

FILLER METALS



IRON POWDER ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
K7014/26	Kiswel	Iron powder	2.6x350mm	5 kg	20 kg	E7014
K7014/32	Kiswel	Iron powder	3.2x350mm	5 kg	20 kg	E7014
K7014/40	Kiswel	Iron powder	4.0x400mm	5 kg	20 kg	E7014
K7014/50	Kiswel	Iron powder	5.0x400mm	5 kg	20 kg	E7014

Classifications

EN ISO 2560-A:2006 : E 42 A RR 32
 EN ISO 2560-B:2006 : E 49 14 A
 AWS A5.1-04 : E7014

Description

- Covering is iron powder, titania type for fillet welding of ship structure, bridges, structural steels
- Designed for high efficiency in single pass and multiple pass welding
- Excellent slag removal and good bead appearance
- Quiet and stable arc
- Redry the electrode at 120~150°C for 30~60 minutes prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn*	P	S	Ni*	Cr*	Mo*	V*	*Sum
0.08	0.41	0.73	0.020	0.014	0.02	0.03	0.01	0.01	0.80

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	RT	IV (J) 0°C	Remarks
AWS A5.1	min. 400	min. 490	min. 17			
EN ISO 2560-A	min.420	500-640	min. 20	>47		
Example	470	550	30	65	50	AW

* AW: As-Welded

Sizes available and recommended currents (AC or DC +, -)

Dia. Length	(mm) (mm)	2.6 350	3.2 350	4.0 400	5.0 400	6.0 450
Amp. (A)	F V . OH	60-100 50-90	90-140 80-130	140-200 110-170	190-240 150-200	250-310 -

Approvals

ABS	KR	LR	NK
2Y,E7014	2Y	2Ym	KMW52

* Others: JIS, CWB, CE

Effective Date

1ST JAN 2017

DISCLAIMER

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IRON POWDER ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
K7024/32	Kiswel	Iron powder	3.2x400mm	5 kg	20 kg	E7024
K7024/40	Kiswel	Iron powder	4.0x450mm	5 kg	20 kg	E7024
K7024/50	Kiswel	Iron powder	5.0x450mm	5 kg	20 kg	E7024

Classifications

EN ISO 2560-A:2006 : E 42 A RR 53
 EN ISO 2560-B:2006 : E 49 24 A
 AWS A5.1-04 : E7024

Description

- Covering is iron powder, titania type for flat and horizontal fillet welding of ship structure, bridges, structural steels for buildings and general structures
- Designed for high efficiency in single pass
- Excellent slag removal and good bead appearance
- Redry the electrode at 120~150°C for 30~60 minutes prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn*	P	S	Ni*	Cr*	Mo*	V*	*Sum
0.08	0.35	0.78	0.020	0.014	0.02	0.03	0.01	0.01	0.85

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	RT	IV (J) 0°C	Remarks
AWS A5.1	min. 400	min. 490	min. 17			
EN ISO 2560-A	min. 420	500-640	min. 20	>47		
Example	480	570	28	65	50	AW

* AW: As-Welded

Sizes available and recommended currents (AC or DC +, -)

Dia.	(mm)	3.2	4.0	4.5	5.0	5.5	6.0
Length	(mm)	400	450	450	450	450	450
			550	550	550	550	550
				700	700	700	700
Amp. (A)	F H-Fillet	100-150	140-190	180-230	200-250	230-270	260-300

Approvals

ABS	BV	DNV	GL	KR	LR	NK
2Y,E7024	2Y	3	2Y	2Y	2Ym	KMW52

* Others: JIS, CWB, CE

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LOW ALLOY ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
K8018B2/26	KISWEL	Low Alloy	2.6x350mm	5	E8018-B2
K8018B2/32	KISWEL	Low Alloy	3.2x350mm	5	E8018-B2
K8018B2/40	KISWEL	Low Alloy	4.0x400mm	5	E8018-B2

Classifications

EN ISO 3580-A:2008 : E CrMo1 B 32 H10
 EN ISO 3580-B:2008 : E 55 18-1CM H10
 AWS A5.5-06 : E8018-B2

Description

- Covering is low hydrogen, iron powder type for welding of 1.25%Cr-0.5%Mo steel used for steam pipes of boilers, oil refining industries, pressure vessels for high temperature service
- Preheat at 150~300°C and postheat treat at 680~730°C
- High deposition rate in all positions
- Redry the electrode at 300~400°C for 1~2 hours prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cr	Mo	V
0.06	0.61	0.70	0.014	0.011	0.02	1.32	0.55	0.01

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) 20°C	0°C	Remarks
AWS A5.5	min. 460	min. 550	min. 19			
EN ISO 3580-A	min. 355	min. 510	min. 22	>47		
Example	590	670	25	80	65	PWHT

* PWHT: 690°Cx1Hr

Sizes available and recommended currents (AC or DC +, -)

Dia. Length	(mm) (mm)	2.6 350	3.2 350	4.0 400	5.0 400	6.0 450
Amp. (A)	F V.OH	65-95 60-90	90-130 80-120	130-190 110-170	190-250 -	250-300 -

Approvals

ABS	DNV	LR
3YH10, E8018-B2	3	2Ym

* Others: CE

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LOW ALLOY ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
K8018C1/32	KISWEL	Low Alloy	3.2x350mm	5	E8018-C1
K8018C1/40	KISWEL	Low Alloy	4.0x400mm	5	E8018-C1
K8018C1/50	KISWEL	Low Alloy	5.0x400mm	5	E8018-C1

Classifications

EN ISO 2560-A:2006 : E 46 6 2Ni B 12 H10
 EN ISO 2560-B:2006 : E 55 16-N5 P U H10
 AWS A5.5-06 : E8016-C1

Description

- Covering is low hydrogen type for welding of 2.5%Ni steel and aluminium-killed steel used at low temperature, LPG tanks, etc
- Excellent impact value at -60°C
- Good weldability and usability
- Redry the electrode at 300~400°C for 1~2 hours prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cr	Mo	V
0.07	0.45	0.98	0.016	0.013	2.25	0.03	0.02	0.01

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J)		Remarks
				-50°C	-60°C	
AWS A5.5	min. 460	min. 550	min. 19		>27	
EN ISO 2560-B	min. 460	min. 550	min. 17		>47	
Example	520	600	30	140	120	AW

* PWHT: 605°Cx1Hr

Sizes available and recommended currents (AC or DC +, -)

Dia.	(mm)	2.6	3.2	4.0	5.0	6.0
Length	(mm)	350	350	400	400	450
Amp.	F	60-90	110-150	150-190	200-240	250-310
(A)	V.OH	50-80	100-140	120-170	150-200	-

Approvals

CE

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LOW ALLOY ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
K9018B3/32	KISWEL	Low Alloy	3.2x350mm	5	E9018-B3
K9018B3/40	KISWEL	Low Alloy	4.0x400mm	5	E9018-B3

Classifications

EN ISO 3580-A:2008 : E CrMo2 B 12 H10
 EN ISO 3580-B:2008 : E 62 16-2C1M H10
 AWS A5.5-06 : E9016-B3

Description

- Covering is low hydrogen type for welding of 2.25%Cr-1%Mo steel used for super-heater tubes, steam pipes, heaters of boilers for thermoelectric power plant and equipments oil refining industries
- Preheat at 150~300°C and postheat treat at 680~730°C
- Excellent crack resistance because of low hydrogen contents
- Redry the electrode at 300~400°C for 1~2 hours prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cr	Mo	V
0.08	0.45	0.78	0.016	0.011	0.03	2.37	1.03	0.01

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) 20°C	0°C	Remarks
AWS A5.5	min. 530	min. 620	min. 17			
EN ISO 3580-A	min. 400	min. 500	min. 18	>47		
Example	620	710	24	55	40	PWHT

* PWHT: 690°Cx1Hr

Sizes available and recommended currents (AC or DC +, -)

Dia. Length	(mm) (mm)	2.6 350	3.2 350	4.0 400	5.0 400
Amp. (A)	F V.OH	60-100 60-90	90-130 75-115	130-190 110-170	190-240 -

Approvals

CE

Effective Date
1ST JAN 2017

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LOW HYDROGEN ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
K7018/26	Kiswel	Low Hydrogen	2.6x350mm	5 kg	20 kg	E7018-G H4R
K7018/32	Kiswel	Low Hydrogen	3.2x350mm	5 kg	20 kg	E7018-G H4R
K7018/40	Kiswel	Low Hydrogen	4.0x400mm	5 kg	20 kg	E7018-G H4R
K7018/50	Kiswel	Low Hydrogen	5.0x400mm	5 kg	20 kg	E7018-G H4R

Classifications

EN ISO 2560-A:2006 : E 42 3 B 32 H10
 EN ISO 2560-B:2006 : E 49 18 A U H10
 AWS A5.1-04 : E7018

Description

- Covering is low hydrogen, iron powder type for welding of 490MPa class high tensile steel in ships, bridges, storage tank, building and industrial machinery
- Excellent mechanical properties and radiographic soundness
- Satisfactory bead appearance and slag removal
- Redry the electrode at 300~400°C for 1~2 hours prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn*	P	S	Ni*	Cr*	Mo*	V*	*Sum
0.07	0.61	0.87	0.015	0.011	0.02	0.03	0.01	0.01	0.94

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	-20°C	IV (J) -30°C	Remarks
AWS A5.1	min. 400	min. 490	min. 22		>27	
EN ISO 2560-A	min. 420	500-640	min. 20		>47	
Example	480	570	30	100	70	AW

* PWHT: 690°Cx1Hr

Sizes available and recommended currents (AC or DC +, -)

Dia. Length	(mm) (mm)	2.6 350	3.2 350	4.0 400	5.0 400	6.0 450
Amp. (A)	F V.OH	60-100 50-80	90-130 80-120	130-180 110-170	200-250 160-210	250-310 -

Approvals

ABS	BV	DNV	GL	KR	LR	NK
3YH10, E7018	3YHH	3YH10	3YH10	3YH15	3YmH15	KMW53H

* Others: KS, JIS, CWB, CE

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LOW HYDROGEN ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
K9018M/32	KISWEL	Low Hydrogen	3.2x350mm	5	E9018-M
K9018M/40	KISWEL	Low Hydrogen	4.0x400mm	5	E9018-M
K9018M/50	KISWEL	Low Hydrogen	5.0x400mm	5	E9018-M

Classifications

EN ISO 2560-A:2006 : E 50 5 Z B 32 H10
AWS A5.5-06 : E9018-M

Description

- Covering is low hydrogen, iron powder type for welding of 620MPa class high tensile steel in bridge, pressure vessels, penstocks and machinery
- Excellent mechanical properties especially in notch toughness
- Satisfactory bead appearance and slag removal
- Redry the electrode at 300~400°C for 1~2 hours prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cr	Mo	V
0.05	0.51	0.88	0.013	0.011	1.58	0.10	0.20	0.01

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J)		Remarks
				-40°C	-50°C	
AWS A5.5	540-620	min. 620	min. 24		>27	
EN ISO 2560-A	min. 500	560-720	min. 18		>47	
Example	570	670	30	110	90	AW

* AW: As-Welded

Sizes available and recommended currents (AC or DC +, -)

Dia. Length	(mm) (mm)	2.6 350	3.2 350	4.0 400	5.0 400	6.0 450
Amp. (A)	F V.OH	50-100 40-80	90-130 80-115	140-190 110-160	190-240 140-170	250-310 -

Approvals

ABS
E9018M-H8

* Others: JIS, CE

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LOW HYDROGEN ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
K11018M/32	KISWEL	Low Hydrogen	3.2x350mm	5	E11018-M
K11018M/40	KISWEL	Low Hydrogen	4.0x400mm	5	E11018-M

Classifications

EN 757:1997 : E 55 3 Z B 32 H10
AWS A5.5-06 : E10018-M

Description

- Covering is low hydrogen, iron powder type for welding of 690MPa class high tensile steel in bridge, pressure vessels, penstocks and machinery
- Excellent mechanical properties especially in notch toughness
- Satisfactory bead appearance and slag removal
- Redry the electrode at 300~400°C for 1~2 hours prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cr	Mo	V
0.07	0.46	1.35	0.015	0.012	1.63	0.20	0.28	0.01

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J)		Remarks
				-30°C	-50°C	
AWS A5.5	610-690	min. 690	min. 16		>27	
EN ISO 757	min. 550	610-780	min. 18	>47		
Example	640	750	29	80	45	AW

* AW: As-Welded

Sizes available and recommended currents (AC or DC +, -)

Dia. Length	(mm) (mm)	3.2 350	4.0 400	5.0 400	6.0 450
Amp. (A)	F V.OH	90-130 80-115	130-180 110-170	180-240 140-200	250-320 -

Approvals

JIS, CE

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GENERAL PURPOSE ELECTRODE



PART NO.	VENDOR	DESCRIPTION	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
RB26/20	Kobe	General Purpose	2.0x300mm	2 kg	20 kg	E6013
RB26/26	Kobe	General Purpose	2.6x350mm	5 kg	20 kg	E6013
RB26/32	Kobe	General Purpose	3.2x350mm	5 kg	20 kg	E6013
RB26/40	Kobe	General Purpose	4.0x400mm	5 kg	20 kg	E6013
RB26/50	Kobe	General Purpose	5.0x500mm	5 kg	20 kg	E6013

Classification

AWS A 5.1 E6013

EN ISO 2560-A-E 35 0 R

Re-drying conditions: 70-100°Cx0.5-1h

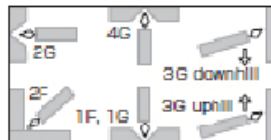
Identification colour: 1st Black, 2nd -

Polarity: AC, DCEP, DCEN

Features

- Suitable for butt and fillet welding of thin plates
- Excellent usability in all positions including vertical download

Welding Positions



Packaging Data

ø mm	Length mm	kg/pack	kg/carton	g/piece	carton mm
2.0	300	2	20	10	270W, 90H, 330L
2.6	350	5	20	19	170W, 100H, 380L
3.2	350	5	20	29	170W, 100H, 380L
4.0	400	5	20	53	170W, 95H, 430L
5.0	400	5	20	81	170W, 95H, 430L

Composition (all-weld metal mass%)

	Typical (AC)	Guaranty ^a
C	0.08	0.20
Si	0.30	1.00
Mn	0.37	1.20
P	0.012	0.035
S	0.010	0.035
Ni	0.01	0.30
Cr	0.02	0.20
Mo	<0.01	0.30
V	0.02	0.08

Note: ^a Single values are maximum

Welding parametres (A)

ø mm	1F, 1G, 2F, 2G, 3G downhill	3G uphill, 4G
2.0	30-65	30-65
2.6	45-95	45-95
3.2	60-125	60-125
4.0	105-170	100-150
5.0	150-220	125-190

All-weld mechanical properties

	Typical (AC)	Guaranty ^a
0.2% YS (MPa)	450	331min.
TS (MPa)	510	414min.
El on 4d (%)	25	17min.

Approvals

ABS	2
LR	2m
NK	KMW2

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LOW HYDROGEN ELECTRODE



PART NO.	VENDOR	DESCRIPTION	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
LB52U/26	Kobe	Low hydrogen	2.6x350mm	5 kg	20 kg	E7016
LB52U/32	Kobe	Low hydrogen	3.2x400mm	5 kg	20 kg	E7016
LB52U/40	Kobe	Low hydrogen	4.0x400mm	5 kg	20 kg	E7016

Classification

AWS A 5.1 E7016

EN ISO 2560-A-E 42 2 B

Re-drying conditions: 30-350°Cx0.5-1h

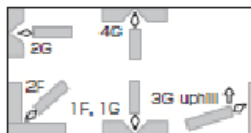
Identification colour: 1st Blue white, 2nd pink

Polarity: AC, DCEP

Features

- Suitable for one side welding of pipes
- Extremely good arc stability in one side welding with relatively low current

Welding Positions



Packaging Data

ø mm	Length mm	kg/pack	kg/carton	g/piece	carton mm
2.6	350	5	20	20	170W, 110H, 380L
3.2	400	5	20	35	170W, 110H, 430L
4.0	400	5	20	53	170W, 110H, 430L

Composition (all-weld metal mass%)

	Typical (AC)	Guaranty ^a
C	0.08	0.15
Si	0.64	0.75
Mn	0.86	1.60
P	0.012	0.035
S	0.008	0.035
Ni	0.01	0.30
Cr	0.02	0.20
Mo	<0.01	0.30
V	0.01	0.08
Others ^b	0.90	1.75

Note: ^a Single values are maximum

^b Combined limit for Mn+Ni+Cr+Mo+V

Welding parametres (A)

ø mm	1F, 1G, 2F, 2G	3G uphill, 4G	Root pass ^c
2.6	60-90	50-80	30-80
3.2	90-130	80-120	60-110
4.0	130-180	110-170	90-140
5.0	180-240	150-200	130-180

Note: ^cDCEN is also suitable

All-weld mechanical properties

	Typical (AC)	Guaranty ^a
0.2% YS (MPa)	480	400min.
TS (MPa)	560	483min.
El on 4d (%)	31	22min.
IV-29°C (J)	80	27min.

Approvals

ABS	3H10, 3Y
LR	3Ym H15
DNV	3YH10
BV	3,3YHH
NK	KMW53H10
CCS	3YH10
GL	3YH15
NAKS	AWS A5.1 E7016

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LOW HYDROGEN ELECTRODE



PART NO.	VENDOR	DESCRIPTION	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
LB5218/26	Kobe	Low hydrogen	2.6x350mm	5 kg	20 kg	E7018
LB5218/32	Kobe	Low hydrogen	3.2x400mm	5 kg	20 kg	E7018
LB5218/40	Kobe	Low hydrogen	4.0x450mm	5 kg	20 kg	E7018
LB5218/50	Kobe	Low hydrogen	5.0x450mm	5 kg	20 kg	E7018

Classification

AWS A 5.1 E7018

EN ISO 2560-A-E 42 3 B

Re-drying conditions: 300-350°Cx0.5-1h

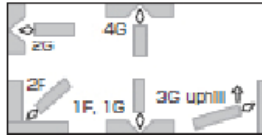
Identification colour: 1st Blue white, 2nd blue

Polarity: AC, DCEP

Features

- Suitable for butt and fillet welding of heavy structure
- Good performance by DCEP current

Welding Positions



Packaging Data

ø mm	Length mm	kg/pack	kg/carton	g/piece	carton mm
2.6	350	5	20	24	170W, 105H, 380L
3.2	400	5	20	41	170W, 105H, 430L
4.0	450	5	20	69	170W, 105H, 480L
5.0	450	5	20	106	170W, 105H, 480L

Composition (all-weld metal mass%)

	Typical (AC)	Guaranty ^a
C	0.07	0.15
Si	0.59	0.75
Mn	0.97	1.60
P	0.013	0.035
S	0.007	0.035
Ni	0.02	0.30
Cr	0.03	0.20
Mo	<0.01	0.30
V	0.01	0.08
Others ^b	1.03	1.75

Welding parameters (A)

ø mm	1F, 1G, 2F, 2G	3G uphill, 4G
2.6	65-95	60-90
3.2	90-130	80-120
4.0	130-190	110-170
5.0	190-250	165-210

Note: ^a Single values are maximum

^b Combined limit for Mn+Ni+Cr+Mo+V

All-weld mechanical properties

	Typical (AC)		Guaranty ^a	
0.2% YS (MPa)	500	420	400min.	350min.
TS (MPa)	560	520	483min.	460min.
El on 4d (%)	31	32	22min.	25min.
IV-29°C (J)	110	140	27min.	27min.
PWHT (°C/h)	AW	620x1	AW	620±15x1

Approvals	
LR	3Y H10
DNV	3Ym H15
NK	3YH10
	KMW53H10

Effective Date

1ST JAN 2017

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CELLULOSE ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
K6010/24	KOBE	Cellulose	2.4x300mm	5 kg	20 kg	E6010
K6010/32	KOBE	Cellulose	3.2x350mm	5 kg	20 kg	E6010
K6010/40	KOBE	Cellulose	4.0x350mm	5 kg	20 kg	E6010
K6010/48	KOBE	Cellulose	4.8x350mm	5 kg	20 kg	E6010

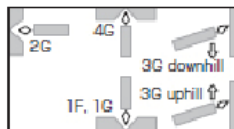
Classification
AWS A 5.1 E6010

Identification colour: 1st Yellowish green, 2nd -
Polarity: DCEP

Features

- Suitable for butt welding of pipes
- Excellent usability in vertical downward welding

Welding Positions



Packaging Data

ø mm	Length mm	kg/pack	kg/carton	g/piece	carton mm
2.4	300	2	20	13	300W, 100H, 330L
3.2	350	5	20	27	175W, 115H, 380L
4.0	350	5	20	40	175W, 115H, 380L
4.8	350	5	20	58	175W, 115H, 380L

Composition (all-weld metal mass%)

	Typical (AC)	Guaranty ^a
C	0.12	0.20
Si	0.15	1.00
Mn	0.51	1.20
P	0.009	0.035
S	0.008	0.035
Ni	0.02	0.30
Cr	0.02	0.20
Mo	<0.01	0.30
V	<0.01	0.08

Note: ^a Single values are maximum

Welding parametres (A)

ø mm	1F, 1G, 2G, 3G uphill, 3G downhill 4G
2.4	40-75
3.2	70-130
4.0	90-180
4.8	140-225

All-weld mechanical properties

	Typical	Guaranty
0.2% YS (MPa)	430	331min.
TS (MPa)	510	414min.
El on 4d (%)	27	22min.
IV-29°C (J)	63	27min.

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STAINLESS STEEL ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
KST308L/25	KISWEL	Stainless steel	2.6x350mm	5 kg	20 kg	E308L-16
KST308L/32	KISWEL	Stainless steel	3.2x350mm	5 kg	20 kg	E308L-16
KST308L/40	KISWEL	Stainless steel	4.0x350mm	5 kg	20 kg	E308L-16

Classifications

EN 1600:1997 : E 19 9 L R 12
AWS A5.4-06 : E308L-16

Description

- Covering is lime titania type for welding of 18%Cr-8%Ni stainless steel. (AISI 301, 302, 304, 308)
- Excellent welding efficiency because of high deposition rate
- Remove water, rust, oil and all foreign matters from the groove prior to welding
- Preheating is not necessary in general
- Redry the electrode at 250~350°C for 30~60 minutes prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cr	Mo	Cu
0.03	0.80	0.84	0.023	0.016	9.6	19.3	0.2	0.03

Typical mechanical properties of all-weld metal

	Y.S (0.2%OS) (MPa)	T.S (MPa)	El. (%)	Remarks
AWS A5.4		min. 520	min. 35	
EN 1600	min. 320	min. 510	min. 30	
Example	430	600	44	AW

* AW: As-Welded

Sizes available and recommended currents (AC or DC +, -)

Dia. Length	(mm) (mm)	2.0 350	2.6 350	3.2 350	4.0 350	5.0 350
Amp. (A)	F V.OH	40-50 35-45	55-80 40-60	90-130 70-90	110-150 90-130	140-180

Approvals

ABS	BV	GL	LR
E308L-16	UP	4306	304Lm

* Others: CWB, TÜV, CE

Effective Date
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STAINLESS STEEL ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
KST309L/25	KISWEL	Stainless steel	2.6x350mm	5 kg	20 kg	E309L-16
KST309L/32	KISWEL	Stainless steel	3.2x350mm	5 kg	20 kg	E309L-16
KST309L/40	KISWEL	Stainless steel	4.0x350mm	5 kg	20 kg	E309L-16

Classifications

AWS A5.4-06 : E309-16

Description

- Covering is lime titania type for welding of 22%Cr-12%Ni stainless steel and heat-resisting castings, clad side of type 304 clad steels. Welding of dissimilar steels such as Cr-Mo steel or carbon steel to stainless steel
- As the deposited weld metal contains ferrite in austenitic structure, its crack resistance is good
- Good heat resistance and corrosion resistance
- Redry the electrode at 250~350°C for 30~60 minutes prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cr	Mo	Cu
0.06	0.72	1.36	0.028	0.012	12.6	23.6	0.2	0.3

Typical mechanical properties of all-weld metal

	Y.S (0.2%OS) (MPa)	T.S (MPa)	El. (%)	Remarks
AWS A5.4		min. 550	min. 30	
JIS Z 3221		min. 550	min. 25	
Example	490	610	38	AW

* AW: As-Welded

Sizes available and recommended currents (AC or DC +, -)

Dia.	(mm)	2.0	2.6	3.2	4.0	5.0
Length	(mm)	250	350	350	350	350
Amp.	F	40-50	50-80	80-110	110-150	140-180
(A)	V.OH	35-45	45-60	70-90	90-130	-

Approvals

ABS
E309L-16

* Others: CWB, CE

Effective Date
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STAINLESS STEEL ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
KST316L/20	KISWEL	Stainless steel	2.0x250mm	5 kg	20 kg	E316L-16
KST316L/25	KISWEL	Stainless steel	2.6x350mm	5 kg	20 kg	E316L-16
KST316L/32	KISWEL	Stainless steel	3.2x350mm	5 kg	20 kg	E316L-16
KST316L/40	KISWEL	Stainless steel	4.0x350mm	5 kg	20 kg	E316L-16

Classifications

EN 1600:1997 : E 19 12 3 L R 12
AWS A5.4-06 : E316L-16

Description

- Covering is lime titania type for welding of 18%Cr-12%Ni-Mo stainless steel (AISI 316) or dissimilar steels
- Especially suitable for flat and horizontal fillet welding
- Excellent corrosion resistance against sulphurous acid, phosphoric acid and acetic acid
- Redry the electrode at 250~350°C for 30~60 minutes prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cr	Mo	Cu
0.03	0.72	1.08	0.028	0.013	12.5	18.4	2.5	0.3

Typical mechanical properties of all-weld metal

	Y.S (0.2%OS) (MPa)	T.S (MPa)	El. (%)	Remarks
AWS A5.4		min. 490	min. 30	
EN 1600	min. 320	min. 510	min. 25	
Example	440	570	43	AW

* AW: As-Welded

Sizes available and recommended currents (AC or DC +, -)

Dia.	(mm)	2.0	2.6	3.2	4.0	5.0
Length	(mm)	250	350	350	350	350
Amp. (A)	F V.OH	40-50 35-45	55-70 45-60	80-110 70-90	120-150 90-130	140-180 -

Approvals

ABS	BV	DNV	GL	KR	LR
E309L-16	UP	316L	4435	RD316L	316Lm

* Others: CWB, TÜV, CE

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HARD FACING ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
KM350/32	KISWEL	Hard facing	3.2x350mm	5 kg	20 kg	na
KM350/40	KISWEL	Hard facing	4.0x400mm	5 kg	20 kg	na
KM350/50	KISWEL	Hard facing	5.0x400mm	5 kg	20 kg	na

Classifications

N/A

Description

- Covering is low hydrogen type for hardfacing of fans, upper rollers, shafts and sprockets
- Machining is possible in general
- Hardness increases by quenching after machining
- Suitable for intermetallic abrasion and moderate impact abrasion
- Redry the electrode at 300~400°C for 1~2 hours prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cr	Mo	W
0.36	0.65	0.74	0.014	0.011	0.02	2.00	0.01	0.01

Typical mechanical properties of all-weld metal

Conditions	As welded		Heat treated	
	Interpass temp. 150°C		900°C oil quenching	650°C stress relief
HV	356		440	300
HRC	36.1		44.5	29.8
HS	49		59	42

Sizes available and recommended currents (AC or DC +, -)

Dia.	(mm)	3.2	4.0	5.0	6.0
Length	(mm)	350	400	400	450
Amp. (A)	F	90-130	140-180	190-240	220-300

Approvals

N/A

Effective Date
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HARD FACING ELECTRODE

PART NO.	VENDOR	WIRE TYPE	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
KM650/32	KISWEL	Hard facing	3.2x350mm	5 kg	20 kg	na
KM650/40	KISWEL	Hard facing	4.0x400mm	5 kg	20 kg	na
KM650/50	KISWEL	Hard facing	5.0x400mm	5 kg	20 kg	na

Classifications

N/A

Description

- Covering is low hydrogen type for hardfacing of fans, upper rollers, shafts and sprockets
- Machining is possible in general
- Hardness increases by quenching after machining
- Suitable for intermetallic abrasion and moderate impact abrasion
- Redry the electrode at 300~400°C for 1~2 hours prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cr	Mo	W
0.36	0.65	0.74	0.014	0.011	0.02	2.00	0.01	0.01

Typical mechanical properties of all-weld metal

Conditions	As welded	Heat treated	
	Interpass temp. 150°C	900°C oil quenching	650°C stress relief
HV	356	440	300
HRC	36.1	44.5	29.8
HS	49	59	42

Sizes available and recommended currents (AC or DC +, -)

Dia.	(mm)	3.2	4.0	5.0	6.0
Length	(mm)	350	400	400	450
Amp.	F	90-130	140-180	190-240	220-300
(A)					

Approvals

N/A

Effective Date
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HARD FACING ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
KM700/32	KISWEL	Hard facing	3.2x350mm	5 kg	20 kg	na
KM700/40	KISWEL	Hard facing	4.0x400mm	5 kg	20 kg	na
KM700/50	KISWEL	Hard facing	5.0x400mm	5 kg	20 kg	na

Classifications

N/A

Description

- Covering is low hydrogen type for hardfacing of cutter knives, dredger and mixer
- The deposited weld metal has martensite structure
- In the case of multilayer build-up welding base plates of hardening properties, under-laying with low hydrogen type carbon steel electrode
- Preheat at 150°C and over in general
- Redry the electrode at 300~400°C for 1~2 hours prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cr	Mo	W
0.48	1.42	1.36	0.015	0.012	0.03	3.65	0.02	0.01

Typical mechanical properties of all-weld metal

Conditions	As welded		Heat treated	
	Interpass temp. 200°C	Interpass temp. 300°C	600°C stress relief	
HV	688	690	585	
HRC	59.6	59.7	54.4	
HS	81	81	73	

Sizes available and recommended currents (AC or DC +, -)

Dia.	(mm)	3.2	4.0	5.0	6.0
Length	(mm)	350	400	400	450
Amp. (A)	F	90-130	140-170	190-240	220-300

Approvals

N/A

Effective Date
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HARD FACING ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
KM800/32	KISWEL	Hard facing	3.2x350mm	5 kg	20 kg	na
KM800/40	KISWEL	Hard facing	4.0x400mm	5 kg	20 kg	na

Classifications

N/A

Description

- Covering is low hydrogen type for hardfacing of impellers, pump casings
- The deposited weld metal has an extremely hard martensite structure
- Machining is impossible as welded
- Preheat at 200°C and over
- Postheat treat at about 600°C immediately after welding
- Redry the electrode at 300~400°C for 1~2 hours prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cr	Mo	W
0.47	1.45	1.51	0.017	0.012	0.03	4.10	0.02	0.01

Typical mechanical properties of all-weld metal

Conditions	As welded		Heat treated	
	Interpass temp. 150°C	Interpass temp. 200°C	600°C stress relief	
HV	723	810	535	
HRC	61.1	64.4	51.4	
HS	83	89	69	

Sizes available and recommended currents (AC or DC +, -)

Dia.	(mm)	3.2	4.0	5.0	6.0
Length	(mm)	350	400	400	450
Amp. (A)	F	90-130	140-170	190-240	220-300

Approvals

N/A

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CAST IRON ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
KFN50/25	KISWEL	Cast iron	2.6x300mm	2 kg	10 kg	ENiFe-Cl
KFN50/32	KISWEL	Cast iron	3.2x350mm	2 kg	10 kg	ENiFe-Cl
KFN50/40	KISWEL	Cast iron	4.0x350mm	2 kg	10 kg	ENiFe-Cl

Classifications

EN ISO 1071:2003 : E C NiFe-Cl 1
AWS A 5.15-90 : ENiFe-Cl

Description

- Covering is graphite type for joining of spheroidal graphit cast iron or repairing of cast iron products such as cylinder covers, motor beds, casings and gears
- Good crack resistance and mechanical properties
- Preheat at 150~300°C. The temperature to be applied varies in accordance with kind, shape and size of base metal
- Redry the electrode at 70~120°C for 30~60 minutes prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cu	Fe	Al
0.80	0.36	0.45	0.008	0.002	55.5	0.05	Rem.	0.05

Typical mechanical properties of all-weld metal

T.S (MPa)	HV	Hardness HB	HS
550	180-210	171-200	26-30

Sizes available and recommended currents (AC or DC +, -)

Dia. Length	(mm) (mm)	2.6 300	3.2 350	4.0 350	5.0 550
Amp. (A)	F	60-90	80-120	120-150	140-190

Approvals

CE

Effective Date
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CAST IRON ELECTRODE



PART NO.	VENDOR	WIRE TYPE	DIAMETER X LENGTH	PACK	CARTON	CLASSIFICATION AWS
KSN100/25	KISWEL	Cast iron	2.6x300mm	2 kg	10 kg	Eni-CI
KSN100/32	KISWEL	Cast iron	3.2x350mm	2 kg	10 kg	Eni-CI
KSN100/40	KISWEL	Cast iron	4.0x350mm	2 kg	10 kg	Eni-CI

Classifications

EN ISO 1071:2003 : E C Ni-CI 1
AWS A 5.15-90 : ENi-CI

Description

- Covering is graphite type for repairing and joining of various kinds of cast iron products such as cylinder covers, motor beds, casings and gears or repairing co cast iron, alloy cast iron and malleable cast iron
- Easily machinable deposited weld metal
- Chip off base metal completely at the repairing part
- Preheat at 150~300°C. The temperature to be applied varies in accordance with kind, shape and size of base metal
- Redry the electrode at 70~120°C for 30~60 minutes prior to use

Welding Positions



Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S	Ni	Cu	Fe	Al
0.55	0.40	0.35	0.009	0.001	Rem.	0.05	0.85	0.05

Typical mechanical properties of all-weld metal

T.S (MPa)	HV	Hardness HB	HS
420	160-190	152-181	24-28

Sizes available and recommended currents (AC or DC +, -)

Dia. Length	(mm) (mm)	2.6 300	3.2 350	4.0 350	5.0 550
Amp. (A)	F	60-90	70-110	110-130	130-150

Approvals

CE

Effective Date
1ST JAN 2017

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MILD STEEL MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
KC28/06	KISWEL	Mild Steel	0.6mm	15 kg	ER70S-6
KC28/08	KISWEL	Mild Steel	0.8mm	15 kg	ER70S-6
KC28/09	KISWEL	Mild Steel	0.9mm	15 kg	ER70S-6
KC28/10	KISWEL	Mild Steel	1.0mm	15 kg	ER70S-6
KC28/12	KISWEL	Mild Steel	1.2mm	15 kg	ER70S-6
KC28/16	KISWEL	Mild Steel	1.6mm	15 kg	ER70S-6

Classifications

EN ISO 14341-A:2008	: G 42 2 C G3Si1	AWS A5.18-05	: ER70S-6
EN ISO 14341-B:2008	: G 42 3 M G3Si1		
EN ISO 14341-B:2008	: G 49A 3 C G6		
	: G 49A 3 M G6		

Description

- For butt and fillet welding of ship-building, bridges, structural steel, steel buildings, machineries and vehicles
- Served as both carbon dioxide and mixture gas, and stable arc performance in almost welding current
- A wide range of use due to low spatter and all welding position
- Suited for application of sheet metal on high welding current without burn through

Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S
0.07	0.86	1.53	0.012	0.007

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) -30°C	Remarks
AWS A5.18	min. 400	min. 480	min. 22	>27	CO2
EN ISO 14341-A	min. 420	500-640	min. 20	>47	CO2
	450	550	30	70	CO2
Example	480	580	28	80	Mix

Operating Data

Dia. (mm)		1.2	1.4
Current (Amp.)	Flat (PA/1G)	100-350	140-400
	Vertical (PF/3G)	50-180	100-250
	Overhead (PE/4G)	50-180	100-250

Approvals

Shielding gas	ABS	BV	DNV	GL	LR	KR	NK
CO2	3SA	SA3YM	IIYMS	3YS	3YS H15	3YSG	KSW53G
Mix	3YSA	-	-	-	-	-	-

* Others: CCS, RS, CWB, KS, JIS

Polarity and Shielding gas

- DCEP (DC+)
- CO2: 100% CO2
- Mix: Ar+20% CO2 (15-25 /min.)

Effective Date

1ST JAN 2017

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MILD STEEL MIG

PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
KC284/06	KISWEL	Mild Steel	0.6mm	1 kg	ER70S-6
KC284/08	KISWEL	Mild Steel	0.8mm	1 kg	ER70S-6
KC284/09	KISWEL	Mild Steel	0.9mm	1 kg	ER70S-6
KC288/06	KISWEL	Mild Steel	0.6mm	5 kg	ER70S-6
KC288/08	KISWEL	Mild Steel	0.8mm	5 kg	ER70S-6
KC288/09	KISWEL	Mild Steel	0.9mm	5 kg	ER70S-6
KC288/10	KISWEL	Mild Steel	1.0mm	5 kg	ER70S-6
KC28P/09	KISWEL	Mild Steel	0.9mm	250 kg	ER70S-6
KC28P/10	KISWEL	Mild Steel	1.0mm	250 kg	ER70S-6
KC28P/12	KISWEL	Mild Steel	1.2mm	250 kg	ER70S-6
KC28P/16	KISWEL	Mild Steel	1.6mm	300 kg	ER70S-6
KC28P/20	KISWEL	Mild Steel	2.0mm	300 kg	ER70S-6

Classifications

EN ISO 14341-A:2008	: G 42 2 C G3Si1	AWS A5.18-05	: ER70S-6
EN ISO 14341-B:2008	: G 42 3 M G3Si1		
EN ISO 14341-B:2008	: G 49A 3 C G6		
	: G 49A 3 M G6		

Description

- For butt and fillet welding of ship-building, bridges, structural steel, steel buildings, machineries and vehicles
- Served as both carbon dioxide and mixture gas, and stable arc performance in almost welding current
- A wide range of use due to low spatter and all welding position
- Suited for application of sheet metal on high welding current without burn through

Typical chemical composition of all-weld metal (%)

C	Si	Mn	P	S
0.07	0.86	1.53	0.012	0.007

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV(J) -30°C	Remarks
AWS A5.18	min. 400	min. 480	min. 22	>27	CO2
EN ISO 14341-A	min. 420	500-640	min. 20	>47	CO2
	450	550	30	70	CO2
Example	480	580	28	80	Mix

Operating Data

	Dia. (mm)	1.2	1.4
Current	Flat (PA/1G)	100-350	140-400
(Amp.)	Vertical (PF/3G)	50-180	100-250
	Overhead (PE/4G)	50-180	100-250

Approvals

Shielding gas	ABS	BV	DNV	GL	LR	KR	NK
CO2	3SA	SA3YM	IIYMS	3YS	3YS H15	3YSG	KSW53G
Mix	3YSA	-	-	-			

* Others: CCS, RS, CWB, KS, JIS

Polarity and Shielding gas

- DCEP (DC+)
- CO2: 100% CO2
- Mix: Ar+20% CO2 (15-25 /min.)

Effective Date

1ST JAN 2017

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MILD STEEL MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
KC80S-D2/12	KISWEL	Low Alloy	1.2mm	15 kg	ER80S-D2
KC80S-D2P/12	KISWEL	Low Alloy	1.2mm	250 kg	ER80S-D2

Classifications

AWS A5.28-05	: ER80S-D2
KS D 7120	: YGM-C
JIS Z 3317	: YGM-C

Description

- For butt and fillet welding of structural steels, boiler and pressure vessels such as 0.5%Mo heat-resistant steel
- Excellent property of heat-resistant due to alloying Mo
- Superior tensile strength and impact values after PWHT
- Beautiful weld appearance due to excellent arc stability and low spatter

Typical chemical composition of wire(%)

C	Si	Mn	P	S	Mo
0.08	0.58	1.85	0.014	0.009	0.46

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV(J) -30°C	Remarks
AWS A5.28 Example	min. 470 610	min. 550 690	min. 17 25	>27 60	CO2 CO2

Operating data

	Dia. (mm)	1.2	1.4
Current (Amp.)	Flat (PA/1G) Vertical (PF/3G) Overhead (PE/4G)	120-350 80-180 80-180	150-400 100-250 100-250

Approvals

- DCEP (DC+)
- CO2: 100% CO2 (15-25 /min)

Effective Date
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STAINLESS STEEL MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
K307SI/09	KISWEL	Stainless Steel	0.9mm	12.5 kg	ES307
K307SI/10	KISWEL	Stainless Steel	1.0mm	12.5 kg	ES307
K307SI/12	KISWEL	Stainless Steel	1.2mm	12.5 kg	ES307
K307SIP/10	KISWEL	Stainless Steel	1.0MM	200 kg	ES307
K307SIP/12	KISWEL	Stainless Steel	1.2mm	200 kg	ES307

Classifications

EN ISO 14343-A:2009 : G 18 8 Mn

Description

- MIG welding of 18%Cr-8%Ni-7%Mn austenite stainless steels
- It used for dissimilar steel such as austenitic manganese steel to carbon steel forgings

Typical chemical composition of wire (%)

C	Si	Mn	Ni	Cr
0.07	0.64	6.79	8.91	18.79

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	0°C	-40°C
EN ISO 14343 Example	min. 350 440	min. 590 610	min. 25 40	110	82

IV (J)

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STAINLESS STEEL MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
KSM308LSI/08	KISWEL	Stainless steel	0.8mm	12.5kg	ER308LSi
KSM308LSI/09	KISWEL	Stainless steel	0.9mm	12.5 kg	ER308LSi
KSM308LSI/10	KISWEL	Stainless steel	1.0mm	12.5 kg	ER308LSi
KSM308LSI/12	KISWEL	Stainless steel	1.2mm	12.5 kg	ER308LSi

Classifications

EN ISO 14343-A:2009 : G 19 9 L Si AWS A5.9-07 : ER308LSi
 EN ISO 14343-B:2009 : SS 308LSi

Description

- MIG welding of 18%Cr-8%Ni austenite stainless steels (AISI STS 301, 302, 304)
- A various application of the petrochemical , nuclear power plant appratuese

Typical chemical composition of wire (%)

C	Si	Mn	Ni	Cr
0.01	0.85	1.68	9.89	19.63

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) 0°C	-196°C
AWS A5.9		min. 520	min. 35		
EN ISO 14343	min. 320	min. 510	min. 30		
Example	350	580	43	180	80

Effective Date
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STAINLESS STEEL MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
KSM309LSI/09	KISWEL	Stainless steel	0.9mm	12.5 kg	ER309LSI
KSM309LSI/10	KISWEL	Stainless steel	1.0mm	12.5 kg	ER309LSI
KSM309LSI/12	KISWEL	Stainless steel	1.2mm	12.5 kg	ER309LSI

Classifications

EN ISO 14343-B:2009 : SS 309LSi
AWS A5.9-07 : ER309LSi

Description

- MIG welding of 22%Cr-12%Ni STS and dissimilar steels such as 304L to mild steels or low alloy steels
- A various application of petrochemical and fiber industrial apparatuses

Typical chemical composition of wire (%)

C	Si	Mn	Ni	Cr
0.01	0.91	1.86	13.62	23.07

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) 0°C
AWS A5.9		min. 520	min. 30	
EN ISO 14343	min. 320	min. 510	min. 25	
Example	410	590	40	90

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STAINLESS STEEL MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
KSM316LSI8/08	KISWEL	Stainless steel	0.8mm	5 kg	ER316LSI
KSM316LSI8/09	KISWEL	Stainless steel	0.9mm	5 kg	ER316LSI
KSM316LSI8/12	KISWEL	Stainless steel	1.2mm	5 kg	ER316LSI
KSM316LSI/08	KISWEL	Stainless steel	0.8mm	12.5 kg	ER316LSI
KSM316LSI/09	KISWEL	Stainless steel	0.9mm	12.5 kg	ER316LSI
KSM316LSI/10	KISWEL	Stainless steel	1.0mm	12.5 kg	ER316LSI
KSM316LSI/12	KISWEL	Stainless steel	1.2mm	12.5 kg	ER316LSI

Classifications

EN ISO 14343-A:2009 : G 19 12 3 L Si AWS A5.9 : ER316LSi
 EN ISO 14343-B:2009 : SS 316LS

Description

- MIG welding of 18%Cr-12%Ni-2%Mo austenite stainless steels (AISI STS 316, 316L)
- A various application of chemical plant, fiber and paper industrial apparatuses

Typical chemical composition of wire (%)

C	Si	Mn	Ni	Cr	Mo
0.01	0.87	1.55	11.57	18.58	2.54

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) 0°C	-196°C
AWS A5.9		min. 490	min. 30		
EN ISO 14343	min. 320	min. 510	min. 25		
Example	430	570	30	110	40

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ALUMINIUM MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	CLASSIFICATION AWS	WEIGHT
KAM4043/12	KISWEL	Aluminium	1.2mm	ER4043	7 kg

Classifications

AWS/SFA 5.10, AMS 4190

M-4043, T-4043

ER4043 is a 5% Si-Al filler metal that is one of the most widely used Al welding alloys for fabrication and general repair. The smooth running ER4043 is often preferred because of its flowing characteristics and its reduced crack sensitivity over other aluminum welding wires. ER4043 is available in spools and cut lengths for both MIG and TIG welding and is recommended for base metals 3003, 3004, 5052, 6061, 6063 and casting alloys 43, 355, 356 and 214. ER4043 has a melting range of 1065-1170°C.

Its post anodizing color is gray.

Typical chemical composition of wire (%)

Si	Fe	Cu	Mn	Mg	Zn	Ti	Al	ect.
4.5-6.0	0.80 max.	0.30 max.	0.05 max.	0.05 max.	0.10 max.	0.20 max.	the rest	0.15 total.

Typical mechanical properties of all-weld metal

Welding consumables	Y.S (MPa)	T.S (MPa)	El. (%)	Melting point (°C)	Anodizing colour
ER4043	69-190	144-227	5-12	574-632	Gray

Effective Date
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ALUMINIUM MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	CLASSIFICATION AWS	WEIGHT
KAM5356/12	KISWEL	Aluminium	1.2mm	ER5356	7 kg
KAM5356/10	KISWEL	Aluminium	1.0mm	ER5356	7 kg

Classifications

AWS/SFA 5.10

M-5356, T-5356

ER5356 is a 5% Mg-Al filler metal, available in spools and cut length for both MIG and TIG applications. ER5356 has increased levels of Mg, Ti and Mn along with the addition of Cr and a slight reduction in Si. These changes work together to increase its corrosion resistance, making it the best Al for use in or near saltwater.

ER5356 is commonly used on 5050, 5052, 5083, 5356, 5454 and 5456 and is the second most widely used Al filler metal.

Typical chemical composition of wire (%)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al	ect.
0.25 max.	0.40 max.	0.10 max.	0.5-2.0	4.5-5.5	0.05-0.20	0.10max.	0.06-0.20	the rest	0.15 total max.

Typical mechanical properties of all-weld metal

Welding consumables	Y.S (MPa)	T.S (MPa)	El. (%)	Melting point (°C)	Anodizing colour
ER6356	82-206	200-310	10-18	571-635	White

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HARD FACING MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
K600HT/12	KISWEL	Hard facing	1.2mm	20 kg	na
K600HT/16	KISWEL	Hard facing	1.6mm	20 kg	na

Classifications

JIS Z 3326 : YF3B-C-600

Description

- It is designed for welding of metal to metal and underlaying welding of hardfacing
- Typical applications include crane wheels, blower blades, bucket lips, dredge parts etc
- In order to minimize cracking, should obey the preheat and interpass temperature

Welding Positions



Typical chemical composition of all-weld metal (%)

Shielding gas	C	Si	Mn	P	S	Cr	Mo
CO2	0.34	2.80	0.50	0.013	0.009	6.50	0.50

Typical mechanical properties of all-weld metal

	HV	Typical value HRC	Hs	Interpass Temp (°C)	Remarks
Example (CO2)	610	55	73	200	As weld

Polarity & Shielding gas

- CO2: 100% CO2 (15-25 /min)
- DCEP (DC+)

Package

Dia. (mm)	1.2	1.4	1.6
Spool (kg)	10, 15, 20		

Effective Date
1ST JAN 2017

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HARD FACING MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
K700HT/12	KISWEL	Hard facing	1.2mm	20 kg	na
K700HT/16	KISWEL	Hard facing	1.6mm	20 kg	na

Classifications

N/A

Description

- It is designed for welding of metal to metal and underlaying welding of hardfacing
- Typical applications include crane wheels, blower blades, bucket lips, dredge parts etc
- In order to minimize cracking, should obey the preheat and interpass temperature

Welding Positions



Typical chemical composition of all-weld metal (%)

Shielding gas	C	Si	Mn	P	S	Cr	W
CO2	0.40	3.20	0.60	0.012	0.010	7.00	0.80

Typical mechanical properties of all-weld metal

	HV	Typical value HRC	Hs	Interpass Temp (°C)	Remarks
Example (CO2)	705	60	80	200	As weld

Package

Dia. (mm)	1.2	1.4	1.6
Spool (kg)	10, 15, 20		

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FLUX CORED MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
DW100/12	KOBE	Flux Cored	1.2mm	15 kg	E71T-1C

Classification

AWS A5.20 E71T-1C

EN ISO 17632-A - T 42 0 P C 1 H10

Shielding gas: CO₂

Polarity: DCEP

Features

- Soft and stable arc, less fume and spattering, smooth bead appearance, and good slag removal

Welding Positions



Packaging Data

ø mm	Spool			Drum	
1.2	12.5kg	15kg	20kg	250kg	-
1.4	-	15kg	20kg	250kg	350kg
1.6	-	15kg	20kg	-	350kg
Volume mm	300W, 110H, 300L			530 ø, 820H	680 ø, 770H

Composition (all-weld metal mass%)

	Typical (AC)	Guaranty ^a
C	0.05	0.12
Si	0.45	0.90
Mn	1.35	1.75
P	0.01	0.03
S	0.01	0.03
Ni	0.01	0.50
Cr	0.02	0.20
Mo	0.01	0.30
V	0.01	0.80
Cu	0.02	0.35

Note: ^a Single values are maximum

All-weld mechanical properties

	Typical	Guaranty
0.2% YS (MPa)	510	400min.
TS (MPa)	570	490-655
El on 4d (%)	30	22min.
IV-18°C (J)	85	27min.

Welding parametres (A)

ø mm	1F, 1G, 2F	2G	3G uphill, 4G	3G downhill
1.2	120-300	120-280	120-260	200-300
1.4	160-350	160-320	160-270	220-300
1.6	200-400	200-350	200-280	250-300

Approvals

ABS	2YSA, 2Y400SA, H10
LR	2YS, 2YM H10
DNV	II YMS (H10)
BV	SA2M, SA2YM, SA2Y40M HH
NK	KSW52Y40G (C) H10
CR	2YS-HH
GL	2Y40H10S
KR	2YSG (C)
CCS	2SH10, 2YSH10

Effective Date

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FLUX CORED MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
DWA50/12	KOBE	Flux Cored	1.2mm	15 kg	E71T-1M
DWA50/16	KOBE	Flux Cored	1.6mm	15 kg	E71T-1M

Classification

AWS A5.20 E71T-1M

EN ISO 17632-A - T 42 2 P M 1 H5

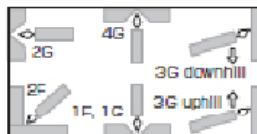
Shielding gas: Ar-CO₂

Polarity: DCEP

Features

- Excellent usability with soft and stable arc, less fume and spattering, good bead appearance and smooth slag removal

Welding Positions



Packaging Data

ø mm	Spool	
1.2	15kg	20kg
1.6	15kg	-
Volume mm	300W, 110H, 300L	

Composition (all-weld metal mass%)

	Typical (AC)	Guaranty ^a
C	0.07	0.12
Si	0.48	0.90
Mn	1.16	1.75
P	0.01	0.03
S	0.01	0.03
Ni	0.01	0.50
Cr	0.02	0.20
Mo	0.01	0.30
V	0.01	0.80
Cu	0.01	0.35

Note: ^a Single values are maximum

Welding parametres (A)

ø mm	1F, 1G	2F	2G	3G uphill, 4G	3G downhill
1.2	120-300	120-300	120-280	120-260	200-300
1.6	180-450	180-400	180-350	180-280	250-300

Approvals

ABS	3YSA, H5
LR	3YS, H5
DNV	III YMS (H5), MG
BV	SA3YM HHH
NK	KSW52G (M2) H5
GL	3YH55

All-weld mechanical properties

	Typical	Guaranty
0.2% YS (MPa)	510	400min.
TS (MPa)	570	490-655
El on 4d (%)	30	22min.
IV-18°C (J)	110	27min.

Effective Date

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FLUX CORED MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
DW50/12	KOBE	Flux Cored	1.2mm	15 kg	E71T-1C/1M
DW50/16	KOBE	Flux Cored	1.6mm	15 kg	E71T-1C/1M

Classification

AWS A5.20 E71T-1C/1M, -9C/9M
EN ISO 17632-A - T 42 2 P C/M 1 H5

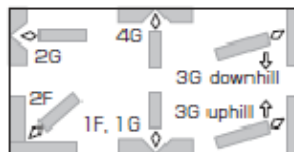
Shielding gas: CO₂ or Ar-CO₂ mixture

Polarity: DCEP

Features

- Excellent usability with soft and stable arc, less fume and spattering, good bead appearance and smooth slag removal

Welding Positions



Packaging Data

ø mm	Spool			Drum
1.2	5kg	15kg	20kg	250kg
1.6	-	15kg	20kg	250kg
Volume mm	220W, 130H, 435L/4pcs	300W, 110H, 300L		530 ø, 820H

Composition (all-weld metal mass%)

	Typical (AC)	Guaranty ^a
C	0.04	0.12
Si	0.67	0.90
Mn	1.29	1.75
P	0.01	0.03
S	0.01	0.03
Ni	0.01	0.50
Cr	0.03	0.20
Mo	0.01	0.30
V	0.02	0.08
Cu	0.02	0.35

Note: ^a Single values are maximum

All-weld mechanical properties

	Typical	Guaranty
0.2% YS (MPa)	510	400min.
TS (MPa)	582	490-655
El on 4d (%)	27	22min.
IV-29°C (J)	71	27min.

Welding parametres (A)

ø mm	1F, 1G, 2F, 2G	3G uphill, 4G	3G downhill
1.2	120-250	120-250	200-250
1.6	180-340	180-280	250-300

Approvals

ABS	3YSA, H5
LR	3YS, H5
DNV	III YMS (H5)
NK	KSW53G (C) H5
GL	3YH5S
	E491T-9-H8
CWB	E491T-9M-H8

Effective Date

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FLUX CORED MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
K71TLF/12	KISWEL	Flux Cored	1.2mm	15 kg	E71T
K71TLF/16	KISWEL	Flux Cored	1.6mm	15 kg	E71T

Classifications

EN ISO 17632-A:2008	: T46 4 P C 1 H5 KS D 7104	: YFL-C504R
EN ISO 17632-B:2008	: T49 4 T1-1CA-U H5 JIS Z 3313	: T49 4 T1-1CA-U H5
AWS A5.20-13	: E71T-1C/-9CJ H4	

Description

- It is designed for welding of 490MPa low temperature steels
- Typical applications include railcar, automotive machinery, shipbuilding, bridges, heavy equipment etc
- Wire is a titania type of flux cored wire for all-position welding
- It features excellent mechanical properties, easy slag removal, low spatter generation, and good impact value at low temperatures down to -40°C

Welding Positions



Typical chemical composition of all-weld metal (%)

Shielding gas	C	Si	Mn	P	S	Ni
CO2	0.04	0.30	1.35	0.014	0.010	0.39

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) -30°C	-40°C	Remarks
AWS A5.20	min. 390	490-670	min. 22		> 27	
EN ISO 17632-B	min. 390	490-670	min. 18		> 47	
Example	540	600	27	76	55	Co2

Polarity & shielding gas

- CO2: 100% CO2 (15-25 /min)
- DCEP (DC+)

Package

Dia. (mm)	1.2	1.4	1.6
Spool (kg)	5, 12.5, 15, 20		
Pailpack (kg)	100-300		

Notes on usage and welding condition

- Refer to page 201~203 for more information on usage
- In order to prevent crack at low temperatures, preheat and maintain interpass temperature at 100~200°C

Approvals

Shielding gas	ABS	BV	DNV	GL	LR	NK	KR
CO2	4YSAH5	4S4YSH5	IVYMS(H5)	4YH5S	4YSH10	KSW54GH5	RSW54GHHH

* Others: RS, CE, KS, JIS

Effective Date
1ST JAN 2017

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FLUX CORED LOW ALLOY MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
K81TM/12	KISWEL	Flux Cored Low Alloy	1.2mm	15 kg	E81T1-Ni1M
K81TM/16	KISWEL	Flux Cored Low Alloy	1.6mm	15 kg	E81T1-Ni1M

Classifications

EN ISO 17632-A:2008 : T50 3 1Ni P C 1 H5 KS D 7104 : YFW-C602R
 EN ISO 17632-B:2008 : T55 3 T1-1CA-N2 H5 JIS Z 3313 : T57 3 T1-1CA-N2 H5
 AWS A5.29-13 : E81T1-N1MJH4

Description

- It is designed for welding of 560MPa high tensile steel with outstanding mechanical properties
- Typical applications include machineries, shipbuilding, offshore structures, bridges and general fabrications
- Wire is a titania type of flux cored wire for all-position welding with 1.0% Ni component
- It provides a good wettability along with high impact values at low temperatures (-40°C)

Welding Positions



Typical chemical composition of all-weld metal

Shielding gas	C	Si	Mn	P	S	Ni
CO2	0.02	0.51	1.28	0.014	0.011	1.04

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	-20°C	IV (J) -30°C	Remarks
AWS A5.29	min. 470	550-690	min. 19		> 27	
EN ISO 17632-B	min. 460	550-740	min. 17		> 27	
Example	580	630	28	75	50	Co2

Package

Dia. (mm)	1.2	1.4	1.6
Spool (kg)	5, 12.5, 15, 20		
Pailpack (kg)	100-300		

Polarity & shielding gas

- CO2: 100% CO2 (15-25 /min)
- DCEP (DC+)

Notes on usgae and welding condition

- Refer to page 201-203 for more information on usgae
- In case of heavy plate welding, preheat and maintain interpass temperature at 100 -200°C in order to prevent crack at low temperatures

Approvals

Shielding gas	ABS	BV	DNV	GL	LR	NK	KR
CO2	4YSAH5	4YSH5	IVYMS(H5)	4YH5S	4YSH5	KSW54GH5	RSW54GHHH

* Others: RINA, CWB, CE, JIS, KS

Effective Date

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METAL CORED MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
MXA70C6LS/12	KOBE	Metal Cored	1.2mm	15 kg	E70C-6M
MXA70C6LS/16	KOBE	Metal Cored	1.6mm	15 kg	E70C-6M

Classifications

AWS/ASME A5.18 E70C-6M

CWB W48-06 E492C-6M-H4

Description

- MX-A70C6LF has lower fume and spatter generation than conventional metal cored wire
- Its cored metal powder has higher deposition rates than solid wire or even flux cored wire

Welding Positions



Typical chemistry of weld metal and diffusible hydrogen content (Wire size 1/16")

Shielding gas	C	Si	Mn	P	S	Diffusible hydrogen content (ml/100g)
80%Ar-20%CO ₂	0.04	0.79	1.62	0.008	0.009	2.9
95%Ar-5%CO ₂	0.04	0.85	1.69	0.007	1.010	3.5

Gas Chromatography method (AWS A4.3)

Typical mechanical property of weld metal (Wire size 1/16" 340A)

Shielding gas	0.2%P.S (psi)	T.S (psi)	Elongation (%)	Impact value (ft-lbs) -50°F	-20°F
80%Ar-20%CO ₂	64,700	80,400	34	58*	96
95%Ar-5%CO ₂	66,600	81,900	34	-	101

* Wire size 0.045" 280A

Recommended welding condition

Wire size (in.)	Wire feeding speed (in./min)	Current (A)	Voltage (V)	Deposition rate (lbs/hr)	Wire stick out (in.)
0.045	300	200	28-31	7.5	5/8" -3/4
	375	240	29-33	9.5	
	435	280	30-34	11.0	
	530	320	32-36	13.5	
	620	360	33-37	15.5	
0.052	250	230	27-29	8.5	3/4" -1"
	300	270	28-32	10.5	
	400	320	30-34	14.0	
	460	370	31-36	16.0	
	545	420	32-37	19.0	
1/16	165	260	27-29	7.5	3/4" -1"
	245	320	28-33	11.5	
	350	380	29-35	17.0	
	415	440	30-36	20.0	
	490	500	31-37	24.0	

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STAINLESS STEEL FLUX CORED MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
KFC308HT/12	KISWEL	Stainless Flux Cored	1.2mm	15 kg	E308HT1-1/4

Classifications

EN ISO 17633-A:2008	: T 19 9 P C/M 1	AWS A5.22-13	: E308HT1-1/4
EN ISO 17633-B:2008	: TS308H-FB1 JIS Z 3323	: TS308H-FB1	

Description

- K-308HT is designed for MAG welding of high carbon 18%Cr-8%Ni stainless steels(STS 304H, 307H) and recommended to be use for high temperature service (about 600°C)
- It is a titania type of flux cored wire for all-position welding and has excellent feedability and increased
- The weld metal contains optimum ferrite contents in their austenitic micro structures and their weldability is excellent with lower crack susceptibility

Welding Positions



Typical chemical composition of all-weld metal (%)

Shielding gas	C	Si	Mn	Cr	Ni	Fn
CO2	0.06	0.65	1.00	19.50	10.50	7.5
Mix	0.06	0.75	1.10	19.80	10.50	8.0

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) -40°C	Remarks
AWS A5.22		min. 520	min. 35		
EN ISO 17633-B		min. 520	min. 30		
Example	430	600	39	45	Co2
	440	610	40	55	Mix

Polarity & shielding gas

- CO2: 100% CO2 (15-25 /min)
- Mix: Ar+20% CO2 (15-25 /min)
- DCEP (DC+)

Package

Dia (mm)	0.9	1.2	1.6
Spool (kg)	5, 12.5, 15		

Notes on usage and welding condition

- Refer to page 282 for more information on usage
- When heat input is excessive, base metal will be bended or distorted due to the bad heat conductivity. Therefore, perform welding with selecting proper heat input

Approvals

CE, JIS

Effective Date

1ST JAN 2017

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STAINLESS STEEL FLUX CORED MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
KFC309LT/12	KISWEL	Stainless Flux Cored	1.2mm	15 kg	E309LT1-1/4

Classifications

EN ISO 17633-A:2008	: T 23 12 L P C/M 1 KS D 3612	: YF-309LC
EN ISO 17633-B:2008	: TS309L-FB1 JIS Z 3323	: TS309L-FB1
AWS A5.22-13	: E309LT1-1/4	

Description

- Dissimilar joint welds ; of and between high-strength, mild steels and low allowed QT-steels, stainless, ferritic Cr- and austenitic Cr-Ni-steels, manganese steels
- Cladding ; for the first layer of corrosion resistant weld claddings on ferritic-perlitic steels in boiler and pressure vessel parts up to fine-grained steel S500N
- Weld metal contains comparatively much more ferrite in their austenitic structure, therefore they provide better weldability together with superior heat resistance, and corrosion resistance
- It is easy to use and operate with a powerful penetrating spray arc transfer, minimum spatter formation and self releasing slag

Welding Positions



Typical chemical composition of all-weld metal (%)

Shielding gas	C	Si	Mn	Cr	Ni	FN
CO2	0.03	0.60	1.12	23.70	13.20	14
Mix	0.03	0.75	1.20	23.90	13.20	15

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) -40°C	Remarks
AWS A5.22		min. 550	min. 30		
EN ISO 17633-B		min. 550	min. 25		
Example	430	560	37	45	Co2
	440	570	37	48	Mix

Package

Dia. (mm)	0.9	1.2	1.6
Spool (kg)	5, 12.5, 15		

Polarity & shielding gas

- CO2: 100% CO2,
- Mix: Ar+20% (15-25 /min)
- DCEP (DC+)

Notes on usage and welding condition

- Refer to page 282 for more information on usage
- When heat input is excessive, base metal will be bended or distorted due to the bad heat conductivity. Therefore, perform welding with selecting proper heat input

Approvals

Shielding gas	ABS	BV	DNV	LR	NK	KR
CO2	E309LT1-1	UP	309LMS	SS/CMn S	KW309LG	RW309LG

* Others: CCS, CWB, RINA, TUV, CE, JIS

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STAINLESS STEEL FLUX CORED MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
KFC316LT/12	KISWEL	Stainless Flux Cored	1.2mm	15 kg	E316LT1-1/4

Classifications

EN ISO 17633-A:2008	: T 19 12 3 L P C/M 1 KS D 3612	: YF-316LC
EN ISO 17633-B:2008	: TS316L-FB1 JIS Z 3323	: TS316L-FB1
AWS A5.22-13	: E316LT1-1/4	

Description

- K-316LT is designed for MAG welding of low carbon 18%Cr-12%Ni-2%Mo stainless steels and this wire has low carbon content which gives good resistance to most types of corrosion of the weld metal (AISI 316L, 316Ti)
- Wire is a titania type of flux cored wire for all-position welding and the weld metal contains optimum ferrite contents in their austenitic structures, therefore their weldability is excellent with lower cracksusceptibility
- Wire has self-detaching slag, spray-like arc transfer, excellent weldability and increased creep resistance at elevated temperature

Welding Positions



Typical chemical composition of all-weld metal (%)

Shielding gas	C	Si	Mn	Cr	Ni	Mo	FN
CO2	0.03	0.60	1.15	19.50	12.70	2.40	7.5
Mix	0.03	0.65	1.20	19.70	12.70	2.40	8.0

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	-60°C	IV (J) -105°C	Remarks
AWS A5.22		min. 485	min. 30			
EN ISO 17633-B		min. 510	min. 25			
Example	420	560	38	50	38	Co2
	430	570	38	52	40	Mix

Package

Dia. (mm)	0.9	1.2	1.6
Spool (kg)	5, 12.5, 15		

Polarity & shielding gas

- CO2: 100% CO2,
- Mix: Ar+20% CO2 (15-25 /min)
- DCEP (DC+)

Notes on usage and welding condition

- Refer to page 282 for more information on usage
- When heat input is excessive, base metal will be bended or distorted due to the bad heat conductivity. Therefore, perform welding with selecting proper heat input

Approvals

Shielding gas	ABS	BV	DNV	LR	GL	KR
CO2	E316LT1-1	UP	316LMS	316LS	4435S	KW316LG
* Others: CCS, CWB, TUV, CE, JIS						

Effective Date

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GASLESS FLUX CORED MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
K-NGS4/09	KISWEL	Gasless Flux Cored	0.9mm	0.9 kg	E71T-GS
K-NGS8/08	KISWEL	Gasless Flux Cored	0.8mm	4.5 kg	E71T-GS
K-NGS8/09	KISWEL	Gasless Flux Cored	0.9mm	4.5 kg	E71T-GS
K-NGS/09	KISWEL	Gasless Flux Cored	0.9mm	15 kg	E71T-GS
K-NGS/12	KISWEL	Gasless Flux Cored	1.2mm	15 kg	E71T-GS
K-NGS/16	KISWEL	Gasless Flux Cored	1.6mm	15 kg	E71T-GS

Classifications

EN ISO 17632-A:2008	: T42 Z V N 1 KS D 7104	: YFW-S50GB
EN ISO 17632-B:2008	: T49 Z TG-1NS JIS Z 3313	: T49 TG-1 N S-G
AWS A5.20-13	: E71T-GS	

Description

- It is designed for welding of 490MPa high tensile steel and self-shielded wire to facilitate welding outdoors
- Typical applications include general fabrication and structural work requiring no impact properties (ASTM A36 Gr. All; A109 Gr. All; A283 Gr. A,B,C,D; A284 C,D; A285 Gr. A,B,C; A288 Gr. 1; A372 type ; A500 Gr. All; A501 Gr. all)
- It has good arc stability, low spatter generation, high efficiency, good bead shape and slag removal
- It has to use DECN (electrode negative)

Welding Positions



Typical chemical composition of all-weld metal (%)

Shielding gas	C	Si	Mn	P	S	Al
	0.10	0.10	0.55	0.014	0.006	1.21

Typical mechanical properties of all-weld metal (%)

	Y.S (MPa)	T.S (MPa)	El. (%)	Remarks
AWS A5.20		min. 490		
EN ISO 17632-B	min. 390	490-670	min. 18	
Example	489	520	22	

Package

Dia. (mm)	0.9	1.2	1.6
Spool (kg)	5, 12.5, 15, 20		
Coil (kg)		20, 25	

Notes on usage and welding condition

- Refer to page 282 for more information on usage
- When heat input is excessive, base metal will be bended or distorted due to the bad heat conductivity. Therefore, perform welding with selecting proper heat input

Approvals

CE, JIS

Polarity & shielding gas

* DCEN (DC-)

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GASLESS FLUX CORED MIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
K-NGS118/08	KISWEL	Gasless Flux Cored	0.8mm	4.5 kg	E71T-11
K-NGS118/09	KISWEL	Gasless Flux Cored	0.9mm	4.5 kg	E71T-11
K-NGS118/12	KISWEL	Gasless Flux Cored	1.2mm	4.5 kg	E71T-11
K-NGS11/08	KISWEL	Gasless Flux Cored	0.8mm	15 kg	E71T-11
K-NGS11/09	KISWEL	Gasless Flux Cored	0.9mm	15 kg	E71T-11
K-NGS11/12	KISWEL	Gasless Flux Cored	1.2mm	15 kg	E71T-11

Classifications

EN ISO 17632-A:2008	: T42 Z Y N 1 K S D 7104	: YFW-S50GB
EN ISO 17632-B:2008	: T49 Z T11-1NA JIS Z 3313	: T49 T11-N A
AWS A5.20-13	: E71T-11	

Description

- It is designed for welding of 490MPa high tensile steel and self-shielded wire to facilitate welding outdoors
- Typical applications include general fabrication and structural work requiring no impact properties (ASTM A36 Gr. All; A109 Gr. All; A283 Gr. A,B,C,D; A284 C,D; A285 Gr. A,B,C; A288 Gr. 1; A372 type ; A500 Gr. All; A501 Gr. all)
- It has good arc stability, low spatter generation, high efficiency, good bead shape and slag removal
- It has to use DCEN (electrode negative)

Welding Positions



Approvals

CE, JIS

Typical chemical composition of all-weld metal (%)

Shielding gas	C	Si	Mn	P	S	Al
	0.10	0.10	0.55	0.015	0.006	1.21

Typical mechanical properties of all-weld metal (%)

	Y.S (MPa)	T.S (MPa)	El. (%)	Remarks
AWS A5.20	min. 390	490-670	min. 20	
EN ISO 17632-B	min. 390	490-670	min. 18	
Example	500	530	23	

Notes on usage and welding condition

Dia. (mm)		0.9	1.2	1.6
Current	F (PA/1G)	80-120	120-180	180-270
(Amp.)	HF (PC/2G)	(18-22)	(21-23)	(22-24)
	VU (PF/3G)	100-160 (22-25)		

Package

Dia. (mm)	0.9	1.2	1.6
Spool (kg)	5, 12.5, 15, 20		
Coil (kg)			20, 25

Polarity & shielding gas

DCEN (DC-)

Effective Date

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OXY MILD STEEL TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
T40/16	KISWEL	Oxy Mild Steel	1.6mm	5 kg	R45
T40/24	KISWEL	Oxy Mild Steel	2.4mm	5 kg	R45

Classifications

AWS A5.2-92 : R45
 KS D 7005 : GA46
 JIS Z 3201 : GA46

Description

- Suitable for application of oxy-acetylene welding for mild steel
- Excellent meltability and deposition rate
- Sound welds without non-metallic inclusion

Typical chemical composition of wire (%)

C	Si	Mn	P	S
0.04	0.02	0.45	0.013	0.010

T ypical mechanical properties of all-weld metal (%)

	T.S (MPa)	El. (%)	Remarks
Example	450	20	SR
	500	17	NSR

* SR: Stress Relieved

* NSR: Not Stress Relieved

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MILD STEEL TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
TGS50/16	KISWEL	Mild Steel	1.6mm	5 kg	ER70S-6
TGS50/24	KISWEL	Mild Steel	2.4mm	5 kg	ER70S-6

Classifications

AWS A5.2-92	: R45
KS D 7005	: GA46
JIS Z 3201	: GA46

Description

- For mild steel and 490MPa tensile strength steel welding of structural steels, machineries and vehicles
- Excellent mechanical and toughness properties in low temperature conditions
- It is generally used in root pass welding of pipes in all positions
- Proper tungsten electrode extension from the tip of torch is 1~3mm in general

Typical chemical composition of rod (%)

C	Si	Mn	P	S
0.07	0.82	1.52	0.012	0.015

Typical mechanical properties of all-weld metal (%)

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) -30°C	Remarks
AWS A5. 18	min. 400	min. 480	min. 22	>27	Ar
EN 636-A	min. 460	530-680	min. 20	>47	Ar
Example	490	580	30	130	Ar

Operating data

Dia. (mm)	2.4-3.2
Current (Amp.)	200-300

Polarity and Shielding gas

* DCEN (DC-)

* Ar: (15-25 /min)

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MILD STEEL TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
T50G/16	KISWEL	Mild Steel	1.6mm	5 kg	ER70S-G
T50G/24	KISWEL	Mild Steel	2.4mm	5 kg	ER70S-G

Classifications

EN 636-A:2008	: W 46 3 W3Si1 KS D 7140	: YGT50
EN 636-B:2008	: W 49A 3 U W6 JIS Z 3316	: YGT50
AWS A5.18-05	: ER70S-G	

Description

- For mild steel and 490MPa tensile strength steel welding of structural steels, machineries and vehicles
- Excellent mechanical and toughness properties in low temperature conditions
- It is generally used in root pass welding of pipes in all positions
- Proper tungsten electrode extension from the tip of torch is 1~3mm in general

Typical chemical composition of rod (%)

C	Si	Mn	P	S
0.07	0.82	1.52	0.012	0.015

Typical mechanical properties of all-weld metal (%)

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) -30°C	Remarks
AWS A5. 18	min. 400	min. 480	min. 22	>27	Ar
EN 636-A	min. 460	530-680	min. 20	>47	Ar
Example	490	580	30	130	Ar

Operating data

Dia. (mm)	2.4-3.2
Current (Amp.)	200-300

Polarity and Shielding gas

* DCEN (DC-)

* Ar: (15-25 /min)

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MILD STEEL TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
T53/16	KISWEL	Mild Steel	1.6mm	5 kg	ER70S-3
T53/24	KISWEL	Mild Steel	2.4mm	5 kg	ER70S-3

Classifications

EN 636-A:2008	: W 46 3 W2Si1 KS D 7140	: YGT50
EN 636-B:2008	: W 49A 3 U W3 JIS Z 3316	: YGT50
AWS A5.18-05	: ER70S-3	

Description

- For mild steel and 490MPa tensile strength steel welding of structural steels, machineries and vehicles
- Excellent mechanical and toughness properties in low temperature conditions
- It is generally used in root pass and to support the welding when back pass is impossible

Typical chemical composition of rod (%)

C	Si	Mn	P	S
0.07	0.65	1.18	0.010	0.009

Typical mechanical properties of all-weld metal (%)

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) -30°C	Remarks
AWS A5. 18	min. 400	min. 480	min. 22	>27	Ar
EN 636-A	min. 460	530-680	min. 20	>47	Ar
Example	480	550	32	120	Ar

Operating data

Dia. (mm)	2.4-3.2
Current (Amp.)	200-300

Polarity and Shiedling gas

* DCEN (DC-)

* Ar: (15-25 /min)

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MILD STEEL TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
TGS-70S2/16	KISWEL	Mild Steel	1.6mm	5 kg	ER70S-2
TGS-70S2/24	KISWEL	Mild Steel	2.4mm	5 kg	ER70S-2

Classifications

EN 636-A:2008	: W 46 3 W2Ti KS D 7140	: YGT50
EN 636-B:2008	: W 49A 3 U W2 JIS Z 3316	: YGT50
AWS A5.18-05	: ER70S-2	

Description

- For mild steel and 490MPa tensile strength steel welding of pipes, offshore drilling rigs and structural steels, etc.
- This rod is a multiple deoxidized rod containing small amounts of zirconium, titanium and aluminum in addition to the manganese and silicon deoxidizers characteristic of steel rod group
- This rod producing superior quality welds with minimum porosity even over rust and mill scale

Typical chemical composition of rod (%)

C	Si	Mn	P	S
0.07	0.54	1.18	0.015	0.011

Typical mechanical properties of all-weld metal (%)

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) -30°C	Remarks
AWS A5.18	min. 400	min. 480	min. 22	>27	Ar
EN 636-B	min. 390	490-670	min. 18	>47	Ar
Example	490	570	29	180	Ar

Operating data

Dia. (mm)	2.4-3.2
Current (Amp.)	200-300

Polarity and Shielding gas

* DCEN (DC-)

* Ar: (15-25 /min)

Effective Date
1ST JAN 2017

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LOW ALLOY TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
TGS80SNI1/16	KISWEL	Low Alloy	1.6mm	5 kg	ER80S-Ni1
TGS80SNI1/24	KISWEL	Low Alloy	2.4mm	5 kg	ER80S-Ni1

Classifications

AWS A5.28-05 : ER80S-Ni1
 EN ISO 636-A : 2008 : W 46 6 W2Ni1
 EN ISO 636-B : 2008 : W 55A 5 W2Ni1

Description

- It is designed for welding of 550MPa high tensile steel for low temperature service of below -45°C
- Suited for welding 1%Ni steel and other low temperature for low temperature pressure vessel, tank and pipe
- Very good weldability in out of position work
- GTAW rod for welding of low temperature equipment and structure

Typical chemical composition of rod (%)

C	Si	Mn	P	S	Ni
0.09	0.63	1.11	0.009	0.008	0.83

Typical mechanical properties of all-weld metal (%)

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) -45°C	Remarks
AWS A5.28	min. 470	min. 550	24	27	-
Example	592	678	35	162(@-45°C) 133(@-60°C)	As Weld

Operating data

Dia. (mm)	Voltage	Ampere
0.9	10-12	50-70
1.2	10-12	70-100
1.6	12-15	100-125
2.4	15-20	125-175
3.2	15-20	175-200

Polarity and Shiedling gas

* DCEN (DC-)

* Ar: (15-25 /min)

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LOW ALLOY TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
T805B2/16	KISWEL	Low Alloy	1.6mm	5 kg	ER80S-B2
T805B2/24	KISWEL	Low Alloy	2.4mm	5 kg	ER80S-B2

Classifications

EN ISO 21952-B:2007 : W 55 1CM
AWS A5.28-05 : ER80S-B2

Description

- For butt and fillet welding of power plant, heat exchanger and oil refineries such as 1.25%Cr-0.5%Mo heat-resistant steel
- Excellent mechanical and toughness properties after PWHT
- Proper tungsten electrode extension from the tip of torch is 4~6mm in general
- Preheat at 100°C to 200°C and post weld heat treatment at 620°C to 720°C is necessary according to the plate thickness, type of steels, shape of base metals or under high restriction

Typical chemical composition of rod (%)

C	Si	Mn	P	S	Cr	Mo
0.09	0.54	0.51	0.015	0.006	1.26	0.45

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) 0°C	Remarks
AWS A5. 28	min. 470	min. 550	min. 19	-	PWHT, Ar
EN ISO 21952-B	min. 470	min. 550	min. 17	-	PWHT
Example	500	590	26	80	PWHT, Ar

Operating data

Dia. (mm)	2.4-3.2
Current (Amp.)	200-300

Polarity and Shielding gas

- * DCEN (DC-)
- * Ar: (15-25 /min)

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LOW ALLOY TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
T90SB3/16	KISWEL	Low Alloy	1.6mm	5 kg	ER90S-B3
T90SB3/24	KISWEL	Low Alloy	2.4mm	5 kg	ER90S-B3

Classifications

EN ISO 21952-B:2007 : W 62 2C1M
 AWS A5.28-05 : ER90S-B3

Description

- For butt and fillet welding of power plant, heat exchanger and oil refineries such as 2.25%Cr-1%Mo heat-resistant steel
- Excellent mechanical and toughness properties after PWHT
- Proper tungsten electrode extension from the tip of torch is 4~6mm in general
- Preheat at 150°C to 300°C and post weld heat treatment at 680°C to 730°C is necessary according to the plate thickness, type of steels, shape of base metals or under high restriction

Typical chemical composition of rod (%)

C	Si	Mn	P	S	Cr	Mo
0.09	0.47	0.66	0.010	0.014	2.31	1.00

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) 0°C	Remarks
AWS A5. 28	min. 540	min. 620	min. 17	-	PWHT, Ar
EN ISO 21952-B	min. 540	min. 620	min. 15	-	PWHT
Example	550	670	26	180	PWHT, Ar

* PWHT: 690°Cx1Hr

Operating data

Dia. (mm)	2.4-3.2
Current (Amp.)	200-300

Polarity and Shielding gas

* DCEN (DC-)

* Ar: (15-25 /min)

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LOW ALLOY TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
T90SB9/16	KISWEL	Low Alloy	1.6mm	5 kg	ER90S-B9
T90SB9/24	KISWEL	Low Alloy	2.4mm	5 kg	ER90S-B9

Classifications

EN ISO 21952-A:2007	: CrMo91
EN ISO 21952-B:2007	: 9Cr1MV
AWS A5.28-05	: ER90S-B9

Description

- For butt and fillet welding of power plant, heat exchanger and oil refineries such as 9%Cr-1%Mo-V heat-resistant steel
- Excellent mechanical and toughness properties after PWHT
- Proper tungsten electrode extension from the tip of torch is 4~6mm in general
- Preheat at 150°... to 300°... and post weld heat treatment at 740°C to 780°C is necessary according to the plate thickness, type of steels, shape of base metals or under high restriction

Typical chemical composition of rod (%)

C	Si	Mn	P	S	Cr	Mo
0.10	0.23	0.75	0.005	0.002	9.10	0.94

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) 20°C	Remarks
AWS A5. 28	min. 410	min. 620	min. 16	>27	PWHT, Ar
EN ISO 21952-A	min. 415	min. 585	min. 17	>47	PWHT, Ar
EN ISO 21952-B	min. 415	min. 620	min. 15	-	PWHT, Ar
Example	673	745	20	334	PWHT, Ar

Operating data

Dia. (mm)	2.4-3.2
Current (Amp.)	200-300

Polarity and Shielding gas

* DCEN (DC-)

* Ar: (15-25 /min)

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STAINLESS STEEL TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
308LF/12	KISWEL	Stainless Steel	1.2mm	5 kg	ER308L
308LF/16	KISWEL	Stainless Steel	1.6mm	5 kg	ER308L
308LF/24	KISWEL	Stainless Steel	2.4mm	5 kg	ER308L

Classifications

EN ISO 14343-A:2009 : W 19.9 L Si
 EN ISO 14343-B:2009 : SS 308L Si
 AWS A5.9-07 : ER308L Si

Description

- TIG welding of 18%Cr-8%Ni austenite stainless steels (AISI STS 301, 302, 304)
- A various application of the petrochemical , nuclear power plant appratues

Typical chemical composition of wire (%)

C	Si	Mn	Ni	Cr
0.01	0.85	1.68	9.89	19.63

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) 0°C	-196°C
AWS A5.9		min. 520	min. 35		
EN ISO 14343	min.320	min. 510	min. 30		
Example	380	580	43	180	80

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STAINLESS STEEL TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
309LF/16	KISWEL	Stainless Steel	1.6mm	5 kg	ER309L
309LF/24	KISWEL	Stainless Steel	2.4mm	5 kg	ER309L

Classifications

EN ISO 14343-B:2009 : SS 309LSi
 AWS A5.9-07 : ER309LSi

Description

- TIG welding of 22%Cr-12%Ni STS and dissimilar steels such as 304L to mild steels or low alloy steels
- A various application of petrochemical and fiber industrial appratuесе

Typical chemical composition of all-weld wire (%)

C	Si	Mn	Ni	Cr
0.01	0.91	1.86	13.62	23.07

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) 0°C
AWS A5.9		min. 520	min. 30	
EN ISO 14343	min.320	min. 510	min. 25	
Example	410	520	42	120

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STAINLESS STEEL TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
316LF/12	KISWEL	Stainless Steel	1.2mm	5kg	ER316L
316LF/16	KISWEL	Stainless Steel	1.6mm	5 kg	ER316L
316LF/24	KISWEL	Stainless Steel	2.4mm	5 kg	ER316L
316LF/32	KISWEL	Stainless Steel	3.2mm	5 kg	ER316L

Classifications

EN ISO 14343-A:2009 : W 19 12 3 L Si AWS A5.9 : ER316LSi
 EN ISO 14343-B:2009 : SS 316LSi

Description

- TIG welding of 18%Cr-12%Ni-2%Mo austenite stainless steels (AISI STS 316, 316L)
- A various application of the petrochemical industrial appratuese

Typical chemical composition of wire (%)

C	Si	Mn	Ni	Cr	Mo
0.01	0.87	1.55	11.57	18.58	2.54

Typical mechanical properties of all-weld metal

	Y.S (MPa)	T.S (MPa)	El. (%)	0°C	IV (J) -196°C
AWS A5. 9		min. 490	min. 30		
EN ISO 14343	min.320	min. 510	min. 25		
Example	420	560	34	150	50

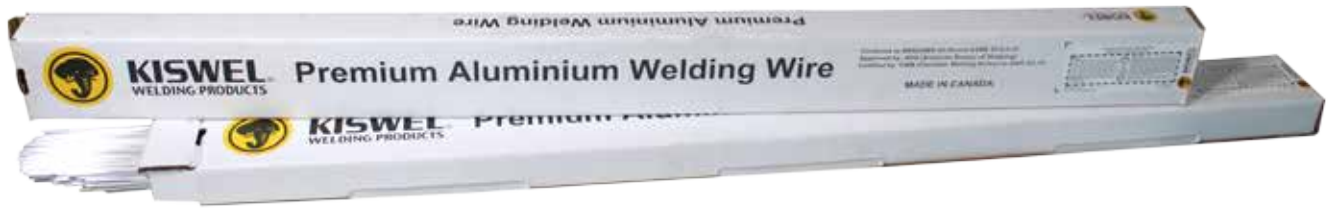
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ALUMINIUM TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
KAT4043/24	KISWEL	Aluminium	2.4mm	4.99 kg	ER4043
KAT4043/32	KISWEL	Aluminium	3.2mm	4.99 kg	ER4043

Classifications

AWS/SFA 5.10, AMS 4190

M-4043, T-4043

ER4043 is a 5% Si-Al filler metal that is one of the most widely used Al welding alloys for fabrication and general repair. The smooth running ER4043 is often preferred because of its flowing characteristics and its reduced crack sensitivity over other aluminum welding wires. ER4043 is available in spools and cut lengths for both MIG and TIG welding and is recommended for base metals 3003, 3004, 5052, 6061, 6063 and casting alloys 43, 355, 356 and 214. ER4043 has a melting range of 1065-1170°C. Its post anodizing color is gray.

Typical chemical composition of wire (%)

Si	Fe	Cu	Mn	Mg	Zn	Ti	Al	ect.
4.5-6.0	0.80 max.	0.30 max.	0.05 max.	0.05 max.	0.10 max.	0.20 max.	the rest	0.15 total.

Typical mechanical properties of all-weld metal

Welding Consumables	Y.S (MPa)	T.S (MPa)	El. (%)	Melting point (°C)	Anodizing colour
ER4043	69-190	144-227	5-12	574-632	Gray

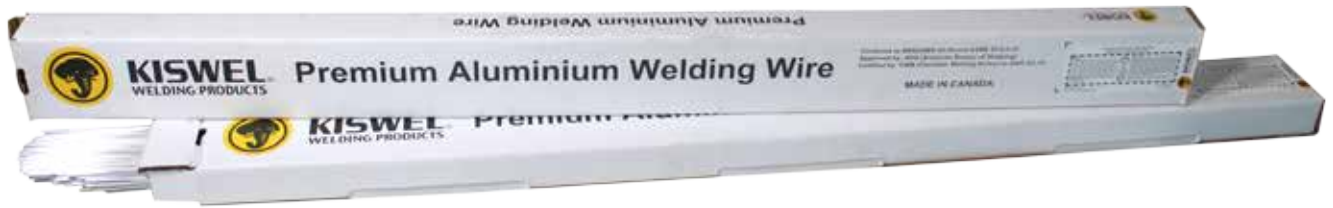
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ALUMINIUM TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
KAT5356/24	KISWEL	Aluminium	2.4mm	4.99 kg	ER5356
KAT5356/32	KISWEL	Aluminium	3.2mm	4.99 kg	ER5356

Classifications

AWS/SFA 5.10

M-5356, T-5356

ER5356 is a 5% Mg-Al filler metal, available in spools and cut length for both MIG and TIG applications. ER5356 has increased levels of Mg, Ti and Mn along with the addition of Cr and a slight reduction in Si. These changes work together to increase its corrosion resistance, making it the best Al for use in or near saltwater.

ER5356 is commonly used on 5050, 5052, 5083, 5356, 5454 and 5456 and is the second most widely used Al filler metal.

Typical chemical composition of wire (%)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al	ect.
0.25 max.	0.40 max.	0.10 max.	0.5-2.0	4.5-5.5	0.05-0.20	0.10 max.	0.06-0.20	the rest	0.15 total max.

Typical mechanical properties of all-weld metal

Welding Consumables	Y.S (MPa)	T.S (MPa)	El. (%)	Melting point (°C)	Anodizing colour
ER5356	82-206	200-310	10-18	571-635	White

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STAINLESS FLUX CORED TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
TGX308L	KOBE	Stainless Flux Cored	2.2x1000mm	5 kg	R308LTi-5

Classification

AWS A5.22 R308LTi-5

Shielding gas: Ar

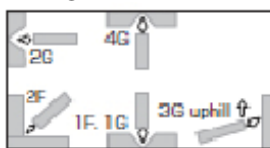
Polarity: DCEN

Identification colour: Red

Welding Positions

Features

- Applicable for 304 and 304L type steels
- Suitable for root pass in one-side welding without back shielding



Packaging Data

Tube				
ø mm	kg	Length mm	g/piece	Volume mm
2.2	5	1,000	26	42W, 35H, 1015L

Composition (all-weld metal mass%)

	Typical	Guaranty ^a
C	0.02	0.03
Si	0.7	1.2
Mn	1.4	0.5-2.5
P	0.02	0.04
S	<0.01	0.03
Ni	10.3	9.0-11.0
Cr	19.6	18.0-21.0
Mo	0.02	0.75
Cu	0.04	0.75
Bi	>0.002	-

Note: ^a Single values are maximum

Welding parametres (A)

thickness mm	3-5	6-9	Over 10
current A	80-90	90-105	90-110

All-weld mechanical properties

	Typical	Guaranty
0.2% YS (MPa)	450	-
TS (MPa)	620	518min.
El on 4d (%)	47	30min.
IV-196°C (J)	60	-

Effective Date

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STAINLESS FLUX CORED TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
TGX309L	KOBE	Stainless Flux Cored	2.2x1000mm	5 kg	R309LTi-5

Classification

AWS A5.22 R309LTi-5

Shielding gas: Ar

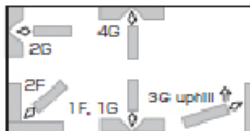
Polarity: DCEN

Identification colour: Yellow green

Welding Positions

Features

- Applicable for dissimilar-metal joint of stainless steels and ferritic steels
- Suitable for root pass in one-side welding without back shielding



Packaging Data

Tube				
ø mm	kg	Length mm	g/piece	Volume mm
2.2	5	1,000	26	42W, 35H, 1015L

Composition (all-weld metal mass%)

	Typical	Guaranty ^a
C	0.02	0.03
Si	0.8	1.2
Mn	1.4	0.5-2.5
P	0.02	0.04
S	<0.01	0.03
Ni	12.1	12.0-14.0
Cr	23.7	22.0-25.0
Mo	0.02	0.75
Cu	0.04	0.75
Bi	>0.002	-

Welding parametres

thickness mm	3-5	6-9	Over 10
current A	80-90	90-105	90-110

Note: ^a Single values are maximum

All-weld mechanical properties

	Typical	Guaranty
0.2% YS (MPa)	530	-
TS (MPa)	680	518min.
El on 4d (%)	32	30min.

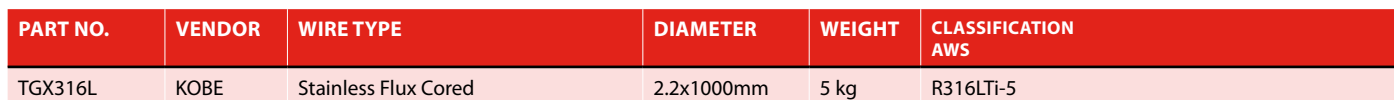
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	Tube			
ø mm	kg	Length mm	g/piece	Volume mm
2.2	5	1,000	26	42W, 35H, 1015L

	Typical	Guaranty ^a
C	0.02	0.03
Si	0.7	1.2
Mn	1.4	0.5-2.5
P	0.02	0.04
S	<0.01	0.03
Ni	12.0	11.0-14.0
Cr	18.4	17.0-20.0
Mo	22	2.0-3.0
Cu	0.05	0.75
Bi	>0.002	-

thickness mm	3-5	6-9	Over 10
current A	80-90	90-105	90-110

	Typical	Guaranty
0.2% YS (MPa)	440	-
TS (MPa)	600	483min.
El on 4d (%)	38	30min.
IV 0°C (J)	110	-

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STAINLESS FLUX CORED TIG



PART NO.	VENDOR	WIRE TYPE	DIAMETER	WEIGHT	CLASSIFICATION AWS
TGX347	KOBE	Stainless Flux Cored	2.2x1000mm	5 kg	R347Ti-5

Classification

AWS A5.22 R347LT1-5

Shielding gas: Ar

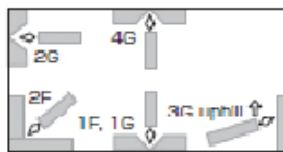
Polarity: DCEN

Identification colour: Blue

Welding Positions

Features

- Applicable for 347 and 321 type steels
- Suitable for root pass in one-side TIG welding without back shielding



Packaging Data

Tube				
ø mm	kg	Length mm	g/piece	Volume mm
2.2	5	1,000	26	42W, 35H, 1015L

Composition (all-weld metal mass%)

	Typical	Guaranty ^a
C	0.02	0.08
Si	0.8	1.2
Mn	1.4	0.5-2.5
P	0.02	0.04
S	<0.01	0.03
Ni	10.2	9.0-11.0
Cr	18.9	18.0-21.0
Nb+Ta	0.60	8xC%-1.0
Mo	0.01	0.75
Cu	0.03	0.75
Bi	>0.002	-

Welding parametres

thickness mm	3-5	6-9	Over 10
current A	80-90	90-105	90-110

Note: ^a Single values are maximum

All-weld mechanical properties

	Typical	Guaranty
0.2% YS (MPa)	460	-
TS (MPa)	630	518min.
El on 4d (%)	48	30min.
IV 0°C (J)	130	-

Effective Date

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