 610	≥ 415	≥ 22	≥ 27

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 ÷ 75	85 ÷ 120	120 ÷ 160	160 ÷ 190						

AMBALARE / ***PACKING***

Diametru	mm	2.50	3.20	4.00	5.00				
Lungime / *Lenght*	mm	350	350	350	350				
Greutate pe electrod / *Weight per electrode*	g	15.7	26.5	39.5	62.8				
Nr de fire pe pachet / *Pcs. per innerbox*	n°	573	358	240	151				
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.*

FLEXAL 80

ELECTROD CELULOZIC / *CELLULOSIC ELECTRODE*

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 tevile destinate constructiei de magistrale pentru transportul de gaze si de produse petroliere. Sudarea in toate pozitiile, prioritar sudarea vertical descendent. 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 particulary recommanded for 1st run andfilling 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. Ligh slag with little interference for easy arc control.

DOMENII DE APLICATIE

Tevi-conducte magistrale

MAIN APPLICATIONS

Pipeline

POZITII DE SUDARE / ***WELDING POSITIONS***

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

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

RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	E % 5d	Kv J -30°C
Stare sudată/*As welded*	550 ÷ 680	≥ 460	≥ 20	≥ 32

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 ÷ 75	85 ÷ 120	120 ÷ 160	160 ÷ 190						

AMBALARE / ***PACKING***

Diametru	mm	2.50	3.20	4.00	5.00				
Lungime / *Lenght*	mm	350	350	350	350				
Greutate pe electrod / *Weight per electrode*	g	15.6	26.5	38.6	60.0				
Nr de fire pe pachet / *Pcs. per innerbox*	n°	576	358	246	158				
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:**	3Y HH
BV:	3YHH	**GL:**	3Y H10

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 cm^3/ 100g M.D. Randamentul nominal efectiv: RE = 116%.

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 cm^3 / 100 g M.D. Weld metal recovery: RE = 116%.

DOMENII DE APLICATIE

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

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

CURENT / ***CURRENT:*** DC+, AC

ANALIZA CHIMICA A METALULUI DEPUS % / *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°C x 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 / *Lenght*	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	

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

BASICORD A

ELECTROD BAZIC / *LOW HYDROGEN ELECTRODE*

CLASIFICARE / *STANDARDS*

AWS A5.1:	E 7018.1
GOST:	9467 - 75; Э 50A–E 51 6
EN ISO 2560 - A:	E 46 4 B 32 H5

AUTORIZARI / *APPROVALS*

GL:	4YH5	**RINA:**	4/4YDH5
BV:	4Y40HHH	**DNV:**	4YH5
LRS:	3m-4Ym-H5	**TÜV:**	approved

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 descendent. 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 vassels, 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.

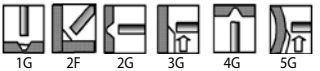
DOMENII DE APLICATIE

Recipienti sub presiune, inclusiv pentru industria chimica si petrochimica, constructia de nave, sudarea tevilor, 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*



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 DEPUS % / *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/mm²	Rs N/mm²	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.
H_2 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.
H_2 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 / *Lenght*	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	

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

SANBAZ

ELECTROD BAZIC / *LOW HYDROGEN ELECTRODE*

CLASIFICARE / ***STANDARDS***

AWS A5.1:	E 7018-1 H4 R
EN ISO 2560 - A:	E 42 5 B 42 H5

AUTORIZARI / ***APPROVALS***

LRS:	3m4YmH5	**BV:**	3Y HHH
ABS:	3Y 3H5	**ANR:**	4Y HHH
GL:	4Y H5	**TÜV:**	E 42 5 B 42 H5
DNV:	3Y H5	**DB:**	N° 10.116.17

CARACTERISTICI PRINCIPALE

Electrod bazic pentru sudarea otelurilor carbon si slab aliate. Invelisul acestui electrod a fost studiat pentru a asigura o absorbtie scazuta de umiditate si de asemenea un continut foarte scazut de hidrogen difuzibil in metalul depus (< 4 ml/100 g). Excelentele caracteristici mecanice ale metalului depus recomanda acest electrod pentru structurile puternic solicitate static si dinamic. Continutul scazut de hidrogen difuzibil asigura o rezistenta marita la fisurarea la rece si de asemenea valori crescute ale rezilientei pana la temperatura de -50°C. Caracteristici excelente de sudabilitate in toate pozitiile de sudare cu exceptia pozitiei vertical descendent. Stropire foarte redusa atat in curent continuu cat si in curent alternativ, cu o rata mare de depunere. Aplicatii principale: vase sub presiune, boilere, poduri, fabricatie tevi.

MAIN FEATURES

Basic coated electrode with low hydrogen content, 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 - 50°C. Its coating and has been developed in order to ensure low moisture absorbtion properties and consequently and extra low diffusible hydrogen content in the weld metal (< 4 ml/100 g). It is recommended for the materials:

- *St 33 to St 52-3 - DIN 17100*
- *H I, H II, 17 Mn4 - DIN 17155*
- *A, B, D, E (shipbuilding steels)*
- *WStE 255 to WStE 355 - DIN 17102*

DOMENII DE APLICATIE

Constructii navale, recipienti sub presiune, inclusiv pentru industria chimica/petroliera; fabricarea tevilor; constructia platformelor marine; poduri + cai ferate + constructii civile (poduri, viaducte).

MAIN APPLICATIONS

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

POZITII DE SUDARE / ***WELDING POSITIONS***

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

CURENT / ***CURRENT:*** DC+, AC

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

C	Mn	Si	S	P					
0.05 - 0.09	1.10 - 1.50	0.25 - 0.55	≤ 0.010	≤ 0.020					

CARACTERISTICI MECANICE / ***MECHANICAL PROPERTIES***

Tratament termic/*Heat treatment*	Rm N/mm²	Rs N/mm²	E % 5d	Kv J -50°C	
Stare sudată/*As welded*	510 - 600	≥ 430	≥ 24	≥ 90	
Dupa/*after 620°C x 1h*	500 - 590	≥ 420	≥ 22	≥ 90	

DEPOZITARE - CALCINARE

Inainte de sudare electrozii se vor usca in mod obligatoriu timp de 2 h la 250 ÷ 300°C. Electrozii SANBAZ se pot ambala si vacuum, in cutii standard (mari) conform tabelului de mai jos, precum si in cutii la 1/2 sau 1/4 din greutatea standard. In conditiile ambalarii vacuum, dupa deschiderea ambalajului, timp de minim 9 h electrozii pot fi folositi la efectuarea operatiei de sudare, fara sa se calcineze in prealabil.

STORAGE - *REBAKING*

Vacuum packing: at the moment of opening undamaged packing, guarantees a level of diffusible hydrogen in the deposited metal, within 9 h after opening, without rebaking.
Keep dry and store at room temperature.
Once opened, store at 90° - 150°C till used.
Rebaking: 2h at 250 - 300°C.

CURENTI DE SUDARE / ***AMPERAGE***

2.50	3.20	4.00	5.00						
65 - 90	120 - 140	160 - 190	180 - 210						

AMBALARE / ***PACKING***

Diametru	mm	2.50	2.50	3.20	3.20	4.00	4.00	5.00	
Lungime / *Lenght*	mm	300	350	350	450	350	450	450	
Greutate pe electrod / *Weight per electrode*	g	20.20	23.20	36.20	47.20	52.30	68.20	98.40	
Nr de fire pe pachet / *Pcs. per innerbox*	n°	175	172	112	115	76	82	55	
Greutate pachet / *Weight per innerbox*	kg	3.5	4.0	4.0	5.5	4.0	5.5	5.5	
Nr de fire pe cutie / *Pcs. per outerbox*	n°	700	516	336	345	228	246	165	
Greutate pe cutie / *Weight per outerbox*	kg	10.5	12.0	12.0	16.5	12.0	16.5	16.5	
Cod / *Code*		W0002 88467	W0002 88468	W0002 88469	W0002 88470	W0002 88471	W0002 88472	W0002 88473	
Cod / *Code VPM (vacuum pack mediu)*		W0002 88475	W0002 88476	W0002 88477	W0002 88478	W0002 88479	W0002 88480	W0002 88481	

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

TENSILFRO 2000

ELECTROD BAZIC / *LOW HYDROGEN ELECTRODE*

CLASIFICARE / *STANDARDS*

AWS A5.1:	E 7018.1 H 4R
GOST:	9467 - 75; Э 50A–E 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 otelurilor carbon si slab aliate. Invelisul acestui electrod a fost studiat pentru a asigura o absorbtie scazuta de umiditate si de asemenea un continut foarte scazut de hidrogen difuzibil in metalul depus (<4ml/100g). Excelentele caracteristici mecanice ale metalului depus recomanda acest electrod pentru executarea structurilor sudate de mare importanta. Continutul scazut de hidrogen difuzibil asigura o rezistenta marita la fisurarea la rece si de asemenea valori crescute ale rezilientei pana la temperatura de -50°C. Caracteristici excelente de sudabilitate in toate pozitiile de sudare cu exceptia pozitiei vertical descendent. Stropire foarte redusa atat in curent continuu cat si in curent alternativ, cu o rata 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 absorbtion 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 nocht 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

Constructii navale, recipienti sub presiune, inclusiv pentru industria chimica/petroliera; fabricarea tevilor; constructia platformelor marine; poduri + cai ferate + constructii 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 DEPUS % / *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/mm²	Rs N/mm²	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 pastra in locuri uscate la temperatura camerei.
Odata deschis pachetul, a se pastra la temperatura de 90° - 150° C.
H_2 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.
H_2 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 / *Lenght*	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 mentionate pot fi modificate fara o notificare prealabila. / *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 enev for unskilled welders.

DOMENII DE APLICATIE

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

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

CURENT / ***CURRENT:*** DC+, AC
RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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.
H_2 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.
H_2 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 / *Lenght*	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.*

NIBAZ 65

ELECTROD BAZIC / *LOW HYDROGEN ELECTRODE*

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, exploatate 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 cm^3/100g M.D. Randamentul nominal efectiv: RE = 113%.

MAIN FEATURES

It is a heavy covered nickel alloy basic electrode designed foe welding fine grained structural steels, with high yield strenght, used at below-zero temperature down to -60°C. Nibaz 65 deposits a metal with high touhness 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. Te diffusible hydrogen content of weld metal places the electrode in class A, very low hydrogen content - max. 5 cm^3/100g weld metal. Weld metal recovery: RE = 113%.

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

CURENT / *CURRENT:* DC+, AC

ANALIZA CHIMICA A METALULUI DEPUS % / *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 / *Lenght*	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
AWS A5.5:	E 8018-G
GOST:	9467 - 75; Э 60–60 Г2Н1 –7

AUTORIZARI / ***APPROVALS***

LRS:	4Y46H5	**ABS:**	8018-G
TÜV:	approved	**DNV:**	3Y46H5
BV:	UP		

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 yeld strength steels. Meatl recovery approx. 120%. Easy striking. Low diffusble 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	2F	2G	3G	4G	5G	AWS
PA	PB	PC	PF	PE	PF	EN

CURENT / ***CURRENT:*** DC+, AC
RANDAMENT / ***EFFICIENCY:*** 120%

ANALIZA CHIMICA A METALULUI DEPUS % / ***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/mm²	Rs N/mm²	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.
H_2 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.
H_2 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 / *Lenght*	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:	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). Randamentul 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 fisurarilor este practic inexistent. Se recomanda preincalzirea la 100-150°C a ansamblelor de grosimi mari si solicitate 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	2F	2G	3G	4G	5G	AWS
PA	PB	PC	PF	PE	PF	EN

CURENT / *CURRENT:* DC+, AC (Uo > 70V)
RANDAMENT / *EFFICIENCY:* 115%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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.
H_2 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.
H_2 diffusible (ml/100gr) ≤ 5 after rebaking 300° - 350° C x 2h (max 5 times).

CURENTI 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 / *Lenght*	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.*

TENCOR

ELECTROD BAZIC / *LOW HYDROGEN ELECTRODE*

CLASIFICARE / ***STANDARDS***

EN 499:	E 46 2 B 12 H10
AWS A5.1:	E 8016 - G
GOST:	9467 - 75; Э 50 – E 51 3
EN ISO 2560-A:	E 46 2 B 12 H10

AUTORIZARI / ***APPROVALS***

TÜV
DB

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 carachteristics of high atmosferic corrosion resistance and also mechanic resistance and also mechanic resistance, comparing to a simple Carbon steel, Cor-Ten is particulrly 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	2F	2G	3G	4G	5G	AWS
PA	PB	PC	PF	PE	PF	EN

CURENT / ***CURRENT:*** DC+, AC
RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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 / *Lenght*	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				

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

MOLIBAZ

ELECTROD BAZIC / *LOW HYDROGEN ELECTRODE*

CLASIFICARE / ***STANDARDS***

SR EN 1599:	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, aliati 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. Randamentul 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 strenght (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 mentain 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 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	PF	PE	PF	EN

CURENT / ***CURRENT:*** DC+

ANALIZA CHIMICA A METALULUI DEPUS % / ***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/mm²	Rs N/mm²	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

A se 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 / *Lenght*	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 1599:	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, boile 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

CURENT / ***CURRENT:*** DC+, AC

RANDAMENT / ***EFFICIENCY:*** 120%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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.
H_2 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.
H_2 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 / *Lenght*	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.*

CROMOBAZ

ELECTROD BAZIC / *LOW HYDROGEN ELECTRODE*

CLASIFICARE / *STANDARDS*

SR EN 1599:	E Cr Mo1 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 solicitate 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 mentain 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 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

CURENT / *CURRENT:* DC+

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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 ÷ 350°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 / *Lenght*	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 1599:	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 12 VMoCr10; 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:

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

Smooth burning, very low spattering loss, uniform deposition, goodstriking and restriking. The slag properly covers the bead and is easlyremovable. Check and mentain preheat, interpass and postheat. Thepost 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	2F	2G	3G	4G	5G	AWS
PA	PB	PC	PF	PE	PF	EN

CURENT / ***CURRENT:*** DC+, AC

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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***

Diametru	mm	2.50	3.20	4.00					
Lungime / *Lenght*	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					

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

SAF-FRO CD 60 SC

ELECTROD BAZIC / *LOW HYDROGEN ELECTRODE*

CLASIFICARE / ***STANDARDS***

EN 1599:	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

CURENT / ***CURRENT:*** DC+, AC

RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % (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/mm²	Rs N/mm²	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.
H_2 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.
H_2 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*

Diametru	mm	2.5	3.20	4.0	5.0				
Lungime / *Lenght*	mm	350	350	450	450				
Greutate pe electrod / *Weight per electrode*	g	20.3	34.6	64.9	93.5				
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	16.5	16.8				
Cod / *Code*		W0002 88677	W0002 88678	W0002 88679	W0002 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 1599:	E CrMo 2 B12 H5
AWS A5.5:	E 9018 B 3
GOST:	9467 - 75; Э 09X2M1

AUTORIZARI / ***APPROVALS***

BV **TÜV**
ABS
DNV

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

CURENT / ***CURRENT:*** DC+

RANDAMENT / ***EFFICIENCY:*** 120%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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.
H_2 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.
H_2 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 / *Lenght*	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.*

SAFMANGA

ELECTROD BAZIC / *LOW HYDROGEN ELECTRODE*

CLASIFICARE / *STANDARDS*

DIN 8555: E 7UM 250K

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°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°C) to prevent risk of fragilization.

DOMENII DE APLICATIE

Incarcare

MAIN APPLICATIONS

Hardfacing

POZITII DE SUDARE / *WELDING POSITIONS*

1G 2F AWS
PA PB EN

CURENT / *CURRENT:* DC+, AC
RANDAMENT / *EFFICIENCY:* 100%
DURITATE / *HARDNESS:* 200 HB min. / 500 HB
(dupa ecruisare / *after hammer-harden*)

ANALIZA CHIMICA A METALULUI DEPUS % / *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° - 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*

3.15	4.00								
100 ÷ 200	150 ÷ 170								

AMBALARE / *PACKING*

Diametru	mm	3.2	4.00						
Lungime / *Lenght*	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						

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

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 sudeaza 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

CURENT / ***CURRENT:*** DC+
RANDAMENT / ***EFFICIENCY:*** 100%
DURITATE / ***HARDNESS:*** 20 HRC min. / 50 HRC
(dupa ecruisare / *after hammer-harden*)

ANALIZA CHIMICA A METALULUI DEPUS % / ***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***

Diametru	mm	3.20	4.00	5.00					
Lungime / *Lenght*	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

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

CURENT / *CURRENT:* DC+, AC
RANDAMENT / *EFFICIENCY:* 100%
DURITATE / *HARDNESS:* 320 HB

ANALIZA CHIMICA A METALULUI DEPUS % / *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 / *Lenght*	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 / *RUTTILE 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

Rutille coated hardfacing electrode, easy to use, depositing chromium steel, with good appearance and good for metal to metal wear 5 applications. Hardness in as welded state is 240 - 290 HB and after water quenched is 400 HB. Suitable for surfacing rails and track equipament, agricultural and civil works equipament.

DOMENII DE APLICATIE

Incarcare

MAIN APPLICATIONS

Hardfacing

POZITII DE SUDARE / ***WELDING POSITIONS***

1G 2F AWS
PA PB EN

CURENT / ***CURRENT:*** DC-, AC
RANDAMENT / ***EFFICIENCY:*** 100%
DURITATE / ***HARDNESS:*** 240 - 290 HB / 400 HB
(dupa calire / *after water quenching*)

ANALIZA CHIMICA A METALULUI DEPUS % / ***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***

Diametru	mm	3.2	4.00	5.00					
Lungime / *Lenght*	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					

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

SAFER R 600

ELECTROD RUTILIC / *RUTILLE ELECTRODE*

CLASIFICARE / ***STANDARDS***

DIN 8555:	E 2 UM 55 G

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 rutille coated electrod, 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, crowler shoes, mining equipment etc.

DOMENII DE APLICATIE

Incarcare

MAIN APPLICATIONS

Hardfacing

POZITII DE SUDARE / ***WELDING POSITIONS***

1G 2F AWS
PA PB EN

CURENT / ***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***

Diametru	mm	3.2	4.00	5.00					
Lungime / *Lenght*	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: E I 6 - 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 impactand 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

CURENT / ***CURRENT:*** DC (+), AC

RANDAMENT / ***EFFICIENCY:*** 100%

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

ANALIZA CHIMICA A METALULUI DEPUS % / *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 / *Lenght*	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: E I 4 - 60

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

CURENT / ***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 / *Lenght*	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 straturi recomandat este de 3 straturi. Recomandat la aplicatii de abraziune severa la temperatura (t < 650°C). Aplicatii: in industria metalurgica, in cariere, fabrici de ciment, in agricultura.

MAIN FEATURES

Basic-graphite coated electrod, 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°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

CURENT / ***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° C x 1 1/2h. Pastrare la 90° - 150° C.

STORAGE - *REBAKING*

Keep dry and store at room temperature.
Rebaking: 150-175° C x 1 1/2h. *Store at 90° - 150° C.*

CURENTI DE SUDARE / ***AMPERAGE***

3.15	4.00								
110 - 130	150 - 170								

AMBALARE / ***PACKING***

Diametru	mm	3.15	4.00						
Lungime / *Lenght*	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:	E 18 8 Mn B 22
AWS A5.4:	E307-15*

AUTORIZARI / *APPROVALS*

TÜV:	E 18 8 Mn B 12

CARACTERISTICI PRINCIPALE

Electrozi inoxidabili cu invelis bazic aliati 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.

MAIN FEATURES

Basic coated electrode alloyed through wire and cover. Recommended for welding of quenched and tempered steels, austenitic manganiferous steels, stainless steels with maximum temperature service +850°C and dissimilar steels especially for high thicknesses. Excelent 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.

DOMENII DE APLICATIE

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

MAIN APPLICATIONS

Vessels; Hardfacing; Metal working industry.

POZITII DE SUDARE / *WELDING POSITIONS*

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

CURENT / *CURRENT:* DC+, AC

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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 / *Lenght*	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:	E 18 8 Mn R 12
AWS A5.4:	E307-16*

AUTORIZARI / ***APPROVALS***

CARACTERISTICI PRINCIPALE

Electrozi inoxidabili cu invelis rutilic aliati 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.

MAIN FEATURES

Rutile electrodes alloyed through wire and cover. Recommended for welding of quenched and tempered steels, austenitic manganiferous steels, stainless steels with maximum temperature service +850°C and dissimilar steels especially for high thicknesses. Excelent 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.

DOMENII DE APLICATIE

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

MAIN APPLICATIONS

Vessels; Hardfacing; Metal working industry.

POZITII DE SUDARE / ***WELDING POSITIONS***

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

CURENT / ***CURRENT:*** DC+, AC

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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 / *Lenght*	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 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 308L

ELECTROD SEMI-BAZIC / *SEMI-BASIC ELECTRODE*

CLASIFICARE / *STANDARDS*

SR EN 1600:	E 19 9 L R 12
AWS A5.4:	E308L-16

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 intercristalina. 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.

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. Excelent 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.*

DOMENII DE APLICATIE

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

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

CURENT / *CURRENT:* DC+, AC

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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 / *Lenght*	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:	E 19 9 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 intercristalina. 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 austenistic steels type AISI 302, 304, 304L, 305. Good resistance to intercristalline 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 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

CURENT / ***CURRENT:*** DC+, AC

RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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.

CURENTI 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 / *Lenght*	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:	E 19 9 L R 22
AWS A5.4:	E 308L-17

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 zgurei. 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, easi 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

CURENT / ***CURRENT:*** DC+

RANDAMENT/ *EFFICIENCY:* 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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.

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 / *Lenght*	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:	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. Indicat 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

CURENT / ***CURRENT:*** DC+ , AC

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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 / *Lenght*	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:	E 23 12 L B 12
AWS A5.4:	E 309L-16

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

CURENT / ***CURRENT:*** DC+, AC

RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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:	E 19 9 L R 12
AWS A5.4:	E309L-17

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, easi slag removal, excellent striking and restriking. Vacuum packed: 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

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

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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.
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.

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 / *Lenght*	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:	E 23 12 2 LR 12
AWS A5.4:	E 309MoL-16

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. Indicat 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 dissimilars 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	2F	2G	3G	4G	5G	AWS
PA	PB	PC	PF	PE	PF	EN

CURENT / ***CURRENT:*** DC+, AC
RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / ***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/mm²	Rs N/mm²	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 / *Lenght*	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:	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

CURENT / ***CURRENT:*** DC+; AC

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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***

Diametru	mm	2.5	3.20	4.0	5.0				
Lungime / *Lenght*	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 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 E310-16

ELECTROD SEMI-BAZIC / *LOW HYDROGEN ELECTRODE*

CLASIFICARE / *STANDARDS*

EN 1600:	E 25 20 R 12
AWS A5.4:	E 310-16

AUTORIZARI / *APPROVALS*

CARACTERISTICI PRINCIPALE

Electrod cu invelis semi-bazic pentru sudarea in toate pozitiile, cu exceptia pozitiei vertical descendent, a otelurilor inoxidabile integral 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 DEPUS % / *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/mm²	Rs N/mm²	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)

Diametru	mm	2.5	3.20	4.0					
Lungime / *Lenght*	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:	E 29 9 R 12
AWS A5.4:	E 312-16

AUTORIZARI / ***APPROVALS***

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

CURENT / ***CURRENT:*** DC+, AC
RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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)**

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

STARINOX 316 L

ELECTROD SEMI-BAZIC / *SEMI-BASIC ELECTRODE*

CLASIFICARE / *STANDARDS*

SR EN 1600:	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 intercristalina. 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	2F	2G	3G	4G	5G	AWS
PA	PB	PC	PF	PE	PF	EN

CURENT / *CURRENT:* DC+, AC

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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.

CURENTI 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 / *Lenght*	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:	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 cromium carbide precipitation and increase the resistance to intercrystalline corrosion. Furthermore the content of Molibden guarantees a good resistance to heat cracking. Excellent weldability, good bead apparence and easy slag removal complete the features of this elecrode. 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	2F	2G	3G	4G	5G	AWS
PA	PB	PC	PF	PE	PF	EN

CURENT / ***CURRENT:*** DC+, AC

RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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.

CURENTI 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 / *Lenght*	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:	E 19 12 3 LR 22
AWS A5.4:	E 316L-17

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 zgurei. 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, easi 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

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

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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.

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 / *Lenght*	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:	E 19 9 Nb R 12
AWS A5.4:	E 347-16

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 intercristalina. 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 cromium carbonate precipitation and increase intergranular corossion 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

CURENT / ***CURRENT:*** DC+, AC

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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 / *Lenght*	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:	E 19 9 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 cromium carbonate precipitation and increase intergranular corrosion resistance. Excellent weldability, good bead apparence and easy slag removal complete the features of this elecrode. 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

CURENT / ***CURRENT:*** DC+, AC
RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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***

2.0	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 / *Lenght*	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:	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 aceeasi compozitie chimica si a recipientilor ce lucreaza la temperaturi inalte. Rezistenta sporita la coroziune la temperaturi inalte si eroziune recomanda de asemenea acest electrod pentru realizarea incarcarilor otelurilor 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 chimica si petrochimica;
Incarcari.

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

CURENT / ***CURRENT:*** DC+, AC
RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	E % 5d			
Stare sudată/*As welded*	≥ 450	≥ 20			
Dupa/*after 780°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						
65 - 95	85 - 140	120 - 190	190 - 240						

AMBALARE / ***PACKING***

Diametru	mm	2.5	3.20	4.0	5.0				
Lungime / *Lenght*	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 mentionate pot fi modificate fara o notificare prealabila. / *The above data may change without prior notice.*

FRO CROM 13/4L

ELECTROD BAZIC / *LOW HYDROGEN ELECTRODE*

CLASIFICARE / ***STANDARDS***

EN 1600:	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

CURENT / ***CURRENT:*** DC+, AC
RANDAMENT / ***EFFICIENCY:*** 115%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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.

CURENTI 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 / *Lenght*	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:	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 coroziune 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 resistence 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	2F	2G	3G	4G	5G	AWS
PA	PB	PC	PF	PE	PF	EN

CURENT / ***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/mm²	Rs N/mm²	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.

CURENTI 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 / *Lenght*	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.*

ALCORD AI

ELECTROD SPECIAL / *SPECIAL ELECTRODE*

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, execellent weldability in flat position. Due to high moisture absorbtion of the coating, electrode must be kept dry, eventually redried before using. Preheat of base meterial 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	2F	2G	3G	4G	5G	AWS
PA	PB	PC	PF	PE	PF	EN

CURENT / ***CURRENT:*** DC+

RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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 / *Lenght*	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:	El AlSi5

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

CURENT / ***CURRENT:*** DC+

RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	E % 5d		
Stare sudată/*As welded*	≥ 160	≥ 90	≥ 28		

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 / *Lenght*	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.*

ALCORD 12 Si

ELECTROD SPECIAL / *SPECIAL ELECTRODE*

CLASIFICARE / ***STANDARDS***

DIN 1732:	EL - AlSi12

AUTORIZARI / *APPROVALS*

CARACTERISTICI PRINCIPALE

Electrod cu invelis special pentru sudarea aliajelor de Al cu un continut de12% Si. Electrodul 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 absorbtion 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	2F	2G	3G	4G	5G	AWS
PA	PB	PC	PF	PE	PF	EN

CURENT / ***CURRENT:*** DC+

RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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***

Diametru	mm	2.50	3.20						
Lungime / *Lenght*	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

CURENT / ***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/mm²	Rs N/mm²	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 / *Lenght*	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.*

STARCAST Ni

ELECTROD SPECIAL / *SPECIAL ELECTRODE*

CLASIFICARE / ***STANDARDS***

AWS A5.15:	E Ni - CI
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 reparing gears, cams, motors. Weld metal is machinable. It is recommended to weld with as low as possible heat imput, 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	2F	2G	3G	4G	AWS
PA	PB	PC	PF	PE	EN

CURENT / ***CURRENT:*** DC+, AC
RANDAMENT / ***EFFICIENCY:*** 100%

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

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

CARACTERISTICI MECANICE / ***MECHANICAL PROPERTIES***

Tratament termic/*Heat treatment*	Rm N/mm²	Rs N/mm²	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 / *Lenght*	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***

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 reparing 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 imput 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

CURENT / ***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/mm²	Rs N/mm²	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 / *Lenght*	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

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

CURENT / ***CURRENT:*** DC+, AC

RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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.

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

SAFINEL 625

ELECTROD SPECIAL / *SPECIAL ELECTRODE*

CLASIFICARE / ***STANDARDS***

AWS A5.11: E Ni Cr Mo 3

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

CURENT / ***CURRENT:*** DC+, AC

RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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 / *Lenght*	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				

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

ALIN 70/30

ELECTROD MONEL / *MONEL ELECTRODE*

CLASIFICARE / ***STANDARDS***

AWS A5.11: E Ni Cu - 7

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

CURENT / ***CURRENT:*** DC+, AC
RANDAMENT / ***EFFICIENCY:*** 100%

ANALIZA CHIMICA A METALULUI DEPUS % / *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/mm²	Rs N/mm²	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 / *Lenght*	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: El CuSn7

AUTORIZARI / ***APPROVALS***

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. Tratamentul termic nu este necesar, dar este indicat pentru obtinerea unei ductilitati maxime, daca metalul depus este supus deformarilor 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 desiderable 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

CURENT / ***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/mm²	Rs N/mm²	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)**

Diametru	mm	2.5	3.20	4.0					
Lungime / *Lenght*	mm	300	350	350					
Greutate pe electrod / *Weight per electrode*	g	15.7	29.7	45.8					
Nr de fire pe pachet / *Pcs. per innerbox*	n°	280	185	120					
Greutate pachet / *Weight per innerbox*	kg	2.2	2.75	2.75					
Nr de fire pe cutie / *Pcs. per outerbox*	n°	840	555	360					
Greutate pe cutie / *Weight per outerbox*	kg	13.2	16.5	16.5					
Cod / *Code*		W0002 88995	W0002 88996	W0002 88997					

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