



TIANJIN BRIDGE

WELDING CONSUMABLES



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TIANJIN BRIDGE WELDING MATERIALS GROUP CO.,LTD.

BRIDGE



BRIDGE

SINCE 1957

1.2 MILLION m²

FLOOR SPACE

1.5 MILLION TONS

YEARLY OUTPUT

500+ PRODUCTS

SMAW/GMAW>AW/FCAW/SAW/ESW

4000+ EMPLOYEES

MODERN FACTORY



TIANJIN BRIDGE

TIANJIN BRIDGE WELDING MATERIALS GROUP CO.,LTD.

MAKING EVERY WELDING JOINT ETERNAL



YINCHUAN BRANCH FACTORY

JINGHAI BRANCH FACTORY

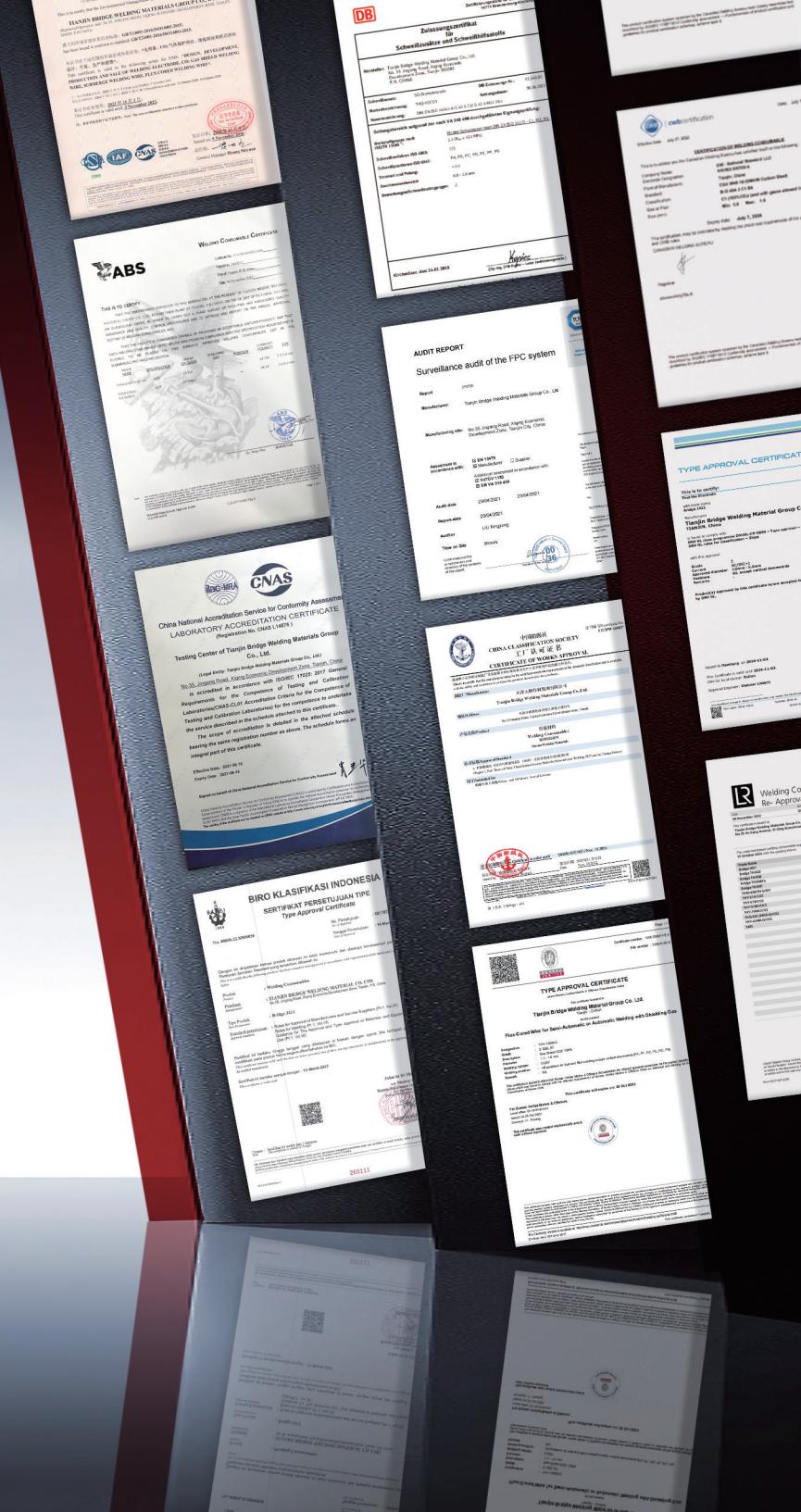
HENGYANG BRANCH FACTORY

XINJIANG BRANCH FACTORY

JIANGSU BRANCH FACTORY

PROVIDING “ONE – STOP” WELDING TECHNOLOGY SOLUTION

THE MAIN PRODUCTS INCLUDE WELDING ELECTRODES, GAS SHIELDED WELDING WIRE, FLUX CORED WELDING WIRE AND WELDING FLUX, ETC.



Contents:

1. SMAW Covered Electrode:

Brand name	AWS	ISO	GB/T	Page
J421	AWS A5.1 E6013	ISO2560-A-E350 RA12	GB/T 5117 E4313	3
THJ421X	AWS A5.1 E6013	ISO2560-B-E4313 A	GB/T 5117 E4313	4
THJ422	--	ISO2560-B-E4303 A	GB/T 5117 E4303	5
E6010	AWS A5.1 E6010	ISO2560-B-E4310 A	GB/T 5117 E4310	6
E6011	AWS A5.1 E6011	ISO2560-B-E4311A	GB/T 5117 E4311	7
THJ506Fe	AWS A5.1 E7018	ISO2560-B-E4918A	GB/T 5117 E5018	8
THJ506	AWS A5.1 E7016	ISO2560-B-E4916A	GB/T 5117 E5016	9
THJ507	AWS A5.1 E7015	ISO2560-A-E423 B 22	GB/T 5117 E5015	10
THA002	AWS A5.4 E308L-16	ISO3581-B-ES308L-16	GB/T 983 E308L-16	11
THA022	AWS A5.4 E316L-16	ISO3581-B-ES316L-16	GB/T 983 E316L-16	12
THA102	AWS A5.4 E308-16	ISO3581-B-ES308-16	GB/T 983 E308-16	13
THA302	AWS A5.4 E309-16	ISO3581-B-ES309-16	GB/T 983 E309-16	14
THZ308	AWS A5.15 ENi-Cl (mod.)	--	GB/T 10044 EC Ni-Cl-B	15
THZ408	AWS A5.15 ENiFe-Cl(mod.)	ISO1071 EC NiFe-Cl	GB/T 10044 EC NiFe-Cl	16

2. GMAW/GTAW Solid Wire

Brand name	AWS	ISO	GB/T	Page
THQ-50C	AWS A5.18 ER70S-6	ISO14341-A-G42 3 C1 Z3Si1	GB/T 8110 G49A3UC1S6	17
THQ-50N	AWS A5.18 ER70S-6	ISO 14341-A-G42 3 C1/G42 4 M21 3Si1	GB/T 8110 G49A3UC1S6N GB/T 8110 G49A4UM21S6N	18
THQ-50CG3	AWS A5.18 ER70S-6	ISO 14341-A-G42 3 C1/G42 4 M21 3Si1	GB/T 8110 G49A3UC1S6 GB/T 8110 G49A4UM21S6	19
THQ-50CG4	AWS A5.18 ER70S-6	ISO14341-A-G423C14Si1/ G464M214Si1	GB/T 8110 G49A3UC1S6 GB/T 8110 G55A4UM21S6	20
THT50-6	AWS A5.18 ER70S-6	ISO 636-B-W49A3W6	GB/T 39280W49A3U6	21
THQ-60D	AWS A5.18 ER80S-G	--	GB/T 8110 G55A3C1S4M3T	22
THQ-60C	AWS A5.18 ER90S-G	--	GB/T 39281G59A3UM21ZCT	23
THS-308	AWS A5.9 ER308	ISO14343-B-SS308	GB/T 29713 S308	24
THT-308	AWS A5.9 ER308	ISO14343-B-SS308	GB/T 29713 S308	25
THS-308L	AWS A5.9 ER308L	ISO14343-B-SS308L	GB/T 29713 S308L	25
THT-308L	AWS A5.9 ER308L	ISO14343-B-SS308L	GB/T 29713 S308L	26

3. GMAW/GTAW Solid Wire

Brand name	AWS	ISO	GB/T	Page
THS-309	AWS A5.9 ER309	ISO 14343-B- SS309	GB/T 29713 S309	26
THT-309	AWS A5.9 ER309	ISO 14343-B- SS309	GB/T 29713 S309	27
THS-309L	AWS A5.9 ER309L	ISO 14343-A-G23 12 L	GB/T 29713 S309L	27
THT-309L	AWS A5.9 ER309L	ISO 14343-A-G23 12 L	GB/T 29713 S309L	28
THS-316L	AWS A5.9 ER316L	ISO 14343-B- SS316L	GB/T 29713 S316L	28
THT-316L	AWS A5.9 ER316L	ISO 14343-B- SS316L	GB/T 29713 S316L	29

4. FCW Flux Cored Wire

Brand name	AWS	ISO	GB/T	Page
THY-51A	AWS A5.20 E71T-1C-J	ISO 17632-A-T424PC12H10	GB/T 10045 T494T1-1C1A	29
THY-51B	AWS A5.20 E71T-1C	ISO 17632-A-T422PC2H10	GB/T 10045 T492T1-1C1A	30
THY-J5011-GS	AWS A5.20 E71T-GS	--	GB/T 10045 T49ZT11-1NSA	31
THY-58Ni1	AWS A5.29 E71T8-Ni1-J (mod.)	ISO 17632-B-T494T8-1NA-N2	GB/T 10045 T494T8-1NA-N2	32
THY-558Ni2	AWS A5.29 E81T8-Ni2-J (mod.)	ISO 17632-B-T554T8-1NA-N5	GB/T 10045 T554T8-1NA-N5	33
THY-70MC	AWS A5.20 E70T-1C (mod.)	ISO 17632-B-T-492T1-0CA (mod.)	GB/T 10045 T492T1-0C1A	34
THY-A308LQ	AWS A5.22 E308LT1-1	ISO 17633-B-TS308L-FC11	GB/T 17853 TS308L-FC11	35
THY-A309LQ	AWS A5.22 E309LT1-1	ISO 17633-B-TS309L-FC11	GB/T 17853 TS309L-FC11	36
THY-A316LQ	AWS A5.22 E316LT1-1	ISO 17633-B-TS316L-FC11	GB/T 17853 TS316L-FC11	37

5. SAW Solid Wire & Flux

Brand name	AWS	ISO	GB/T	Page
THM-43	AWS A5.17 EL8	--	GB/T 5293 SU08A	38
THM-43A	AWS A5.17 EM12	--	GB/T 5293 SU26	39
THM-12K	AWS A5.17 EM12K	ISO 14171-B-SU21	GB/T 5293 SU21	40
THM-43B	AWS A5.17 EH14(mod.)	ISO 14171-A-S 42 4 FB S3	GB/T 5293 SU34	41
THM-EH14	AWS A5.17 EH14	ISO 14171-A-S 42 4 FB S4	GB/T 5293 SU41	42
TH-SJ101	AWS A5.17 F7A0-EH14	ISO 14171-B-S49A2 FB-SU41	GB/T 5293 S49A2UFB-SU41	43
TH-SJ301	AWS A5.17 F6A0-EL8	ISO 14174-S A CS 1	GB/T 5293 S43A2UCS-SU08A	44
TH-SJ501	AWS A5.17 F7AZ-EL8	ISO 14174-S A AR 1	GB/T 5293 S49A0AR-SU08A	45

J421 Rutile Type Electrode

AWS A5.1 E6013
ISO 2560-A-E35 0 RA 12
GB/T 5117 E4313

Applications:

It is suitable for welding of low carbon steel structure, especially for the welding of thin plate steel with short discontinuous weld and requirement of smooth welding pass.

Characteristics:

J421 is a rutile type electrode. Can be welding by both AC & DC power source and can be for all-position. It have excellent welding performance as stable arc, little spatter, easy slag removal and reignition-ability etc.

Attention:

In generally, don't need to re-dry the electrode before welding. When it be affected with damp, should be re-dry it at 150°C-170°C for 0.5-1 hour.

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	V
Requirements	≤0.10	0.32-0.55	≤0.30	≤0.030	≤0.035	≤0.30	≤0.20	≤0.30	≤0.08
Typical Results	0.08	0.37	0.18	0.020	0.025	0.030	0.035	0.005	0.004

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ (0°C) /J
Requirements	440-560	≥355	≥22	≥47
Typical Results	500	430	27	80

X-ray Radiographic Inspection:

Level II

Typical Operating Procedures: (AC or DC)

Diameter (mm)	2.0	2.5	3.2	4.0	5.0	5.8
Length (mm)	300	300	350	400	400	400
Current (A)	40-70	50-90	80-130	150-200	180-240	220-280

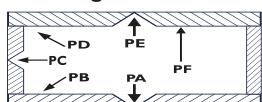
Classification Of Society Certification:

Ship Inspection Agency	ABS	BV	CCS	DNV	HAKC	LR	NK	BKI	CWB
Recognition Level	2	2	2	2	E6013	2m	KMW2	2	E4313

The European Union Certification:

Certification Authority	CPD - CE certification of steel structure		
Grade	ISO 2560-A-E35 0 RA 12		

Welding Positions:



THJ421X Rutile Type Electrode for Vertical-down

AWS A5.1 E6013
ISO 2560-B-E4313 A
GB/T 5117 E4313

Applications:

It is suitable for welding of low carbon steel structure, especially for the welding of thin plate steel with short discontinuous weld and vertical-down.

Characteristics:

THJ421X is a rutile type electrode. Can be welding by both AC & DC power source and can be for all-position (especially for vertical-down position). It have excellent welding performance as stable arc, little spatter, easy slag removal and reignition-ability etc.

Attention:

In generally, don't need to re-dry the electrode before welding. When it be affected with damp, should be re-dry it at 150°C-170°C for 0.5-1 hour.

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	V
Requirements	≤0.20	≤1.20	≤1.00	≤0.035	≤0.040	≤0.30	≤0.20	≤0.30	≤0.08
Typical Results	0.08	0.40	0.20	0.021	0.024	0.020	0.030	0.006	0.003

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ (0°C) /J
Requirements	≥430	≥330	≥16	---
Typical Results	510	440	24	87

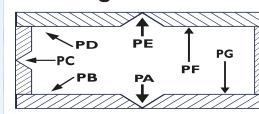
X-ray Radiographic Inspection:

Level II

Typical Operating Procedures: (AC or DC)

Diameter (mm)	2.0	2.5	3.2	4.0
Length (mm)	300	350	350	400
Current (A)	50-80	60-100	90-140	150-210

Welding Positions:



THJ422 Titania Type Electrode

ISO 2560-B-E4303 A
JIS D4303 (mod.)
GB/T 5117 E4303

Applications:

It is suitable for welding of Rm 430MPa level low carbon steel structure.

Characteristics:

THJ422 is a titania type electrode. Can be welding by both AC & DC power source and can be for all-position. It have excellent welding performance as stable arc, little spatter, easy slag removal and reignition-ability etc.

Attention:

In generally, don't need to re-dry the electrode before welding. When it be affected with damp, should be re-dry it at 150°C-170°C for 0.5-1 hour.

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	V
Requirements	≤0.10	0.27-0.55	≤0.25	≤0.030	≤0.035	≤0.30	≤0.20	≤0.30	≤0.08
Typical Results	0.08	0.37	0.14	0.018	0.022	0.030	0.035	0.005	0.004

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ (0°C)/J	KV ₂ (-20°C)/J
Requirements	430-560	≥330	≥22	≥47	≥47
Typical Results	480	420	28	80	70

X-ray Radiographic Inspection:

Level II

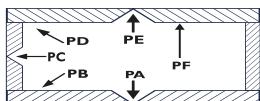
Typical Operating Procedures: (AC or DC)

Diameter (mm)	2.0	2.5	3.2	4.0	5.0	5.8
Length (mm)	300	300	350	400	400	400
Current (A)	40-70	60-90	90-140	160-210	220-270	260-310

Classification Of Society Certification:

Ship Inspection Agency	ABS	BV	CCS	HAKC	DNV	LR	NK	KR	RINA
Recognition Level	3	3	3	E4303	3	3m	KMW3	3	3

Welding Positions:



E6010 Rutile-cellulosic sodium Type Electrode

AWS A5.1 E6010
ISO 2560-B-E4310 A
GB/T 5117 E4310

Applications:

It is suitable for welding of low carbon steel structure as pipeline, shipbuilding and bridge etc.

Characteristics:

E6010 is a rutile-cellulosic sodium type electrode. Can be weld for all-position (especially for vertical-down position) with DC⁺ only. It have excellent welding performance as stable arc, little spatter, easy slag removal and reignition-ability etc. Better molten pool control, stronger arc force and deeper penetration at vertical-down position.

Attention:

- In generally, don't need to re-dry the electrode before welding. When it be affected with damp, should be re-dry it at 70°C-90°C for 1 hour.
- The rust, oil, water and other impurities of the weld area must be removed before welding.

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	V
Requirements	≤0.20	≤1.20	≤1.00	≤0.035	≤0.040	≤0.30	≤0.20	≤0.30	≤0.08
Typical Results	0.09	0.42	0.15	0.010	0.010	0.030	0.035	0.005	0.004

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ (-30°C)/J
Requirements	≥430	≥330	≥20	≥27
Typical Results	475	400	26	42

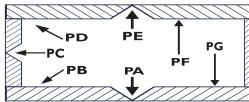
X-ray Radiographic Inspection:

Level II

Typical Operating Procedures: (DC⁺)

Diameter (mm)	2.5	3.2	4.0	5.0
Length (mm)	350	350	350	400
Current (A)	50-80	60-100	100-140	140-180

Welding Positions:



E6011

Rutile-cellulosic potassium Type Electrode

AWS A5.1 E6011
ISO 2560-B-E4311 A
GB/T 5117 E4311

Applications:

It is suitable for welding of low carbon steel structure as pipeline, shipbuilding and bridge etc.

Characteristics:

E6011 is a rutile-cellulosic potassium type electrode. Can be weld for all-position (especially for vertical-down position) with AC and DC⁺. It have excellent welding performance as stable arc, little spatter, easy slag removal and reignition-ability etc. Better molten pool control, stronger arc force and deeper penetration at vertical-down position.

Attention:

1. In generally, don't need to re-dry the electrode before welding. When it be affected with damp, should be re-dry it at 70°C-90°C for 1 hour.
2. The rust, oil, water and other impurities of the weld area must be removed before welding.

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	V
Requirements	≤0.20	≤1.20	≤1.00	≤0.035	≤0.040	≤0.30	≤0.20	≤0.30	≤0.08
Typical Results	0.09	0.70	0.30	0.020	0.018	0.030	0.035	0.005	0.004

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ (-30°C) /J
Requirements	≥430	≥330	≥20	≥27
Typical Results	558	460	24.5	45

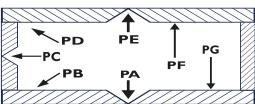
X-ray Radiographic Inspection:

Level II

Typical Operating Procedures: (AC or DC⁺)

Diameter (mm)	2.5	3.2	4.0	5.0
Length (mm)	350	350	350	400
Current (A)	40-60	80-100	100-140	150-200

Welding Positions:



THJ506Fe (E7018)

Basic Iron Powder Type Electrode

AWS A5.1 E7018
ISO 2560-B-E4918 A
GB/T 5117 E5018

Applications:

It is suitable for the welding of carbon steel and low alloy steel structure, such as Gr.50, and so on.

Characteristics:

THJ506Fe is basic potassium-iron powder type electrode with low hydrogen. Both AC & DC can be used and can be weld for all-position. It have excellent welding performance as good arc stiffness, little spatter, easy slag removal etc., and higher deposition efficiency.

Attention:

1. The electrode must be re-dry by 350°C-380°C for 1 hour before welding.
2. The rust, oil, water and other impurities of the weld area must be removed before welding.

Chemical Composition of All Weld Metal:

Items	C	Mn	Si	S	P	Ni	Cr	Mo	V
Requirements	≤0.10	0.85-1.40	≤0.65	≤0.030	≤0.035	≤0.30	≤0.20	≤0.30	≤0.08
Typical Results	0.06	1.00	0.30	0.015	0.020	0.030	0.035	0.005	0.004

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ (-30°C) /J
Requirements	490-660	≥400	≥22	≥80
Typical Results	590	480	28	160

X-ray Radiographic Inspection:

Level I

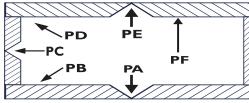
Typical Operating Procedures: (AC or DC⁺)

Diameter (mm)	2.5	3.2	4.0	5.0
Length (mm)	300	350	400	400
Current (A)	60-100	100-150	170-210	210-250

Classification of Society Certification:

Ship Inspection Agency	ABS	BV	CCS	DNV
Recognition Level	3YH10	3YHH	3YH10	3YH10
Ship Inspection Agency	LR	NK	CWB	---
Recognition Level	3YmH15	KMW53H10	E4918	---

Welding Positions:



THJ506

Basic-potassium Type Electrode

AWS A5.1 E7016
ISO 2560-B-E4916 A
GB/T 5117 E5016

Applications:

It is suitable for the welding of carbon steel and low alloy steel structure, such as Gr.50, and so on.

Characteristics:

THJ506 is basic potassium type electrode with low hydrogen. Both AC & DC can be used and can be weld for all-position. It have excellent welding performance as good arc stiffness, little spatter, easy slag removal etc., and perfect mechanical properties of deposited metal.

Attention:

1. The electrode must be re-dry by 350°C-380°C for 1 hour before welding.
2. The rust, oil, water and other impurities of the weld area must be removed before welding.

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	V
Requirements	≤0.10	0.85-1.40	≤0.65	≤0.030	≤0.035	≤0.30	≤0.20	≤0.30	≤0.08
Typical Results	0.07	1.10	0.35	0.012	0.018	0.030	0.035	0.005	0.004

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ (-30°C) /J
Requirements	490-660	≥400	≥22	≥80
Typical Results	590	510	30	160

X-ray Radiographic Inspection:

Level I

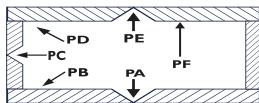
Typical Operating Procedures: (AC or DC⁺)

Diameter (mm)	2.0	2.5	3.2	4.0	5.0	5.8
Length (mm)	300	300	350	400	400	400
Current (A)	40-70	60-90	80-130	140-190	180-230	240-280

Classification of Society Certification:

Ship Inspection Agency	ABS	BV	CCS	DNV
Recognition Level	3YH10	3YHH	3YH10	3YH10
Ship Inspection Agency	LR	NK	KR	---
Recognition Level	3YmH15	KMW53H10	3YH10	---

Welding Positions:



THJ507

Basic-sodium Type Electrode

AWS A5.1 E7015
ISO 2560-A-E42 3 B 22
GB/T 5117 E5015

Applications:

It is suitable for the welding of carbon steel and low alloy steel structure, such as Gr.50 etc.

Characteristics:

THJ507 is basic-sodium type electrode with low hydrogen. Can be weld for all-position with DC⁺ only. It have excellent welding performance as good arc stiffness, little spatter, easy slag removal etc., and perfect mechanical properties of deposited metal.

Attention:

1. The electrode must be re-dry by 350°C-380°C for 1 hour before welding.
2. The rust, oil, water and other impurities of the weld area must be removed before welding.

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	V
Requirements	≤0.10	≤1.25	≤0.65	≤0.030	≤0.035	≤0.30	≤0.20	≤0.30	≤0.08
Typical Results	0.07	1.00	0.32	0.012	0.017	0.030	0.035	0.005	0.004

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ (-30°C) /J
Requirements	500-640	≥420	≥22	≥80
Typical Results	580	490	30	180

X-ray Radiographic Inspection:

Level I

Typical Operating Procedures: (DC⁺)

Diameter (mm)	2.0	2.5	3.2	4.0	5.0	5.8
Length (mm)	300	300	350	400	400	400
Current (A)	40-70	60-90	90-130	140-180	180-230	20-280

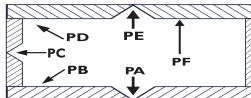
Classification of Society Certification:

Ship Inspection Agency	ABS	BV	CCS	DNV	RS
Recognition Level	3YH10	3YHH	3YH10	3YH10	3YH10
Ship Inspection Agency	LR	NK	KR	RINA	---
Recognition Level	3YmH15	KMW53H10	3YH10	3YH10	---

The European Union Certification:

Certification Authority	CPD - CE certification of steel structure
Grade	ISO 2560-A-E42 3 B22

Welding Positions:



THA002

Rutile Type Electrode

AWS A5.4 E308L-16
ISO 3581-B-ES308L-16
GB/T 983 E308L-16

Applications:

For welding of ultra-low carbon's SUS304L stainless steel, also can be used for SUS321 and other corrosion resistant stainless steel structure.

Characteristics:

THA002 is rutile type stainless steel electrode with ultra-low carbon. Can be weld for all-position with AC or DC. It have excellent welding performance as good arc stiffness, little spatter, easy slag removal etc., and perfect intercrystalline corrosion resistance of deposited metal.

Attention:

1. The electrode must be re-dry by 320°C-350°C for 1 hour before welding.
2. The rust, oil, water and other impurities of the weld area must be removed before welding.
3. DC⁺ is better than AC, lower heat input is suggested, the temperature of preheat and interpass keep under 150°C.

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	Cu
Requirements	≤0.04	0.5-2.5	≤1.00	≤0.03	≤0.04	9.0-12.0	18.0-21.0	≤0.75	≤0.75
Typical Results	0.029	0.94	0.73	0.010	0.028	9.60	19.60	0.08	0.10

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	A/%
Requirements	≥510	≥30
Typical Results	578	41

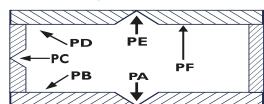
Typical Operating Procedures: (AC or DC⁺)

Diameter (mm)	2.0	2.5	3.2	4.0	5.0
Length (mm)	300	300	350	400	400
Current (A)	25-50	50-80	80-110	110-160	160-200

Classification of Society Certification:

Ship Inspection Agency	CCS
Recognition Level	304L

Welding Positions:



THA022

Rutile Type Electrode

AWS A5.4 E316L-16
ISO 3581-B-ES316L-16
GB/T 983 E316L-16

Applications:

Mainly used in the welding for SUS316L stainless steel of urea tower, petrochemical equipment and other equipment as well as the same type of stainless steel structure.

Characteristics:

THA022 is rutile type stainless steel electrode with ultra-low carbon. Can be weld for all-position with AC or DC. It have excellent welding performance as good arc stiffness, little spatter, easy slag removal etc.

Attention:

1. The electrode must be re-dry by 320°C-350°C for 1 hour before welding.
2. The rust, oil, water and other impurities of the weld area must be removed before welding.
3. DC⁺ is better than AC, lower heat input is suggested, the temperature of preheat and interpass keep under 150°C.

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	P
Requirements	≤0.04	0.5-2.5	≤1.00	≤0.03	≤0.04
Typical Results	0.030	1.01	0.68	0.015	0.025
Items	Ni	Cr	Mo	Cu	---
Requirements	11.0-14.0	17.0-20.0	2.0-3.0	≤0.75	---
Typical Results	11.82	19.01	2.46	0.08	---

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	A/%
Requirements	≥490	≥25
Typical Results	580	45

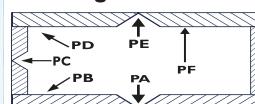
Typical Operating Procedures: (AC or DC⁺)

Diameter (mm)	2.0	2.5	3.2	4.0	5.0
Length (mm)	300	300	350	400	400
Current (A)	25-50	50-80	80-110	110-160	160-200

Classification of Society Certification:

Ship Inspection Agency	CCS
Recognition Level	316L

Welding Positions:



THA102 Rutile Type Electrode

AWS A5.4 E308-16
ISO 3581-B-ES308-16
GB/T 983 E308-16

Applications:

For welding of the working temperature is less than 300°C's corrosion resistant stainless steel structure, such as SUS304 etc.

Characteristics:

THA102 is rutile type stainless steel electrode. Can be weld for all-position with AC or DC. It have excellent welding performance as good arc stiffness, little spatter, easy slag removal etc., and perfect intercrystalline corrosion resistance of deposited metal.

Attention:

1. The electrode must be re-dry by 320°C-350°C for 1 hour before welding.
2. The rust, oil, water and other impurities of the weld area must be removed before welding.
3. DC⁺ is better than AC, lower heat input is suggested, the temperature of preheat and interpass keep under 150°C.

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	Cu
Requirements	≤0.08	0.5-2.5	≤1.00	≤0.03	≤0.04	9.0-11.0	18.0-21.0	≤0.75	≤0.75
Typical Results	0.06	0.87	0.67	0.010	0.025	9.50	20.00	0.09	0.08

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	A/%
Requirements	≥550	≥30
Typical Results	596	43

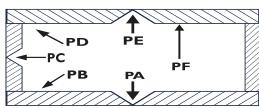
Typical Operating Procedures: (AC or DC⁺)

Diameter (mm)	2.0	2.5	3.2	4.0	5.0
Length (mm)	300	300	350	400	400
Current (A)	25-50	50-80	80-110	110-160	160-200

Classification of Society Certification:

Ship Inspection Agency	CCS
Recognition Level	304

Welding Positions:



THA302 Rutile Type Electrode

AWS A5.4 E309-16
ISO 3581-B-ES309-16
GB/T 983 E309-16

Applications:

For welding of same type stainless steel (such as SUS309 etc.) or dissimilar steel (e.g. 304 + low carbon steel).

Characteristics:

THA302 is rutile type stainless steel electrode. Can be weld for all-position with AC or DC. It have excellent welding performance as good arc stiffness, little spatter, easy slag removal etc., and perfect intercrystalline corrosion resistance of deposited metal.

Attention:

1. The electrode must be re-dry by 320°C-350°C for 1 hour before welding.
2. The rust, oil, water and other impurities of the weld area must be removed before welding.
3. DC⁺ is better than AC, lower heat input is suggested, the temperature of preheat and interpass keep under 150°C.

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	P
Requirements	≤0.15	0.5-2.5	≤1.00	≤0.03	≤0.04
Typical Results	0.060	0.89	0.69	0.010	0.025
Items	Ni	Cr	Mo	Cu	---
Requirements	12.0-14.0	22.0-25.0	≤0.75	≤0.75	---
Typical Results	12.50	24.05	0.10	0.08	---

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	A/%
Requirements	≥550	≥25
Typical Results	600	38

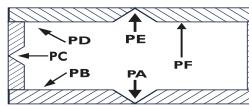
Typical Operating Procedures: (AC or DC⁺)

Diameter (mm)	2.0	2.5	3.2	4.0	5.0
Length (mm)	300	300	350	400	400
Current (A)	25-50	50-80	80-110	110-160	160-200

Classification of Society Certification:

Ship Inspection Agency	CCS
Recognition Level	304

Welding Positions:



THZ308 Graphite Type Cast Iron Electrode

AWS A5.15 ENI-Cl (mod.)
GB/T 10044 EC Ni-Cl-B

Applications:

For the welding of thin cast iron or cast iron part need be machined, such as cylinder cover, engine bearer, gear box, machine tool guide.

Characteristics:

THZ308 is cast iron electrode made by graphite type coating and pure-Ni core rod. Can be weld by AC or DC and not need preheating when welding. Excellent crack resistance ability and machining performance of welding metal.

Attention:

1. The electrode must be re-dry by 140°C-160°C for 1 hour before welding.
2. To avoid the crack, hammer the welding pass as soon as after welding is be suggested.
3. Lower heat input is recommend.

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	Fe	Ni	Others
Requirements	≤2.0	≤1.0	≤2.5	≤0.03	≤8.0	≥90.0	≤1.0

Typical Operating Procedures: (AC or DC⁺)

Diameter (mm)	2.5	3.2	4.0
Length (mm)	300	350	350
Current (A)	60-90	90-110	120-150

THZ408 Graphite Type Cast Iron Electrode

AWS A5.15 ENiFe-Cl (mod.)
GB/T 10044 EC NiFe-Cl

Applications:

For the high strength gray cast iron and nodular cast iron's repair welding, such as cylinder, engine bearer, gear box.

Characteristics:

THZ408 is cast iron electrode made by graphite type coating and Ni-Fe core rod. Can be weld by AC or DC and not need preheating or just preheating to 200°C when welding. High strength, excellent elongation and lower coefficient of linear expansion of welding metal.

Attention:

1. The electrode must be re-dry by 140°C-160°C for 1 hour before welding.
2. To avoid the crack, hammer the welding pass as soon as after welding is be suggested.
3. Lower heat input is recommend.

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	Fe	Ni	Cu	Al	Others
Requirements	≤2.0	≤2.5	≤4.0	≤0.03	balance	45-60	≤2.5	≤1.0	≤1.0

Typical Operating Procedures: (AC or DC⁺)

Diameter (mm)	3.2	4.0	5.0
Length (mm)	300	350	350
Current (A)	90-110	120-150	160-190

THQ-50C

GMAW Solid Wire

AWS A5.18 ER70S-6
ISO 14341-A-G42 3C1 Z3Si1
GB/T8110 G49A3UC1S6

Applications:

It is suitable for the welding of carbon steel and low alloy steel, such as Gr.50, and so on.

Characteristics:

This GMAW wire is for Rm 500MPa level carbon steel with shield gas of CO₂ or M21. Small spatter, beautiful appearance, high deposition efficiency and small weld metal porosity sensibility. All positions is suitable.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Chemical Composition of Wire:

(Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	V	Cu
Requirements	0.06 -0.15	1.40 -1.85	0.80 -1.15	≤ 0.025	≤ 0.025	≤ 0.15	≤ 0.15	≤ 0.15	≤ 0.03	≤ 0.50
Typical Results	0.08	1.50	0.89	0.012	0.013	0.03	0.02	0.002	0.003	0.11

Mechanical Properties of All Weld Metal: (CO₂)

Items	Rm/MPa	Rel/R _{p0.2} /MPa	A/%	KV ₂ (-30°C) /J
Requirements	≥500	≥420	≥22	≥27
Typical Results	540	450	26	100

X-ray Radiographic Inspection:

Level II

Typical Operating Procedures: (DC⁺)

Diameter (mm)	0.8	1.0	1.2	1.6
Current (A)	50-180	70-230	80-350	120-500

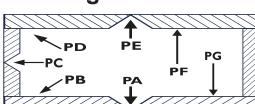
Classification of Society Certification:

Ship Inspection Agency	ABS	BV	CCS	DNV
Level Of Recognition	3YSAH10	SA3YMHH	3YSM	IIIYMS(H10)
Ship Inspection Agency	LR	NK	KR	CWB
Level Of Recognition	3YSAH15	KSW53G(C)10	3YSG(C)10	B-G49A3CG6

EU Certification:

Certification Authority	CPD - CE certification of steel structure
Grade	ISO14341-A-G42 3 C1 Z3Si

Welding Positions:



THQ-50N

GMAW Solid Wire

AWS A5.18 ER70S-6
ISO 14341-A-G42 3C1/G42 4M21 3Si1
GB/T8110 G49A3UC1S6N/G49A4UM21S6N

Applications:

It can be used in the welding of carbon steel and low alloy steel in the corresponding strength grade, which can be used in engineering machinery, shipbuilding, vehicle manufacturing, petrochemical and other industries.

Characteristics:

THQ-50N is Rm 500MPa level non-copper coated carbon steel wire with shield gas of CO₂ or M21. The welding spatter is small, and it has beautiful shape, high current and high speed welding stable and reliable, no copper smoke, environmental protection, high cladding efficiency. It can be used for all position. It is an environmentally friendly product that conforms to automated and intelligent welding manufacturing.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Chemical Composition of Wire:

(Wt. %)

Items	C	Mn	Si	S	P	Ni
Requirements	0.06-0.14	1.40-1.60	0.80-1.00	≤0.025	≤0.025	≤0.15
Items	Cr	Mo	V	Cu	Al	Ti+Zr
Requirements	≤0.15	≤0.15	≤0.03	≤0.35	≤0.02	≤0.15

Mechanical Properties of All Weld Metal: (CO₂)

Items	Rm/MPa	Rel/R _{p0.2} /MPa	A/%	KV ₂ (-30°C) /J
Requirements	520-640	≥420	≥22	≥47
Typical Results	580	450	30	78

X-ray Radiographic Inspection:

Level II

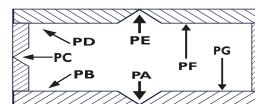
Typical Operating Procedures: (DC⁺)

Diameter (mm)	0.8	1.0	1.2	1.6
Current (A)	50-180	70-230	80-350	120-500

EU Certification:

Certification Authority	CPD - CE certification of steel structure
Grade	ISO 14341-A-G42 3C1/G42 4M21 3Si1

Welding Positions:



THQ-50CG3

GMAW Solid Wire

AWS A5.18 ER70S-6
ISO 14341-A-G42 3 C1/G42 4 M21 3Si1
GB/T8110 G49A3UC1S6/G49A4UM21S6

Applications:

It can be used in the welding of carbon steel and low alloy steel in the corresponding strength grade, which can be used in engineering machinery, shipbuilding, vehicle manufacturing, petrochemical and other industries, especially in the locomotive and rolling stock manufacturing industry.

Characteristics:

Wire of THQ-50CG3 is Rm 500MPa level carbon steel wire with shield gas of CO₂ or M21. The welding spatter is small, and it has beautiful shape, high cladding efficiency. It can be used for all position.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Chemical Composition of Wire:

(Wt. %)

Items	C	Mn	Si	S	P	Ni
Requirements	0.06-0.14	1.40-1.60	0.80-1.00	≤0.025	≤0.025	≤0.15
Items	Cr	Mo	V	Cu	Al	Ti+Zr
Requirements	≤0.15	≤0.15	≤0.03	≤0.35	≤0.02	≤0.15

Mechanical Properties of All Weld Metal: (CO₂)

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ (-30°C) / J
Requirements	520-640	≥420	≥22	≥47
Typical Results	550	455	29	78

X-ray Radiographic Inspection:

Level II

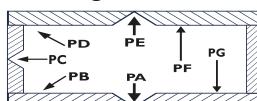
Typical Operating Procedures: (DC⁺)

Diameter (mm)	0.8	1.0	1.2	1.6
Current (A)	50-180	70-230	80-350	120-500

EU Certification:

Certification Authority	CPD-CE	DB-AG	VD-TÜV
Grade	ISO14341-A-G42 3 C1/G42 4 M21 3Si1		

Welding Positions:



THQ-50CG4

GMAW Solid Wire

AWS A5.18 ER70S-6
ISO 14341-A-G42 3C1 4Si1/G46 4M21 4Si1
GB/T8110 G49A3UC1S6/G55A4UM21S6

Applications:

It can be used in the welding of carbon steel and low alloy steel in the corresponding strength grade, which can be used in engineering machinery, shipbuilding, vehicle manufacturing, petrochemical and other industries, especially in the locomotive and rolling stock manufacturing industry.

Characteristics:

Wire of THQ-50CG4 is Rm 500MPa level carbon steel wire with shield gas of CO₂ or M21. The welding spatter is small, and it has beautiful shape, high cladding efficiency. It can be used for all position.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Chemical Composition of Wire:

(Wt. %)

Items	C	Mn	Si	S	P	Ni
Requirements	0.06-0.14	1.60-1.85	0.80-1.15	≤0.025	≤0.025	≤0.15
Items	Cr	Mo	V	Cu	Al	Ti+Zr
Requirements	≤0.15	≤0.15	≤0.03	≤0.35	≤0.02	≤0.15

Mechanical Properties of All Weld Metal:

Items	Shield gas	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ / J
Requirements	C1	520-600	≥420	≥22	≥47(-30°C)
Typical Results	C1	560	440	30	58
Requirements	M21	550-680	≥460	≥22	≥47(-40°C)
Typical Results	M21	580	483	28	88

X-ray Radiographic Inspection:

Level II

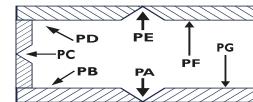
Typical Operating Procedures: (DC⁺)

Diameter (mm)	0.8	1.0	1.2	1.6
Current (A)	50-180	70-230	80-350	120-500

EU Certification:

Certification Authority	CPD-CE	DB-AG	VD-TÜV
Grade	ISO14341-A-G42 3 C1 4Si1/G46 4M21 4Si1		

Welding Positions:



THT50-6

GTAW Solid Wire

AWS A5.18 ER70S-6
ISO 636-B-W49A3W6
GB/T39280W49A3U6

Applications:

It is suitable for the welding of carbon steel and low alloy steel, such as Gr.50, and so on. Can be pipeline's backing weld.

Characteristics:

This GTAW wire is for Rm 500MPa level carbon steel. The welding performance is excellent. All positions is suitable.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Chemical Composition of Wire: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	V	Cu
Requirements	0.06	1.40	0.80	≤	≤	≤	≤	≤	≤	≤
Requirements	-0.15	-1.85	-1.15	0.025	0.025	0.15	0.15	0.15	0.03	0.50

Mechanical Properties of All Weld Metal: (Ar)

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ (-30°C) /J
Requirements	≥500	≥420	≥22	≥47

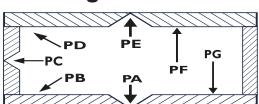
X-ray Radiographic Inspection:

Level II

Classification of Society Certification:

Ship Inspection Agency	CCS
Level Of Recognition	3Y

Welding Positions:



THQ-60D

GMAW Solid Wire

AWS A5.18 ER80S-G
GB/T8110 G55A3C1S4M31T

Applications:

It can be used in the welding of carbon steel and low alloy steel in the corresponding strength grade, which can be used in construction machinery, coal mining machinery etc.

Characteristics:

Wire of THQ-60D is Rm 550MPa level low alloyed steel wire with shield gas of CO₂ or M21. The welding spatter is small, and it has beautiful shape, high cladding efficiency. It can be used for all position.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Chemical Composition of Wire: (Wt. %)

Items	C	Mn	Si	S
Requirements	≤0.12	1.20-1.90	0.40-0.80	≤0.025
Items	P	Mo	Ti	Cu
Requirements	≤0.025	0.20-0.50	≤0.20	≤0.35

Mechanical Properties of All Weld Metal: (CO₂)

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ (-30°C) /J
Requirements	≥550	≥460	≥17	≥27
Typical Results	600	530	25	100

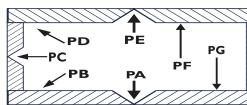
X-ray Radiographic Inspection:

Level II

Typical Operating Procedures: (DC +)

Diameter (mm)	1.0	1.2	1.6
Current (A)	70-230	80-350	120-500

Welding Positions:



THQ-60C
GMAW Solid Wire

AWS A5.18 ER90S-G
GB/T39281 G59A3U M21 ZCT

Applications:

It can be used in the welding of carbon steel and low alloy steel in the corresponding strength grade, which can be used in construction machinery, coal mining machinery etc.

Characteristics:

Wire of THQ-60C is Rm 600MPa level low alloyed steel wire with shield gas of M21 only. The welding spatter is small, and it has beautiful shape, high cladding efficiency. It can be used for all position.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Chemical Composition of Wire: (Wt. %)

Items	C	Mn	Si	S
Requirements	≤0.10	1.40-1.80	0.50-0.90	≤0.025
Items	P	Cr	Ti	Cu
Requirements	≤0.025	0.10-0.30	≤0.12	≤0.35

Mechanical Properties of All Weld Metal: (M21)

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ (-30°C) /J
Requirements	≥600	≥490	≥19	≥47
Typical Results	630	540	25	80

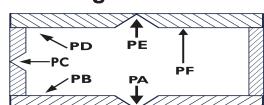
X-ray Radiographic Inspection:

Level II

Typical Operating Procedures: (DC +)

Diameter (mm)	1.0	1.2	1.6
Current (A)	70-230	80-350	120-500

Welding Positions:



THS-308 / THT-308

Stainless Steel Solid Wire

AWS A5.9 ER308
GB/T 29713 S308

Applications:

For the welding of stainless steel as SUS 302, SUS 304 etc.

THS-308 is MIG wire, THT-308 is TIG rod.

Characteristics:

THS-308 / THT-308 are the austenite stainless steel solid wires. Have perfect welding performance, stable and soft arc, beautiful appearance. All positions is suitable.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The shield gas should be THS-308 is with Ar + (1%-3%)O₂, THT-308 is with pure Ar.

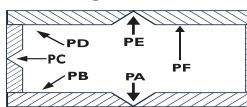
Chemical Composition of Wire: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	Cu
Requirements	≤ 0.08	1.00-2.50	0.30-0.65	≤ 0.020	≤ 0.025	9.00-11.00	19.50-22.00	≤ 0.75	≤ 0.75

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	A/%
Typical Results	600	40

Welding Positions:



THS-308L / THT-308L

Stainless Steel Solid Wire

AWS A5.9 ER308L
GB/T 29713 S308L

Applications:

For the welding of stainless steel as SUS 302L, SUS 304L etc.

THS-308L is MIG wire, THT-308L is TIG rod.

Characteristics:

THS-308L / THT-308L are the ultra-low carbon austenite stainless steel solid wires. Have perfect welding performance, stable and soft arc, beautiful appearance. All positions is suitable.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The shield gas should be THS-308L is with Ar+(1%-3%)O₂, THT-308L is with pure Ar.

Chemical Composition of Wire:

(Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	Cu
Requirements	≤ 0.030	1.00-2.50	0.30-0.65	≤ 0.020	≤ 0.025	9.00-11.00	19.50-22.00	≤ 0.75	≤ 0.75

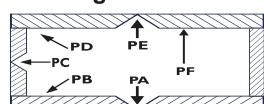
Mechanical Properties of All Weld Metal:

Items	Rm/MPa	A/%
Typical Results	590	40

Classification of Society Certification (THS-308L):

Ship Inspection Agency	CCS
Level Of Recognition	304L

Welding Positions:



THS-309 / THT-309

Stainless Steel Solid Wire

AWS A5.9 ER309
GB/T 29713 S309

Applications:

For the welding of stainless steel as SUS 309 etc.

THS-309 is MIG wire, THT-309 is TIG rod.

Characteristics:

THS-309 / THT-309 are the austenite stainless steel solid wires. Have perfect welding performance, stable and soft arc, beautiful appearance. All positions is suitable.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The shield gas should be THS-309 is with Ar + (1%-3%)O₂, THT-309 is with pure Ar.

Chemical Composition of Wire:

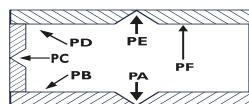
(Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	Cu
Requirements	≤ 0.12	1.00-2.50	0.30-0.65	≤ 0.020	≤ 0.025	12.00-14.00	23.00-25.00	≤ 0.75	≤ 0.75

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	A/%
Typical Results	605	36

Welding Positions:



THS-309L / THT-309L

Stainless Steel Solid Wire

AWS A5.9 ER309L

GB/T 29713 S309L

Applications:

For the welding of stainless steel as SUS 309L etc.

THS-309L is MIG wire, THT-309L is TIG rod.

Characteristics:

THS-309L / THT-309L are the austenite stainless steel solid wires. Have perfect welding performance, stable and soft arc, beautiful appearance. All positions is suitable.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The shield gas should be THS-309L is with Ar + (1%-3%)O₂, THT-309L is with pure Ar.

Chemical Composition of Wire: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	Cu
Requirements	≤ 0.030	1.00-2.50	0.30-0.65	≤ 0.020	≤ 0.020	12.00-14.00	23.00-25.00	≤ 0.75	≤ 0.75

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	A/%
Typical Results	580	35

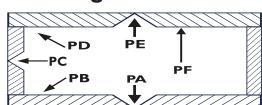
Classification of Society Certification (THS-309L / THT-309L):

Ship Inspection Agency	CCS
Level Of Recognition	309L

EU Certification:

Product	Certification Authority	CPD-CE	DB-AG
THS-309L	Grade	ISO14343-A-G23 12 L	
Product	Certification Authority	CPD-CE	
THT-309L	Grade	ISO14343-A-G23 12 L	

Welding Positions:



THS-316L / THT-316L

Stainless Steel Solid Wire

AWS A5.9 ER316L

GB/T 29713 S316L

Applications:

For the welding of stainless steel as SUS 316L etc.

THS-316L is MIG wire, THT-316L is TIG rod.

Characteristics:

THS-316L / THT-316L are the austenite stainless steel solid wires. Have perfect welding performance, stable and soft arc, beautiful appearance. All positions is suitable.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The shield gas should be THS-316L is with Ar + (1%-3%)O₂, THT-316L is with pure Ar.

Chemical Composition of Wire: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	Cu
Requirements	≤ 0.030	1.00-2.50	0.30-0.65	≤ 0.020	≤ 0.025	11.00-14.00	18.00-20.00	2.00-3.00	≤ 0.75

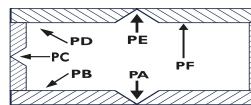
Mechanical Properties of All Weld Metal:

Items	Rm/MPa	A/%
Typical Results	580	38

Classification of Society Certification (THS-316L / THT-316L):

Ship Inspection Agency	CCS
Level Of Recognition	316L

Welding Positions:



THY-51A Rutile Flux Cored Wire

AWS A5.20 E71T-1C-J
ISO 17632-A-T424PC12H10
GB/T10045 T494T1-1C1A

Application:

Applying for the welding of carbon steel and low alloy steel for shipbuilding, bridges, structure buildings, vehicles, and machinery.

Characteristic:

This wire is CO₂ gas shielded rutile flux cored wire, applying for all position welding, with excellent mechanical properties and process performance. Less spatter, the arc is stable and soft, easy slag removal, the weld molding is beautiful.

Attention:

1. Weld by DC⁺ only.
2. Interpass temperature is at 150°C to 200°C
3. The rust, oil, water and other impurities of the weld area must be removed before welding.

Chemical Composition of All Weld Metal (CO₂): (Wt. %)

Item	C	Mn	Si	Ni	S	P
Typical Results	0.05	1.38	0.45	0.48	0.010	0.019

Mechanical Properties of All Weld Metal (CO₂):

Item	Rel/Rp _{0.2} /MPa	Rm/MPa	A/%	KV ₂ (-40°C)/J
Typical Results	490	575	27	100

Content of Diffusion Hydrogen In Deposited Metal (Typical Results):

8ml/100g (Mercury method)

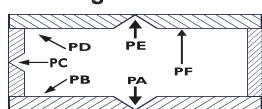
Typical Operating Procedures: (DC⁺)

Diameter (mm)	Welding position	1.2	1.4	1.6
Current (A)	PA	180-280	200-280	240-300
Current (A)	PE, PF	120-260	180-280	180-280

Classification of Society Certification:

Ship inspection Agency	ABS	BV	CCS	DNV
Level Of Recognition	4YSAH10	SA4YHH	4YSMH10	IVYMS (H10)
Ship inspection Agency	LR	NK	KR	---
Level Of Recognition	4YSH5	KSW54G(C)H10	4YSG(C)H10	---

Welding Positions:



The European Union Certification:

Certification Authority	CPD - CE certification of steel structure
Grade	ISO 17632-A-T424PC12H10

THY-51B Rutile Flux Cored Wire

AWS A5.20 E71T-1C
ISO 17632-A-T422PC2H10
GB/T10045 T492T1-1C1A

Application:

Applying for the welding of carbon steel and low alloy steel for shipbuilding, bridges, structure buildings, vehicles, and machinery.

Characteristic:

This wire is CO₂ gas shielded rutile flux cored wire, applying for all position welding, with excellent mechanical properties and process performance. Less spatter, the arc is stable and soft, easy slag removal, the weld molding is beautiful.

Attention:

1. Weld by DC⁺ only.
2. Interpass temperature is at 150°C to 200°C
3. The rust, oil, water and other impurities of the weld area must be removed before welding.

Chemical Composition of All Weld Metal (CO₂): (Wt. %)

Item	C	Mn	Si	S	P
Typical Results	0.06	1.38	0.45	0.010	0.019

Mechanical Properties of All Weld Metal (CO₂):

Item	Rel/Rp _{0.2} /MPa	Rm/MPa	A/%	KV ₂ /J	
				-20°C	-30°C
Typical Results	475	551	29	120	80

Content of Diffusion Hydrogen In Deposited Metal (Typical Results):

5.4ml/100g (Mercury method)

Typical Operating Procedures: (DC⁺)

Diameter (mm)	0.8	0.9	1.0	1.2	1.4	1.6
Voltage (V)	20-24	20-24	20-25	22-26	22-28	24-30
Current (A)	70-150	80-160	100-170	180-280	200-280	240-300
Extension length (mm)	15-20	15-20	15-20	15-20	15-20	15-20
Gas flow (l/min)	20-25	20-25	20-25	20-25	20-25	20-25

Classification of Society Certification:

Ship inspection Agency	ABS	BV	CCS	DNV	RS
Level Of Recognition	3YSAH10	SA3YHH	3YSMH10	IIIYMS (H10)	3YH10
Ship inspection Agency	LR	NK	KR	CWB	RINA
Level Of Recognition	3YSH10	KSW53G(C)H10	3YSG(C)H10	E491T-9-H8	3YSH10

Welding Positions:

The European Union Certification:

Certification Authority	CPD - CE certification of steel structure
Grade	ISO 17632-A-T422PC2H10

THY-J5011-GS

Self-shielded Flux Cored Wire

AWS A5.20 E71T-GS
GB/T10045 T49ZT11-1NSA

Application:

Applying for the outdoor welding of RM 500MPa level carbon steel such as thin sheet steel structure and the plate thickness is low than 1.0mm, small size vertical down welding, galvanized plate etc.

Characteristic:

This wire is self-shielded flux cored wire, can be weld for all position. Excellent process performance. Less spatter, the arc is stable and soft, easy slag removal, the weld molding is beautiful.

Attention:

1. Weld by DC⁻ only.
2. Interpass temperature is at 135°C to 165°C

Chemical Composition of All Weld Metal:

Item	C	Mn	Si	S	P	Ni	Al
Requirements	≤ 0.3	≤ 1.75	≤ 0.90	≤ 0.03	≤ 0.03	≤ 0.50	≤ 1.80

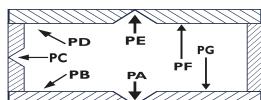
Mechanical Properties of All Weld Metal:

Item	Rel/Rp _{0.2} /MPa	Rm/MPa
Requirements	≥ 480	≥ 400

Typical Operating Procedures: (DC⁻)

Diameter (mm)	0.8	0.9	1.0	1.2	1.4	1.6
Voltage (V)	14-20	14-20	16-22	18-24	20-26	20-26
Current (A)	120-180	120-180	120-200	150-230	170-260	170-260
Extension length (mm)	15-20	15-20	15-20	15-20	15-20	15-20

Welding Positions:



THY-58Ni1

Self-shielded Flux Cored Wire

AWS A5.29 E71T8-Ni1-J (mod.)
GB/T10045 T494T8-1NA-N2

Application:

Applying for the outdoor welding of RM 500MPa level carbon steel such as pipeline of API X52 to X70, also for offshore platform and large oil storage tank etc.

Characteristic:

This wire is self-shielded flux cored wire, can be weld for all position (especially suitable for welding position of PG). Excellent process performance. Stronger arc, less spatter, the arc is stable and soft, easy slag removal.

Attention:

1. Weld by DC⁻ only
2. Wire extention is 20mm

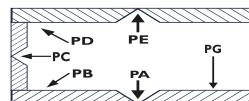
Chemical Composition of All Weld Metal:

Item	C	Mn	Si	S	P	Ni	Al
Typical Results	0.03	0.87	0.03	0.004	0.011	0.94	0.94

Mechanical Properties of All Weld Metal:

Item	Rel/Rp _{0.2} /MPa	Rm/MPa	A/%	KV ₂ (-40°C)/J
Typical Results	426	495	29	170

Welding Positions:



THY-558Ni2 Self-shielded Flux Cored Wire

AWS A5.29 E81T8-Ni2-J (mod.)
GB/T10045 T554T8-1NA-N5

Application:

Applying for the outdoor welding of RM 550MPa level carbon steel such as pipeline of API X80, also for offshore platform, shipbuilding and large oil storage tank etc.

Characteristic:

This wire is self-shielded flux cored wire, can be weld for all position (especially suitable for welding position of PG). Excellent process performance. Stronger arc, less spatter, the arc is stable and soft, easy slag removal.

Attention:

1. Weld by DC⁻ only
2. Wire extention is 20mm

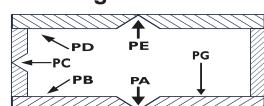
Chemical Composition of All Weld Metal: (Wt. %)

Item	C	Mn	Si	S	P	Ni	Al
Typical Results	0.048	1.28	0.03	0.006	0.013	2.15	0.88

Mechanical Properties of All Weld Metal:

Item	Rel/Rp _{0.2} /MPa	Rm/MPa	A/%	KV ₂ (-40°C)/J
Typical Results	520	590	25	150

Welding Positions:



THY-70MC Metal-powder Type Flux Cored Wire

AWS A5.20 E70T-1C (mod.)
ISO 17632-B-T-492T1-0CA (mod.)
GB/T10045 T492T1-0C1A

Application:

Applying for the outdoor welding of RM 500MPa level carbon steel such as shipbuilding and offshore platform etc. Especially for the welding of steel plates be painted at bottom layer by rich inorganic zinc paint

Characteristic:

This wire is metal-powder type flux cored wire. Higher deposited efficiency. Excellent process performance. Less spatter, the arc is stable and soft, easy slag removal.

Attention:

1. Weld by DC⁺ only
2. Wire extention is 20mm

Chemical Composition of All Weld Metal: (Wt. %)

Item	C	Mn	Si	S	P
Typical Results	0.04	1.60	0.46	0.006	0.011

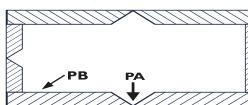
Mechanical Properties of All Weld Metal:

Item	Rel/Rp _{0.2} /MPa	Rm/MPa	A/%	KV ₂ (-20°C)/J
Typical Results	500	590	28	130

Classification of Society Certification:

Ship Inspection Agency	LR	DNV	CCS
Recognition Level	3YSH10	IIIYMS (H10)	3YSMH10

Welding Positions:



THY-A308LQ

Flux Cored Wire

AWS A5.22 E308LT1-1
GB/T 17853 TS 308L-FC11

Applications:

For welding of ultra-low carbon's SUS304L stainless steel, also can be used for SUS321 and other corrosion resistant stainless steel structure.

Characteristics:

THY-A308LQ is stainless steel flux cored wire with ultra-low carbon. Can be weld for all position by DC⁺ only. It have excellent welding performance as good arc stiffness, little spatter, easy slag removal etc., and perfect intercrystalline corrosion resistance of deposited metal.

Attention:

1. Wire extention is 20mm, shield gas flow should be in 20L/min to 25L/min.
2. Interpass temperature is lower than 120°C

Chemical Composition of All Weld Metal:

Items	C	Mn	Si	S	P	Ni	Cr	Mo	Cu
Requirements	≤0.04	0.5-2.5	≤1.00	≤0.03	≤0.04	9.0-12.0	18.0-21.0	≤0.5	≤0.5
Typical Results	0.03	1.51	0.66	0.013	0.027	10.16	19.85	0.13	0.10

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	A/%
Requirements	≥520	≥25
Typical Results	590	45

Content of ferrite in all weld metal:

FN3-10%

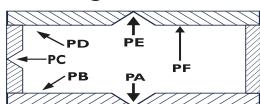
Typical Operating Procedures:

Diameter (mm)	1.2	1.6
Current (A)	140-240	200-300
Voltage (V)	24-30	26-32

Classification of Society Certification:

Ship Inspection Agency	ABS	CCS	BV	DNV	LR
Recognition Level	E308LT1-1	304LS	S308L BT	VL 308L	304L

Welding Positions:



THY-A309LQ

Flux Cored Wire

AWS A5.22 E309LT1-1
GB/T 17853 TS 309L-FC11

Applications:

For welding of ultra-low carbon's SUS309L stainless steel and dissimilar steel (304L+ low carbon steel).

Characteristics:

THY-A309LQ is stainless steel flux cored wire with ultra-low carbon. Can be weld for all position by DC⁺ only. It have excellent welding performance as good arc stiffness, little spatter, easy slag removal etc., and perfect intercrystalline corrosion resistance of deposited metal.

Attention:

1. Wire extention is 20mm, shield gas flow should be in 20L/min to 25L/min.
2. Interpass temperature is lower than 120°C

Chemical Composition of All Weld Metal:

Items	C	Mn	Si	S	P	Ni	Cr	Mo	Cu
Requirements	≤0.04	0.5-2.5	≤1.00	≤0.03	≤0.04	12.0-14.0	22.0-25.0	≤0.5	≤0.5
Typical Results	0.03	1.49	0.62	0.005	0.028	12.87	22.70	0.06	0.15

Mechanical Properties of All Weld Metal:

Item	Rel/Rp _{0.2} /MPa	Rm/MPa	A/%
Requirements	≥345	≥520	≥25
Typical Results	460	550	32

Content of ferrite in all weld metal:

FN3-10%

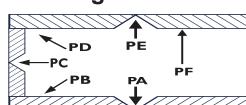
Typical Operating Procedures:

Diameter (mm)	1.2	1.6
Current (A)	140-240	200-300
Voltage (V)	24-30	26-32

Classification of Society Certification:

Ship Inspection Agency	ABS	CCS	BV	DNV
Recognition Level	E309LT1-1	309LS	S309L	VL 309L

Welding Positions:



THY-A316LQ

Flux Cored Wire

AWS A5.22 E316LT1-1
GB/T 17853 TS 316L-FC11

Applications:

For welding of ultra-low carbon's SUS316L stainless steel.

Characteristics:

THY-A316LQ is stainless steel flux cored wire with ultra-low carbon. Can be weld for all position by DC⁺ only. It have excellent welding performance as good arc stiffness, little spatter, easy slag removal etc., and perfect intercrystalline corrosion resistance of deposited metal etc.

Attention:

1. Wire extention is 20mm, shield gas flow should be in 20L/min to 25L/min.

2. Interpass temperature is lower than 120°C

Chemical Composition of All Weld Metal: (Wt. %)

Items	C	Mn	Si	S	P	Ni	Cr	Mo	Cu
Requirements	≤ 0.04	0.5-2.5	≤ 1.00	≤ 0.03	≤ 0.04	11.0-14.0	17.0-20.0	2.0-3.0	≤ 0.5
Typical Results	0.03	1.21	0.55	0.004	0.03	11.84	18.67	2.47	0.31

Mechanical Properties of All Weld Metal:

Items	Rm/MPa	A/%
Requirements	≥485	≥25
Typical Results	575	38

Content of ferrite in all weld metal:

FN3-10%

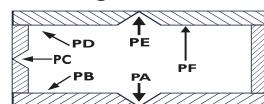
Typical Operating Procedures:

Diameter (mm)	1.2	1.6
Current (A)	140-240	200-300
Voltage (V)	24-30	26-32

Classification of Society Certification:

Ship Inspection Agency	ABS	DNV	CCS
Recognition Level	E316LT1-1	VL 316L	316LS

Welding Positions:



THM-43

SAW Solid Wire

AWS A5.17 EL8
GB/T 5293 SU08A

Applications:

It is suitable for the welding of Rm 430MPa level carbon steel structure, such as SA-36/Gr.D, and so on.

Characteristic:

THM-43 is copper coated solid wire, and it can be used in automatic submerged arc welding with welding flux. The weld metal has excellent mechanical properties.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Chemical Composition of Wire: (Wt. %)

Item	C	Mn	Si	S	P	Cr	Ni	Cu
Requirements	≤ 0.10	0.40-0.65	≤ 0.03	≤ 0.030	≤ 0.030	≤ 0.20	≤ 0.30	≤ 0.35
Typical Results	0.07	0.48	0.01	0.013	0.015	0.01	0.02	0.10

Mechanical Properties of All Weld Metal (TH-SJ301/THM-43):

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A/%	KV ₂ (-20°C) /J
Requirement	430-600	≥330	≥20	≥27
Typical Results	460	375	28	80

Normal Diameter of Wire:

Size (mm)	2.0	2.5	3.2	4.0	5.0
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Classification of Society Certification (TH-SJ301/THM-43):

Ship inspection agency	CCS	RINA
Level of recognition	3TM	3T/3M

THM-43A

SAW Solid Wire

AWS A5.17 EM12
GB/T 5293 SU26

Applications:

It is suitable for the welding of Rm 430MPa level carbon steel structure, such as SA-36/Gr.D, and so on.

Characteristic:

THM-43A is copper coated solid wire, and it can be used in automatic submerged arc welding with welding flux. The weld metal has excellent mechanical properties.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Chemical Composition of Wire:

(Wt. %)

Item	C	Mn	Si	S	P	Cr	Ni	Cu
Requirements	≤0.10	0.80-1.10	≤0.07	≤0.030	≤0.030	≤0.20	≤0.30	≤0.35
Typical Results	0.08	0.95	0.02	0.011	0.015	0.01	0.01	0.10

Mechanical Properties of All Weld Metal (TH-SJ301/THM-43A):

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A%	KV ₂ (-20°C) /J
Requirement	430-600	≥330	≥20	≥27
Typical Results	475	380	30	110

Normal Diameter of Wire:

Size (mm)	2.0	2.5	3.2	4.0	5.0
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Classification of Society Certification (TH-SJ301/THM-43A):

Ship inspection agency	CCS
Level of recognition	3TM

THM-12K

SAW Solid Wire

AWS A5.17 EM12K
GB/T 5293 SU21

Applications:

It is suitable for the welding of Rm 490MPa level carbon steel and low alloy steel structure, such as Gr.50, and so on.

Characteristic:

THM-12K is copper coated solid wire, and it can be used in automatic submerged arc welding with welding flux. The weld metal has excellent mechanical properties.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Chemical Composition of Wire:

(Wt. %)

Item	C	Mn	Si	S	P	Cr	Ni	Cu
Requirements	0.05-0.15	0.80-1.25	0.10-0.35	≤0.025	≤0.025	≤0.15	≤0.15	≤0.40
Typical Results	0.08	0.95	0.20	0.011	0.015	0.01	0.01	0.10

Mechanical Properties of All Weld Metal (TH-SJ101/THM-12K):

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A%	KV ₂ (-20°C) /J
Requirement	490-670	≥390	≥18	≥27
Typical Results	510	415	30	90

Normal Diameter of Wire:

Size (mm)	2.0	2.5	3.2	4.0	5.0
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THM-43B
SAW Solid Wire

AWS A5.17 EH14 (mod.)
GB/ T5293 SU34 (H10Mn2)

Applications:

It is suitable for the welding of Rm 490MPa level carbon steel and low alloy steel structure, such as Gr.50, and so on.

Characteristic:

THM-43B is copper coated solid wire, and it can be used in automatic submerged arc welding with welding flux. The weld metal has excellent mechanical properties.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Chemical Composition of Wire: (Wt. %)

Item	C	Mn	Si	S	P	Cr	Ni	Cu
Requirements	≤0.12	1.50-1.90	≤0.07	≤0.030	≤0.030	≤0.20	≤0.30	≤0.35

Mechanical Properties of All Weld Metal (TH-SJ101/THM-43B):

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A%	KV ₂ (-20°C) /J
Requirement	490-670	≥390	≥18	≥27
Typical Results	530	445	30	100

Normal Diameter of Wire:

Size (mm)	2.0	2.5	3.2	4.0	5.0
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Classification of Society Certification (TH-SJ101/THM-43B):

Ship inspection agency	ABS	CCS	DNV	LR
Level of recognition	3YTM	3YTM	IIIYTM	3YT/3YM
Ship inspection agency	NK	RINA	KR	BV
Level of recognition	KAW53TM	3YT/3YM	3YTM	3YTM

EU Certification:

Product	Certification Authority	CPD-CE
THM-43B / TH-SJ101	Grade	ISO14171-A-S42 4 FB S3 / ISO 14174 SA FB1

THM-EH14
SAW Solid Wire

AWS A5.17 EH14
GB/ T5293 SU41

Applications:

It is suitable for the welding of Rm 490MPa level carbon steel and low alloy steel structure, such as Gr.50, and so on.

Characteristic:

THM-EH14 is copper coated solid wire, and it can be used in automatic submerged arc welding with welding flux. The weld metal has excellent mechanical properties.

Attention:

1. The rust, oil, water and other impurities of the weld area must be removed before welding.
2. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Chemical Composition of Wire: (Wt. %)

Item	C	Mn	Si	S	P	Cr	Ni	Cu
Requirements	0.10-0.20	1.80-2.20	≤ 0.10	≤ 0.030	≤ 0.030	≤ 0.20	≤ 0.30	≤ 0.35
Typical Results	0.16	2.0	0.03	0.012	0.015	0.01	0.01	0.10

Mechanical Properties of All Weld Metal (TH-SJ101/THM-EH14):

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A%	KV ₂ (-20°C) /J
Requirement	490-670	≥390	≥20	≥27
Typical Results	550	460	31	140

Normal Diameter of Wire:

Size (mm)	2.0	2.5	3.2	4.0	5.0
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EU Certification:

Product	Certification Authority	CPD-CE
THM-EH14 / TH-SJ101	Grade	ISO14171-A-S42 4 FB S4 / ISO 14174 SA FB1

TH-SJ101 SAW Agglomerated Flux

AWS A5.17 F7A0-EH14
GB/T 5293 S49A 2 FB-SU41

Applications:

It can be used in single-pass and multi-pass submerged arc welding for a carbon steel and low-alloy structural steels with appropriate wires (such as EH14, EM12, EM12K etc.).

Characteristic:

TH · SJ101 is a fluorine basic type flux, the grain size is 2.0mm-0.3mm (10-60 mesh) or 2.0mm-0.45mm (10-40 mesh), the basicity is about 1.8. It can be used in AC and DC+. The arc combustion is stable, the slag is easy to be removed, and the welding seam is formed beautifully. The weld metal has high impact toughness at low temperature.

Attention:

1. Before using, the flux shall be re-dry for 2 hours at 300°C-350°C.
2. Remove rust, oil, water and other impurities in the weld zone is necessary before welding.
3. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Mechanical Properties of All Weld Metal (TH-SJ101/THM-43B):

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A /%	(KV ₂) -20°C/J
Requirement	490-670	≥390	≥20	≥27
Typical Results	550	460	31	140

Physical And Chemical Properties of flux:

Items	S (%)	P (%)	Moisture content (%)	Mechanical inclusion (%)
Requirement	≤0.05	≤0.06	≤0.09	≤0.30
Typical Results	0.022	0.023	0.01	0.1

Classification of Society Certification: (TH-SJ101/THM-43B):

Ship inspection agency	ABS	CCS	DNV	LR
Level of recognition	3YTM	3YTM	IIIYTM	3YT/3YM
Ship inspection agency	NK	RINA	KR	BV
Level of recognition	KAW53TM	3YT/3YM	3YTM	3YTM

TH-SJ301 SAW Agglomerated Flux

AWS A5.17 F6A0-EL8
GB/T 5293 S43A 2 CS-SU08A

Applications:

It can be used in single-pass and multi-pass submerged arc welding for a carbon steel and low-alloy structural steels with appropriate wires (such as EL12, EM12, EM12K etc.).

Characteristic:

TH · SJ301 is a Calcium-Silicon type flux, the grain size is 2.0mm-0.3mm (10-60 mesh) or 2.0mm-0.45mm (10-40 mesh), the basicity is about 1.0. Can be used welding steel that have little rusty or dirty surface, especially for girth welding of small pipeline.

Attention:

1. Before using, the flux shall be re-dry for 2 hours at 300°C-350°C.
2. Remove rust, oil, water and other impurities in the weld zone is suggested before welding.
3. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Mechanical Properties of All Weld Metal (TH-SJ301/THM-43):

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A%	KV ₂ (-20°C) /J
Requirement	430-600	≥330	≥20	≥27
Typical Results	460	375	28	80

Physical And Chemical Properties of flux:

Items	S (%)	P (%)	Moisture content (%)	Mechanical inclusion (%)
Requirement	≤ 0.05	≤ 0.06	≤ 0.09	≤ 0.30
Typical Results	0.030	0.028	0.01	0.1

Classification of Society Certification (TH-SJ301/THM-43):

Ship inspection agency	CCS	RINA
Level of recognition	3TM	3T/3M

TH-SJ501 SAW Agglomerated Flux

AWS A5.17 F7AZ-EL8
GB/T 5293 S49A 0 AR-SU08A

Applications:

It can be used in single-pass and multi-pass submerged arc welding for a carbon steel and low-alloy structural steels with appropriate wires (such as EL8, EL12, EM12 etc.).

Characteristic:

TH-SJ501 is a Aluminium-Titanium type flux, the grain size is 2.0mm-0.3mm (10-60 mesh), the basicity is about 0.8. Can be used welding steel that have little rusty or dirty surface, especially for the welding pipeline steel sheet with high speed.

Attention:

1. Before using, the flux shall be re-dry for 2 hours at 300°C-350°C.
2. Remove rust, oil, water and other impurities in the weld zone is suggested before welding.
3. The mechanical properties of all weld metal be decided by heat input, normally the small heat input will better than larger one.

Mechanical Properties of All Weld Metal (TH-SJ501/THM-43):

Items	Rm/MPa	Rel/Rp _{0.2} /MPa	A%	KV ₂ (0°C) /J
Requirement	490-670	≥390	≥20	≥27
Typical Results	535	445	27	80

Physical And Chemical Properties of flux:

Items	S (%)	P (%)	Moisture content (%)	Mechanical inclusion (%)
Requirement	≤0.05	≤0.06	≤0.09	≤0.30
Typical Results	0.021	0.025	0.01	0.1

List of carbon steel and low alloy steel electrodes (SMAW)

Product	AWS	ISO	Characteristics and Applications
J421	E6013	A-E35 0 RA 12	For welding of carbon steel, especially for the thin plate steel with short discontinuous weld and requirement of smooth welding pass. Can be for all welding position. Rutile type coating.
THJ421X	E6013	B-E4313A	For welding of Rm 430 MPa level's low carbon steel, especially for the thin plate steel's short discontinuous and vertical-down welding. Can be for all welding position. Rutile coating.
THJ422	—	B-E4303A	It is suitable for welding of Rm 430MPa level low carbon steel structure. Can be for all welding position. Titania type coating
E6010	E6010	B-E4310 A	Mainly used in outdoor welding of steel pipe with corresponding strength grade, or shipbuilding, bridges, etc. Especially for vertical-down welding, Cellulose sodium type coating.
E6011	E6011	B-E4311 A	Mainly used in outdoor welding of steel pipe with corresponding strength grade, or shipbuilding, bridges, etc. Especially for vertical-down welding, Cellulose potassium type coating.
THJ426	---	B-E4316 A	It is suitable for welding of Rm 430MPa level low carbon steel structure. Can be for all welding position. Basic potassium coating.
THJ427	---	---	It is suitable for welding of Rm 430MPa level low carbon steel structure. Can be for all welding position. Basic sodium coating.
THJ501Fe	E7014	B-E4914 A	For welding of carbon steel and low alloy steel, such Gr.50 etc. Higher deposition efficiency. Rutile iron powder type coating.
THJ501Fe18	E7024	B-E4924 A	For welding of carbon steel and low alloy steel, such Gr.50 etc. The deposition efficiency is about 180%. Rutile iron powder type coating.
THJ502	---	B-E4903 A	It is suitable for welding of Rm 490MPa level low carbon steel structure. Can be for all welding position. Titania type coating.
THJ505X	E7010-P1	B-E4910-P1A	Mainly used in outdoor welding of Rm 500MPa level's steel pipe, or shipbuilding, bridges, etc. Especially for vertical-down welding, Cellulose sodium type coating.
THJ506	E7016	B-E4916 A	For welding of carbon steel and low alloy steel, such as Gr.50 etc. Basic potassium type coating.
THJ506Fe	E7018	B-E4918 A	For welding of carbon steel and low alloy steel, such Gr.50 etc. with higher deposition efficiency. Basic potassium iron powder type coating.
THJ506Fe-1	E7018-1	A-E42 5 B 32 H5	For welding of carbon steel and low alloy steel, such Gr.50 etc. with higher deposition efficiency. Excellent all weld metal's impact performance. Basic potassium iron powder type coating.
THJ507	E7015	A-E42 3 B 22	For welding of carbon steel and low alloy steel, such as Gr.50 etc. with good Kv impact value. Basic sodium type coating.
THJ507-1	E7015-G	B-E4915-GA	For welding of carbon steel and low alloy steel structures, such as offshore platforms, ships and ports. With better Kv impact value. Basic sodium type coating.
THJ507RH	E7015-G	B-E4915-GPU	For welding of Rm 500MPa level's shipbuilding, bridges, offshore platforms etc. Super low hydrogen and excellent Kv impact value. Basic sodium type coating.
THJ557RH	E8015-G	B-E5515-GPU	For welding of Rm 550MPa level's shipbuilding, bridges, offshore platforms etc. Super low hydrogen and excellent Kv impact value. Basic sodium type coating.

List of carbon steel and low alloy steel electrodes (SMAW)

Product	AWS	ISO	Characteristics and Applications
THJ-SG60DR	E9015-G	B-E6215-GAH5	For welding of grade Rm 620MPa level's pressure pipe of hydroelectric station with good Kv impact value and lower cracking sensibility within higher heat input. Basic coating.
THJ657RH	E9015-G	B-E6215-GA	For welding of Rm 640MPa level's shipbuilding, bridges, offshore platforms and other structures with super low hydrogen and perfect Kv impact value. Basic sodium coating.
THJ707RH	E10015-G	B-E6915-GA	For welding of grade Rm 690MPa level's shipbuilding, bridges, offshore platforms and other structures with super low hydrogen and perfect Kv impact value. Basic sodium coating.
THJ807RH	E11015-G	B-E7615-GAU	For welding of grade Rm 780MPa level's shipbuilding, bridges, offshore platforms and other structures with super low hydrogen and perfect Kv impact value. Basic sodium coating.
THJ857RH	E12015-G	B-E8315-GA	For welding of grade Rm 830MPa level's shipbuilding, bridges, offshore platforms and other structures with super low hydrogen and perfect Kv impact value. Basic sodium coating.
THJ-SG80DR	E11015-G (mod.)	B-E7615-GA	For welding of grade Rm 780MPa level's pressure pipe of hydroelectric station with good Kv impact value and lower cracking sensibility within higher heat input. Basic coating.
THW707Ni	E8015-C1 (mod.)	—	Low temperature steel covered electrode for welding 2.5Ni and other steel structures. Good Kv(-70°C) impact value. Basic sodium type coating.
THW107Ni	E7015-G	B-E5015-GP	Low temperature steel covered electrode for welding 3.5Ni and other steel structures. Good Kv(-100°C) impact value. Basic sodium type coating.
THR107	E7015-A1 (mod.)	B-E4915-1M3	For welding of creep resistant steel which work temp. is low than 510°C. Basic sodium type coating 0.5%Mo electrode.
THR307	E8015-B2 (mod.)	B-E5515-1CM	For welding of creep resistant steel which work temp. is low than 520°C. Basic sodium coating 1.25%Cr-0.5%Mo electrode.
THR317	E8015-G	B-E5515-G	For welding of creep resistant steel which work temp. is low than 540°C. Basic sodium type coating 1.25%Cr-0.5%Mo-V electrode.
THR407	E9015-B3	B-E6215-2C1M	For welding of creep resistant steel which work temp. is low than 550°C. Basic sodium type coating 2.25%Cr-1.0%Mo electrode.
THJ506NiCrCu	E7016-G	B-E4916-GA	For welding of Rm 500MPa level's weatherproof steel as train carriage etc. Basic potassium type coating.
THJ556NiCrCu	E8016-G	B-E5516-GA	For welding of Rm 550MPa level's weatherproof steel as train carriage etc. Basic potassium type coating.
THJ427SHA	—	B-E4315 P	For welding of Rm 420MPa level's anti-HIC/SSC steel. Super lower S and P in all weld metal. Basic sodium type coating.
THJ507SHA	E7015-G (mod.)	B-E4915-GP	For welding of Rm 500MPa level's anti-HIC/SSC steel. Super lower S and P in all weld metal. Basic sodium type coating.
THJ506NH	E7016-G	B-E4916-GA	For welding of Rm 500MPa level's fireproof steel as for high-rise building. Basic potassium type coating.
TH-J60FRW	E8015-G	B-E5515-GA	For welding of Rm 550MPa level's fireproof steel as for high-rise building. Basic type coating.

List of stainless steel electrode (SMAW)

Product	AWS	ISO	Characteristics and Applications
THG202	E410-16 (mod.)	B-ES410-16	Mainly used in the welding for SUS410 stainless steel. All position and AC/DC is suitable. Rutile type coating.
THA002	E308L-16	B-ES308L-16	For welding of SUS304L stainless steel, also can be used for SUS321 and other corrosion resistant stainless steel structure. All position and AC/DC is suitable. Rutile type coating.
THA022	E316L-16	B-ES316L-16	Mainly used in the welding for SUS316L stainless steel of urea tower, petrochemical equipment and other equipment. All position and AC/DC is suitable. Rutile type coating.
THA022 (Cryogenic)	E316L-16	B-ES316L-16	Mainly used in the welding for SUS316L cryogenic stainless steel as liquid nitrogen vessel and LNG vessel etc. All position and AC/DC is suitable. Rutile type coating.
THA022F	E316L-16	B-ES316L-16	Especially for welding of pressure vessels' SUS316L heads. All position and AC/DC is suitable. Titanium-calcium type coating.
THA042	E309LMo-16	B-ES309LMo-16	For welding of SUS309LMo stainless steel or dissimilar steel. All position and AC/DC is suitable. Rutile coating.
THA062	E309L-16	B-ES309L-16	For welding SUS309L stainless steel or dissimilar steel. All position and AC/DC is suitable. Rutile coating.
THA092	E385-16	B-ES385-16	For welding of SUS385 stainless steel. All position and AC/DC is suitable. Rutile coating.
THA102	E308-16	B-ES308-16	For welding of the working temperature is less than 300°C's corrosion resistant stainless steel structure, such as SUS304 etc. All position and AC/DC is suitable. Rutile type coating.
THA102 (Cryogenic)	E308-16	B-ES308-16	Mainly used in the welding for SUS304 cryogenic stainless steel as liquid nitrogen vessel and LNG vessel etc. All position and AC/DC is suitable. Rutile type coating.
THA102F	E308-16	B-ES308-16	Especially for welding of pressure vessels' SUS304 heads. All position and AC/DC is suitable. Titanium-calcium type coating.
THA107	E308-15	B-ES308-15	For welding of the working temp. is less than 300°C's corrosion resistant stainless steel as SUS304 etc. All position and DC ⁺ is suitable. Excellent mechanical properties. Basic type coating.
THA132	E347-16	B-ES347-16	For welding of SUS347 stainless steel. All position and AC/DC is suitable. Rutile coating.
THA132F	E347-16	B-ES347-16	Especially for welding of pressure vessels' SUS347 heads. All position and AC/DC is suitable. Titanium-calcium type coating.
THA212	E318-16	B-ES318-16	For welding of SUS318 stainless steel. All position and AC/DC is suitable. Rutile coating.
THA302	E309-16	B-ES309-16	For welding of SUS309 stainless steel or dissimilar steel. All position and AC/DC is suitable. Rutile coating.
THA402	E310-16	B-ES310-16	For welding of SUS310 stainless steel or dissimilar steel. All position and AC/DC is suitable. Rutile type coating.
THA412	E310Mo-16	B-ES310Mo-16	For welding of SUS310Mo stainless steel or dissimilar steel. All position and AC/DC is suitable. Rutile type coating.
THA29.9	E312-16	B-ES312-16	For welding of high carbon steel, tool steel and dissimilar type steel. AC/DC is suitable. Titanium-calcium type coating.
THA2209	E2209-16	B-ES2209-16	For welding of duplex stainless steel, such as UNS 2205, etc. All position and AC/DC is suitable. Rutile type coating.
THA2553	E2553-16	—	For welding of 25%Cr duplex stainless steel, such as UNS 32550, etc. AC/DC is suitable. Titanium-calcium type coating.

List of cast iron electrode (SMAW)

Product	AWS	GB/T	Characteristics and Applications
THZ208	---	EZ FeC-3A	For the gray cast iron's repair welding with cheaper price but the crack-resistance is little poor. Graphite type coating and carbon steel core rod electrode.
THZ308	ENi-CI (mod.)	EC Ni-Cl-B	For the thin or machined surface cast's repair welding, such as cylinder cover, engine bearer, gear box, machine tool guide. Graphite type coating and pure-Ni cast iron electrode.
THZ408	ENiFe-CI (mod.)	EC NiFe-CI	For the high strength gray cast iron and nodular cast iron's repair welding, such as cylinder, engine bearer, gear box. Graphite type coating and Ni-alloy cast iron electrode.
THZ508	ENiCu-B (mod.)	EC NiCu-B	For the gray cast iron's repair welding. Graphite coating and Ni-Cu alloy cast iron electrode.

List of underwater welding electrode (SMAW)

Product	AWS	GB/T	Characteristics and Applications
THT202	---	---	For the underwater welding by DC. Can for all welding position in the freshwater or seawater.

List of hardfacing electrode (SMAW)

Product	AWS	GB/T	Characteristics and Applications
THD212	---	EDPCrMo-A4-03	For the hardfacing welding by AC or DC such as excavator and gear etc., HRC \geq 50. Titanium-calcium type coating.
THD256	EFeMn-A	EDMn-A-16	For welding of some parts which be worn by frequent impact, AC or DC, HB \geq 170. Basic potassium type coating.
THD276	---	EDCrMn-B-16	For welding of some parts from water turbine which be worn by atmosphere, HB \geq 210. Basic potassium type coating.
THD-5	---	EDPCrMo-A4-03 (mod.)	For the hardfacing welding by AC or DC such as excavator and gear etc., HRC \geq 50. Titanium-calcium type coating.

List of nickel and nickel-alloy electrode (SMAW)

Product	AWS	ISO	Characteristics and Applications
THNiCrMo-3	ENiCrMo-3	E Ni 6625	Mainly used for the welding of Ni-Cr-Mo Alloys, especially for UNS N06625 steel, also can be for Ni9% steel welding. INCONEL ENi6625 electrode.
THNiCrMo-6	ENiCrMo-6	E Ni 6620	Mainly used for the welding of Ni9% (UNS K81340) steel, also can be used in dissimilar steel and hard welding alloy. INCONEL ENi6620 electrode.
THNi307B (Ni307B)	ENiCrFe-3	E Ni 6182	For the welding of Ni-Cr-Fe alloy (UNS N06600). Working temp. of welding zone is lower than 480°C. Basic sodium coating.
THNi317	ENiCrFe-1	E Ni 6062	For the welding of Ni-Cr-Fe alloy (UNS N06600 and UNS N06601). Weld's working temp. is lower than 980°C. Basic sodium coating.
THNi357	ENiCrFe-2	E Ni 6133	For the welding of Ni-Cr-Fe alloy (UNS N08800 and UNS N06600). Especially for the welding of dissimilar steel. Working temperature of welding zone is lower than 980°C. Basic sodium coating.

List of carbon steel and low alloy steel solid wire (GMAW)

Product	AWS	ISO	Characteristics and Applications
THQ50-2	ER70S-2	B-G49A3 C G2	For the welding of grade Rm 500MPa level's steel. Can be welding the steels that have little rusty or dirty surface.
THQ50-3	ER70S-3	B-G49A2 C G3	For the single-pass and multi-pass welding of grade Rm 500MPa level's steel. Better welding performance.
THQ-50C	ER70S-6	A-G42 3C1 Z3Si1	For the single-pass and multi-pass welding of grade Rm 500MPa level's steel. Better welding performance and good gas pore resistance.
THQ-50N	ER70S-6	A-G42 4M21 3Si1 A-G42 3C1 3Si1	It is non-copper coating solid wire for welding of Rm 500MPa steel with better feed-ability, lesser weld fume and very lower Cu in weld fume.
THQ50-7	ER70S-7	B-G49 A3C G7	For the single-pass and multi-pass welding of grade Rm 500MPa level's steel structure. Have better wetting action and bead appearance etc.
THQ-G2Si	ER70S-3	A-G38 4M21 2Si1	For the single-pass and multi-pass welding of grade Rm 500MPa level's steel, especially for railway rolling stock. Lower spatter and smooth welding pass.
THQ-50CG3	ER70S-6	A-G42 3C1 3Si1 A-G42 4M21 3Si1	For the single-pass and multi-pass welding of grade Rm 500MPa level's steel structure, especially for railway rolling stock. Lower spatter and smooth welding pass.
THQ-50CG4	ER70S-6	A-G42 3C1 4Si1 A-G46 4M21 4Si1	For the single-pass and multi-pass welding of grade Rm 500MPa level's steel structure, especially for railway rolling stock. Good gas pore resistance and smooth welding pass.
THQ50-G	ER70S-G	—	For the welding of grade Rm 500MPa level's steel structure. Can be welding with larger heat input.
THQ-60D	ER80S-G	—	For the welding of grade Rm 550MPa level's steel structure. with C1 or M21 shield gas.
THQ-60C	ER90S-G	—	For welding Rm 600MPa-class high-strength steel structures with M21 shield gas.
THQ-70C	ER100S-G	—	For welding Rm 690MPa-class high-strength steel structures with M21 shield gas.
THQ70-1	ER100S-G	—	For welding Rm 690MPa-class high-strength steel structures with M21 shield gas. Excellent Kv impact performance of deposited metal by Ni content in wire.
THQ80-1	ER110S-G	—	For welding Rm 770MPa-class high-strength steel structures with M21 shield gas. Excellent Kv impact performance of deposited metal by higher Ni content in wire.
THQ-90	ER120S-G	—	For welding Rm 930MPa-class high-strength steel structures with M21 shield gas. Good Kv impact performance of deposited metal by higher Ni content in wire.
TH500-NQ-II	ER70S-G	—	Be used for welding of Rm 500 MPa-class atmospheric corrosion resistance steel, such as railway rolling stock, bridge, container and other industries.
TH550-NQ-II	ER80S-G	—	Be used for welding of Rm 550 MPa-class atmospheric corrosion resistance steel, such as railway rolling stock, bridge, container and other industries.
TH600-NQ-II	ER90S-G	—	Be used for welding of Rm 600 MPa-class atmospheric corrosion resistance steel, such as railway rolling stock, bridge, container and other industries.

List of stainless steel solid wire/rod (GMAW & GTAW)

Product	AWS	ISO	Characteristics and Applications
THS-307 THT-307	ER307	SS307	For the welding of stainless steel as SUS 307 etc. THS-307 is MIG wire, THT-307 is TIG rod.
THS-307Si THT-307Si	---	G15 8Mn	For welding of stainless steel as SUS 307 etc. Better wetting action and bead appearance, excellent crack-resistant performance (Mn= 6.5%-8.0% in wire). THS-307Si is MIG wire, THT-307Si is TIG rod.
THS-308 THT-308	ER308	SS308	For the welding of stainless steel as SUS 302, SUS 304 etc. THS-308 is MIG wire, THT-308 is TIG rod.
THS-308L THT-308L	ER308L	SS308L	For the welding of ultra-low SUS304L stainless steel. THS-308L is MIG wire, THT-308L is TIG rod.
THS-308LSi THT-308LSi	ER308LSi	SS308LSi	For welding of SUS304L stainless steel. Better wetting action and bead appearance. THS-308LSi is MIG wire, THT-308LSi is TIG rod.
THS-309 THT-309	ER309	SS309	For the welding of stainless steel as SUS 309 and dissimilar steel (304 + low carbon steel). THS-309 is MIG wire, THT-309 is TIG rod.
THS-309L THT-309L	ER309L	SS309L	For welding of SUS 309L stainless steel and dissimilar steel (304L+ low carbon steel). THS-309L is MIG wire, THT-309L is TIG rod.
THS-309Mo THT-309Mo	ER309Mo	SS309Mo	For the welding of stainless steel as SUS 309Mo and dissimilar steel. THS-309Mo is MIG wire, THT-309Mo is TIG rod.
THS-309LSi THT-309LSi	ER309LSi	SS309LSi	For welding of SUS309L stainless steel. Better wetting action and bead appearance. THS-309LSi is MIG wire, THT-309LSi is TIG rod.
THS-309LMo THT-309LMo	ER309LMo	SS309LMo	For the welding of stainless steel as SUS309LMo and dissimilar steel. THS-309LMo is MIG wire, THT-309LMo is TIG rod.
THS-310 THT-310	ER310	SS310	For the welding of stainless steel as SUS 310 etc. THS-310 is MIG wire, THT-310 is TIG rod.
THS-312 THT-312	ER312	SS312	For the welding of stainless steel as SUS 312 etc. THS-312 is MIG wire, THT-312 is TIG rod.
THS-316 THT-316	ER316	SS316	For the welding of stainless steel as SUS 316 etc. THS-316 is MIG wire, THT-316 is TIG rod.
THS-316L THT-316L	ER316L	SS316L	For the welding of ultra-low SUS316L stainless steel. THS-316L is MIG wire, THT-316L is TIG rod.
THS-316LSi THT-316LSi	ER316LSi	SS316LSi	For the welding of SUS316L stainless steel. Better welding performance of wetting action and bead appearance. THS-316LSi is MIG wire, THT-316LSi is TIG rod.
THS-317 THT-317	ER317	SS317	For the welding of stainless steel as SUS 317 etc. THS-317 is MIG wire, THT-317 is TIG rod.
THS-321 THT-321	ER321	SS321	For the welding of stainless steel as SUS 321 etc. THS-321 is MIG wire, THT-321 is TIG rod.
THS-347 THT-347	ER347	SS347	For the welding of stainless steel as SUS 321 or SUS347 etc. THS-347 is MIG wire, THT-347 is TIG rod.
THS-385 THT-385	ER385	SS385	For the welding of stainless steel as SUS 385 etc. THS-385 is MIG wire, THT-385 is TIG rod.
THS-410 THT-410	ER410	SS410	For the welding of stainless steel as SUS 410 etc. THS-410 is MIG wire, THT-410 is TIG rod.
THS-420 THT-420	ER420	SS420	For the welding of stainless steel as SUS 420 etc. THS-420 is MIG wire, THT-420 is TIG rod.
THS-430 THT-430	ER430	SS430	For the welding of stainless steel as SUS 430 etc. THS-430 is MIG wire, THT-420 is TIG rod.
THS-2209 THT-2209	ER2209	SS2209	For the welding of stainless steel as SUS 2205 etc. THS-2209 is MIG wire, THT-2209 is TIG rod.

List of Cu and Cu-alloy solid wire/rod (GMAW & GTAW)

Product	AWS	GB/T	Characteristics and Applications
THS-Cu201 THT-Cu201	ERCu	SCu1898	Pure Cu. THS-Cu201 is MIG wire, THT-Cu201 is TIG rod.
THS-Cu211 THT-Cu211	ERCuSi-A	SCu6560	Cu-Si alloy. THS-Cu211 is MIG wire, THT-Cu211 is TIG rod.
THS-Cu7158 THT-Cu7158	ERCuNi	SCu7158	Cu-Ni alloy. THS-Cu211 is MIG wire, THT-Cu211 is TIG rod.

List of Ni and Ni-alloy solid wire/rod (GMAW & GTAW)

Product	AWS	GB/T	Characteristics and Applications
THS-Ni2061 THT- Ni2061	ERNi-1	SNi2061	Ni-Ti alloy. THS-Ni2061 is MIG wire, THT-Ni2061 is TIG rod.
THS-Ni6082 THT- Ni6082	ERNiCr-3	SNi6082	Ni-Cr alloy. THS-Ni6082 is MIG wire, THT-Ni6082 is TIG rod.
THS-Ni6052 THT- Ni6052	ERNiCrFe-7	SNi6052	Ni-Cr-Fe alloy. THS-Ni6052 is MIG wire, THT-Ni6052 is TIG rod.
THS-Ni6062 THT- Ni6062	ERNiCrFe-5	SNi6062	Ni-Cr-Fe alloy. THS-Ni6062 is MIG wire, THT-Ni6062 is TIG rod.
THS-Ni8065 THT- Ni8065	ERNiFeCr-1	SNi8065	Ni-Fe-Cr alloy. THS-Ni8065 is MIG wire, THT-Ni8065 is TIG rod.
THS-Ni6625 THT- Ni6625	ERNiCrMo-3	SNi6625	Ni-Cr-Mo alloy. THS-Ni6625 is MIG wire, THT-Ni6625 is TIG rod.
THS-Ni6276 THT- Ni6276	ERNiCrMo-4	SNi6276	Ni-Cr-Mo alloy. THS-Ni6276 is MIG wire, THT-Ni6276 is TIG rod.
THS-Ni6455 THT- Ni6455	ERNiCrMo-7	SNi6455	Ni-Cr-Mo alloy. THS-Ni6455 is MIG wire, THT-Ni6455 is TIG rod.
THS-Ni6686 THT- Ni6686	ERNiCrMo-14	SNi6686	Ni-Cr-Mo alloy. THS-Ni6686 is MIG wire, THT-Ni6686 is TIG rod.
THS-Ni6617 THT- Ni6617	ERNiCrCoMo-3	SNi6617	Ni-Cr-Co-Mo alloy. THS-Ni6617 is MIG wire, THT-Ni6617 is TIG rod.
THS-Ni4060 THT- Ni4060	ERNiCu-7	SNi4060	Ni-Cu alloy. THS-Ni4060 is MIG wire, THT-Ni4060 is TIG rod.

List of Al and Al-alloy solid wire/rod (GMAW & GTAW)

Product	AWS	GB/T	Characteristics and Applications
THS-AI1100 THT- AI1100	ER1100	SAI1100	Pure Al. THS-AI1100 is MIG wire, THT-AI1100 is TIG rod.
THS-AI4043 THT- AI4043	ER4043	SAI4043	Al-Si alloy. THS-AI4043 is MIG wire, THT-AI4043 is TIG rod.
THS-AI5183 THT- AI5183	ER5183	SAI5183	Al-Mg alloy. THS-AI5183 is MIG wire, THT-AI5183 is TIG rod.
THS-AI5356 THT- AI5356	ER5356	SAI5356	Al-Mg alloy. THS-AI5356 is MIG wire, THT-AI5356 is TIG rod.

List of carbon steel and low alloy steel solid TIG rod (GTAW)

Product	AWS	ISO	Characteristics and Applications
THT50-2	ER70S-2	W49A32	For the welding of grade Rm 500MPa level structure steel.
THT50-3	ER70S-3	W49A3W3	For the welding of grade Rm 500MPa level structure steel.
THT50-6	ER70S-6	W49A3W6	For the welding of grade Rm 500MPa level structure steel.
THT-50CG3	ER70S-6	W42 3W 3Si1	For the welding of grade Rm 500MPa level steel, especially for railway rolling stock.
THT-50CG4	ER70S-6	W46 4W 4Si1	For the welding of grade Rm 500MPa level steel, especially for railway rolling stock.
THT-08MnMoA	ER80S-G	—	For the welding of grade Rm 550MPa level structure steel.
THT80-1	ER110S-G	—	For the welding of grade Rm 800MPa level structure steel.
THT55-Ni1	ER80S-Ni1	—	For the welding of Aky(-45°C) low temperature steel.
THT55-Ni3	ER80S-Ni3	—	For the welding of Aky(-75°C) low temperature steel.
THT49-A1	ER70S-A1	W49PZW1M3	For the welding of 0.5% creep resistant steel
THT49-B2L	ER70S-B2L	—	For the welding of lower C-1.25%Cr-0.5% creep resistant steel
THT-55B2	ER80S-B2	—	For the welding of 1.25%Cr-0.5% creep resistant steel
THT-55B2V	ER80S-G	—	For the welding of 1.25%Cr-0.5%-V creep resistant steel
THT-55B3L	ER80S-B3L	—	For the welding of lower C-2.25%Cr-1.0% creep resistant steel
THT-62B3	ER90S-B3	—	For the welding of 2.25%Cr-1.0% creep resistant steel

List of stainless steel covered TIG rod (GTAW-TGF)

Product	Core Rod Type	Characteristics and Applications
TGF-308	ER308	For the welding of SUS304 stainless steel. TIG rod with Ar shield gas. Can be for all position.
TGF-308L	ER308L	For the welding of SUS304L stainless steel. TIG rod with Ar shield gas. Can be for all position.
TGF-309	ER309	For the welding of SUS309 stainless steel. TIG rod with Ar shield gas. Can be for all position.
TGF-309L	ER309L	For the welding of SUS309L stainless steel. TIG rod with Ar shield gas. Can be for all position.
TGF-316	ER316	For the welding of SUS316 stainless steel. TIG rod with Ar shield gas. Can be for all position.
TGF-316L	ER316L	For the welding of SUS316L stainless steel. TIG rod with Ar shield gas. Can be for all position.
TGF-321	ER321	For the welding of SUS321 stainless steel. TIG rod with Ar shield gas. Can be for all position.
TGF-347	ER347	For the welding of SUS347 stainless steel. TIG rod with Ar shield gas. Can be for all position.
TGF-2209	ER2209	For the welding of SUS2205 stainless steel. TIG rod with Ar shield gas. Can be for all position.

Introduction of TGF welding and TGF TIG rod:

TGF TIG rod is covered coating on core rod surface, together protected molten pool by Ar-gas and coating. Good welding performance of one-side welding with back formation without Ar-gas shield at root side.

List of carbon steel and low alloy steel flux cored wire (FCAW)

Product	AWS	ISO	Characteristics and Applications
THY-51A	E71T-1C-J	A-T424PC12H10	For the welding of Rm 490MPa-class steel, such as shipbuilding and offshore platform etc. Perfect low temperature toughness.
THY-51B	E71T-1C	A-T422PC2H10	For the welding of Rm 490MPa-class steel, such as shipbuilding and offshore platform etc. low temperature toughness is good.
THY-51BM	E71T-1M	A-T422PM21H10	For the welding of Rm 490MPa-class steel, such as shipbuilding and offshore platform etc. low temperature toughness is good. Be welding by M21
THY-51BH	E71T-1C-H5	A-T422PC12H5	For welding of Rm 490MPa-class steel as shipbuilding and offshore platform etc. Very lower diffusible hydrogen ($\leq 5\text{ml}/100\text{g}$)
THY-J507	E71T-5M	—	For welding of Rm 490MPa-class steel. Very lower diffusible hydrogen in ($\leq 5\text{ml}/100\text{g}$).
THY-J507L	EG70T-2	—	Specialized flux core wire for electro-gas arc welding, Rm 500MPa-class and CO_2 gas.
THY-J507TiB	E71T5-GM	—	For welding of Rm 490MPa-class steel as bridge etc. Very lower diffusible hydrogen ($\leq 5\text{ml}/100\text{g}$) and perfect low temperature toughness of deposited metal.
THY-55	E71T-5C	—	For welding of Rm 490MPa-class steel. Very lower diffusible hydrogen in ($\leq 5\text{ml}/100\text{g}$).
THY-J552K2C	E81T1-K2C-J	—	For the welding of Rm 550MPa-class steel, such as shipbuilding and offshore platform etc. Perfect low temperature toughness.
THY-J607Ni	E91T1-K2M	—	For welding of Rm 550MPa-class steel as bridge etc. Lower diffusible hydrogen in ($\leq 6\text{ml}/100\text{g}$). Be welding by DC ⁺ and M21
THY-80CNi1	E80C-Ni1	—	Metal powder type flux core wire for Rm 550MPa-class steel. Can be welding for PA and PB by M21. Higher deposition efficiency.
THY-J602Ni	E91T1-K2C	—	For the welding of Rm 600MPa-class steel, such as shipbuilding and offshore platform etc. low temperature toughness is good.
THY-J602Ni-2	E91T1-Ni2C	—	For the welding of Rm 600MPa-class steel, such as shipbuilding and offshore platform etc. low temperature toughness is excellent.
THY-J607L	—	—	Specialized flux core wire for electro-gas arc welding, Rm 600MPa-class and CO_2 gas.
THY-J707Ni	E100T5-K3M	—	For the welding of Rm 690MPa-class steel, low temperature toughness is excellent.
THY-J802Ni	E111T1-K3C	—	For the welding of Rm 760MPa-class steel, low temperature toughness is good.
THY-J807Ni	E110T5-K3M	—	For the welding of Rm 760MPa-class steel, low temperature toughness is excellent.
THY-J857Ni	E120T5-K4M	—	For the welding of Rm 830MPa-class steel, low temperature toughness is excellent.
THY-J552CrNiCu-G	E81T1-C1A4-G	—	For welding of Rm 550MPa-class atmospheric corrosion resistance steel as railway rolling stock, offshore engineering, bridge etc.

THY-J552Ni-1	E81T1-Ni1C	—	For the welding of Rm 550 MPa-class steel, low temperature toughness is good.
THY-J552Ni-2	E81T1-Ni2C	—	For the welding of Rm 550 MPa-class steel, low temperature toughness is excellent.

List of creep resistant steel flux cored wire (FCAW)

Product	AWS	GB/T	Characteristics and Applications
THY-R107	E71T1-A1C	T49T1-1C1-2M3	For the welding of boiler's pipe etc. which working temp. is lower than 510°C. Welding by CO ₂ shield gas and DC+
THY-R302	E81T1-B2C	T55T1-1C1-1CM	For the welding of boiler's pipe etc. which working temp. is lower than 520°C. Welding by CO ₂ shield gas and DC+
THY-R307	E80T5-B2M	T55T5-0M21-1CM	For the welding of boiler's pipe etc. which working temp. is lower than 520°C. Welding by M21 shield gas and DC+
THY-R317	E80T5-GM	T55T5-0M21-G1CM	For the welding of boiler's pipe etc. which working temp. is lower than 540°C. Welding by M21 shield gas and DC+
THY-R407	E91T1-B3LC	T62T1-1C1-2C1ML	For the welding of boiler's pipe etc. which working temp. is lower than 550°C. Welding by CO ₂ shield gas and DC+
THY-R30 (W)	—	—	1.25%Cr-0.5%Mo alloy. Good welding performance of one-side welding with back formation without Ar-gas shield at root side. TIG tubular rod be welding by Ar gas.
THY-R31 (W)	—	—	1.25%Cr-0.5%Mo-V alloy. Good welding performance of one-side welding with back formation without Ar-gas shield at root side. TIG tubular rod be welding by Ar gas.

List of self-shielded flux cored wire (FCAW)

Product	AWS	Characteristics and Applications
THY-58K6	E71T8-K6-J (mod.)	For welding of API X42 to X70 pipeline steel, also can be used in the outdoor welding of carbon steel and low alloy steel structure. Such as high-rise buildings, blast furnace, etc.
THY-58Ni1	71T8-Ni1-J (mod.)	For welding of API X52 to X70 pipeline steel, especially for higher requirement of low temperature toughness' pipeline welding.
THY-J5011	E71T-11 (mod.)	For the outdoor welding of thin sheet steel such as thickness is lower than 1.0mm, small size vertical down welding, galvanized plate etc.
THY-J5011-GS	E71T-GS	For the outdoor welding of thin sheet steel such as thickness is lower than 1.0mm, small size vertical down welding, galvanized plate etc.
THY-558Ni2	E81T8-Ni2-J (mod.)	For welding of pipeline as API X80, storage tanks, offshore platforms, ships etc. Better mechanical properties as low temperature toughness

List of hardfacing flux cored wire (FCAW)

Product	AWS	ISO	Characteristics and Applications
THY-QDWC220	—	DIN 8555 MF7-GF-250/ 50-CKNPR	For welding of some parts which be worn by frequent impact. Austenitic, non-magnetic and HB210-240 (HRC ≥ 45 after be machining. Welding by DC+ and M21 shield gas.
THY-QD5Cr8Si3	—	—	For welding of some parts which be worn by frequent impact, HRC ≥ 55. Welding by DC+ and CO ₂ shield gas.
THY-QD256	EFeMn-A (mod.)	—	For welding of some parts which be worn by frequent impact, HB ≥ 170. Welding by DC+ and CO ₂ shield gas.
THY-QD266	EFeMn-B (mod.)	—	For welding of some parts which be worn by frequent impact, HB ≥ 170. Welding by DC+ and M21 shield gas.

List of stainless steel flux cored wire (FCAW)

Product	AWS	GB/T	Characteristics and Applications
THY-A146	—	—	For the welding of 20%Cr-10%Ni-6%Mn stainless steel, also suitable for the dissimilar steel which the welding-ability is not good and crack resistant is poor. Welding by CO ₂ shield gas and DC+
THY-A307	E307T1-1	TS 307-FC11	For the welding of magnetic free stainless steel as SUS 307, also suitable for the dissimilar steel which the welding-ability is not good and crack resistant is poor. Welding by CO ₂ shield gas and DC+
THY-A308LQ	E308LT1-1	TS 308L-FC11	For the welding of stainless steel as SUS 304L etc. Welding by CO ₂ shield gas and DC+
THY-A309LQ	E309LT1-1	TS 309L-FC11	For the welding of stainless steel as SUS 309L and dissimilar steel (304L+ low carbon steel). Welding by CO ₂ shield gas and DC+
THY-A309LMoQ	E309LMoT1-1	TS 309LMo-FC11	For the welding of stainless steel as SUS 309LMo, dissimilar steel (304L+ low carbon steel) and some martensitic stainless steel which the toughness performance of all weld metal are not strong. Welding by CO ₂ shield gas and DC+
THY-A316LQ	E316LT1-1	TS 316L-FC11	For the welding of stainless steel as SUS 316L etc. Welding by CO ₂ shield gas and DC+
THY-A317LQ	E317LT1-1	TS 317L-FC11	For the welding of stainless steel as SUS 317L etc. Welding by CO ₂ shield gas and DC+
THY-A347LQ	E347LT1-1	TS 347L-FC11	For the welding of stainless steel as SUS 347L etc. Welding by CO ₂ shield gas and DC+
THY-410NiMo	E410NiMoT1-1	TS 410NiMo-FC11	For the welding of stainless steel as SUS 410, 410S and 405 etc. Welding by CO ₂ shield gas and DC+
THY-2209	E2209T1-1	TS 2209-FC11	For the welding of duplex stainless steel as same as SUS 2205 etc. Welding by CO ₂ shield gas and DC+
THY-A308L (W)	R308LT1-5	TS308L-R111	For the welding of stainless steel as SUS 304L etc. especially for the pipe's backing weld. Good welding performance of one-side welding with back formation without Ar-gas shield at root side. TIG tubular rod be welding by Ar shield gas.
THY-A309L (W)	R309LT1-5	TS309L-R111	For the welding of stainless steel as SUS 309L etc. especially for the pipe's backing weld. Good welding performance of one-side welding with back formation without Ar-gas shield at root side. TIG tubular rod be welding by Ar shield gas.
THY-A316L (W)	R316LT1-5	TS316L-R111	For the welding of stainless steel as SUS 316L etc. especially for the pipe's backing weld. Good welding performance of one-side welding with back formation without Ar-gas shield at root side. TIG tubular rod be welding by Ar shield gas.
THY-A132 (W)	R347LT1-5	TS347-R111	For the welding of stainless steel as SUS 347 etc. especially for the pipe's backing weld. Good welding performance of one-side welding with back formation without Ar-gas shield at root side. TIG tubular rod be welding by Ar shield gas.

List of solid wire for submerged arc welding (SAW)

Product	AWS	ISO	Characteristics and Applications
THM-43	EL8	---	For the welding of Rm 430MPa-class low carbon and low alloy steel structure.
THM-43A	EM12	SU22	For the welding of Rm 450MPa-class low carbon and low alloy steel structure.
THM-12K	EM12K	SU21	For the welding of Rm 450MPa-class low carbon and low alloy steel structure.
THM-43B	EH14 (mod.)	---	For the welding of Rm 480MPa-class low carbon and low alloy steel structure.
THM-EH14	EH14	SU41	For the welding of Rm 500MPa-class low carbon and low alloy steel structure.
THM-08MnMoA	EA4	SU3M3	For the welding of Rm 550MPa-class low carbon and low alloy steel structure.
THM-08Mn2MoA	EA3	---	For the welding of Rm 620MPa-class low carbon and low alloy steel structure.
THM-10Mn2NiMoA	EF3	SUN2M32	For the welding of Rm 690MPa-class low carbon and low alloy steel structure.
THM-SG80	---	---	For the welding of Rm 780MPa-class low carbon and low alloy steel structure with TH.SJ80 flux.
THM-70GX	---	---	For welding of API X60 to X70 pipeline steel.
THM-80GX	---	---	For welding of API X80 pipeline steel.
THM-08CrMoA	EB2 (mod.)	SU1CM (mod.)	For welding of 1%Cr-0.5%Mo creep resistant steel.
THM-13CrMoA	EB2 (mod.)	SU1CM (mod.)	For welding of 1%Cr-0.5%Mo creep resistant steel.
THM-55B2V	---	---	For welding of 1%Cr-0.5%Mo-V creep resistant steel.
THM-NiK	ENi1K	SUN21	For the welding of Rm 550MPa-class low carbon and low alloy steel structure which have requirement of better Kv2 impact.
THM-Ni3	ENi3	SUN7	For the welding of low temperature steel which have requirement of Kv2 (-75°C or -101°C) impact.
THM-10Mn2SH	EH14 (mod.)	SU41 (mod.)	For welding of ASME SA-516 Gr.(HIC) steel with TH.SJ105SH flux, super lower S and P in wire.
THM-308	ER308	---	For welding of SUS304 stainless steel.
THM-308L	ER308L	---	For welding of SUS304L stainless steel.
THM-309	ER309	---	For welding of SUS309 stainless steel.
THM-309L	ER309L	---	For welding of SUS309L stainless steel.
THM-309Mo	ER309Mo	---	For welding of SUS309Mo stainless steel.
THM-310	ER310	---	For welding of SUS310 stainless steel.
THM-316	ER316	---	For welding of SUS316 stainless steel.
THM-316L	ER316L	---	For welding of SUS316L stainless steel.
THM-317	ER317	---	For welding of SUS317 stainless steel.
THM-321	ER321	---	For welding of SUS321 stainless steel.
THM-347	ER347	---	For welding of SUS347 stainless steel.
THM-410	ER410	---	For welding of SUS410 stainless steel.
THM-430	ER430	---	For welding of SUS430 stainless steel.
THM-2209	ER2209	---	For welding of SUS2205 stainless steel.

List of welding flux (SAW)

Product	AWS	ISO	Characteristics and Applications
TH-SJ101	F6A0-EM12 F7A0-EM12K F7A0-EH14	FB	With suitable wires (such as EM12 or EH14 etc.) for single-pass and multi-pass SAW welding of low carbon and low alloy steel structure with good Kv impact value and lower cracking sensibility
TH-SJ101	F7A2-EM12K F7A4-EH14 F55A2-EA4-A2 F62A2-EA3-A3 F69P3-EF3-F3	FB	With suitable wires (such as EM12 or EH14 etc.) for single-pass and multi-pass SAW welding of low carbon and low alloy steel structure with good Kv impact value and lower cracking sensibility
TH-SJ101Q	F7A4-EH14 (mod.)	FB	Specialized flux for welding of bridge with suitable wires
TH-SJ101GX	F7A2-EH14 (mod.)	FB	Specialized flux for welding of pipeline with suitable wires
TH-SJ101Y	F7A4-EH14 (mod.)	FB	Specialized flux for the welding of pressure vessel or creep resistant with suitable wires
TH-SJ105C	F48P7-ENi3-Ni3 F55A4-EA4-A2 F62P4-EA3-A3	FB	With suitable wires for single-pass and multi-pass SAW welding of low carbon and low alloy steel structure with excellent Kv impact value and lower cracking sensibility
TH-SJ105DR	F48P10-ENi3-Ni3	FB	For the welding of low temperature steel which have requirement of KV ₂ (-75°C or -101°C) impact.
TH-SJ105SH	F7P3-EH14 (mod.)	FB	For welding of ASME SA-516 Gr.(HIC) steel with THM-10Mn2SH wire, super lower S and P in all weld metal.
TH-SJ80	F76A4-EM4-M4	FB	For the welding of Rm 780MPa-class low carbon and low alloy steel structure with THM-SG80 wire.
TH-SJ301	F6A0-EL8 F6A0-EL12 F6A0-EM12	CS	With suitable wires (such as EL12 or EM12 etc.) for single-pass and multi-pass SAW welding of low carbon and low alloy steel structure. Can be used welding steel that have little rusty or dirty surface, especially for girth welding of small pipeline.
TH-SJ301Y	F6A0-EL8 F6A0-EL12 F6A0-EM12	CS	With suitable wires (such as EL12 or EM12 etc.) for single-pass and multi-pass SAW welding of low carbon and low alloy steel structure as same strength level's pressure vessel, especially for girth welding of small pipeline.
TH-SJ501	F7AZ-EL8 F7AZ-EL12	AR	With suitable wires (such as EL8 or EM12) for single-pass and multi-pass SAW welding of low carbon and low alloy steel structure, especially for pipeline steel sheet higher speed welding.
TH-SJ501Y	F7AZ-EL8 F7AZ-EL12	AR	Specialized flux for welding of boiler's membrane wall with higher welding speed.
TH-SJ601	---	BA	Specialized flux for welding of stainless steel with wire of ER308/ER308L, ER309/ER309L/ER316/ER316L etc.
TH-HJ431	F6A0-EL8 F6A0-EL12 F6A0-EM12	MS	With suitable wires (such as EL12 or EM12 etc.) for single-pass and multi-pass SAW welding of low carbon and low alloy steel structure at little water or dirty welding plates.
TH-HJ350	F7A0-EH14	MS	With EH14 wires for single-pass and multi-pass SAW welding of low carbon and low alloy steel structure with good welding performance.
TH-HJ260Y	----	MS	Specialized flux for welding of stainless steel with wire of ER308/ER308L, ER309/ER309L/ER316/ER316L etc.

Approvals and certifications of Ship Inspection Agency (2023)

Type	Product	GB/T Class	ANSI Class	ABS	BY	CCS	DNV	LR	NK	CMB	RINA	EKI	RS
	J421	E4313	E6013	2	2	2	2m	KM2	—	E4313	—	2	—
	TH421Fe18	E4324	E6024	—	—	2	—	—	—	—	—	—	—
	TH422	E4303	—	3	3	3	3m	KM3	3	—	3	—	—
	TH501Fe15	E5024	E7024	—	—	2Y	—	—	—	—	—	—	—
	TH501Fe18	E5024	E7024	—	—	2Y	—	—	—	—	—	—	—
	TH506	E5016	E7016	3Y	3Y HH	3YH10	3 YH10	31mH15	KM53H10	31H10	—	—	—
Covered Electro des (SAW)	TH506Fe-1	E5018	E7018	3Y	3Y HH	3YH10	3 YH10	31mH15	KM53H10	31H10	—	—	—
	TH506Fe-C1	E505-8-N5	E8015-C1	—	—	4Y H5	—	—	—	—	—	—	—
	TH507	E5015	E7015	3Y	3Y HH	3YH10	3 YH10	31mH15	KM53H10	31H10	—	3Y H10	—
	TH4807RH	E7815-G	E11015-G	4Y690	H5	—	—	—	—	—	—	—	—
	THA022	E308L-16	E308L-16	—	—	—	—	304L	—	—	—	—	—
	THA022	E316L-16	E316L-16	—	—	—	—	316L	—	—	—	—	—
	THA062	E309L-16	E309L-16	—	—	—	—	309L	—	—	—	—	—
	THA102	E308-16	E308-16	—	—	—	—	304	—	—	—	—	—
	THA302	E309-16	E309-16	—	—	304	—	—	—	—	—	—	—
	THY-51A	T49411-101A	E711-10-J	4YSAHH0	SA4Y HH	IV	4YSH5	YMS (H10)	(C) H10	4YSG	—	—	—
	THY-51B	T49211-101A	E711-T-C	3YSAHH0	SA3Y HH	III	3YSHM10	YMS (H10)	(C) H10	E491T1-C1A3-C S1-H8 (E491T-9-H8)	3YS	—	3YSH10
	THY-51C	T49211-101A	E711-T-C	—	—	—	3YSHM10	—	—	—	—	—	—
	THY-55	T49211-001A	E701-T-C	—	—	—	3YSHM10	—	—	—	—	—	—
Flux Cored Wire (FCAW)	THY-J50MK	T49211-001A	E701-T-C	—	—	—	3YSHM10	—	—	—	—	—	—
	THY-A308LQ	TS 308L-Fc11	E308L-T1-1	E308L-T1-1	S308L BT	304L	—	—	—	—	—	—	—
	THY-A309LQ	TS 309L-Fc11	E309L-T1-1	E309L-T1-1	S309L	304L	—	—	—	—	—	—	—
	THY-A316LQ	TS 316L-Fc11	E316L-T1-1	E316L-T1-1	—	316L	—	—	—	—	—	—	—
	THY-70NC	T49211-001A	E701-T-C	3YSAHH0	—	III	3YSHM10	YMS (H10)	3YSH10	—	—	—	—
	THY-51NH	T49411-1C1A-H 5	E711-T-C-J	4YSAHH5	—	IV	4YSHM5	—	—	—	—	—	—
	THY-51BH	T49211-1C1A-H 5	E711-T-C	3YSAHH5	—	III	3YSHM5	YMS (H5)	3YSH5	—	—	—	—

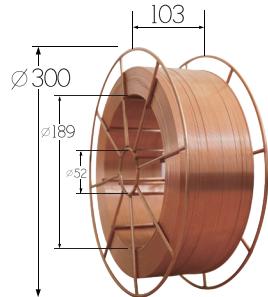
Type	Product	GB/T Class	ANSI Class	ABS	BY	CCS	DNV	LR	NK	CMB	RINA	EKI	RS
	THQ-50C	649A 3U C1 S6	ER70S-6	3YSAHH0	SA3Y HH	3YSH	III YMS (H10)	3YSH5	KM53G (C) H10	B-6 49A 3 C1 S6 (B-G 49A 3 C (E491T-9-H8))	—	—	—
	THB50-G	G49A 4U C1 Z311	ER70S-G	—	—	4Y S H6	—	—	—	—	—	—	—
	THHT50-6	W49A 3U 6	ER70S-6	—	—	3Y	—	—	—	—	—	—	—
Gas Shielded Solid Wire (GMAW and GTAW)	THH80-1	G78A 4U N21	ER110S-G	4Y6905MH	5	—	—	—	—	—	—	—	—
	THS-308L	S308L	EP308L	—	—	304L	—	—	—	—	—	—	—
	THS-309L	S309L	EP309L	—	—	309L	—	—	—	—	—	—	—
	THS-316L	S316L	EP316L	—	—	316L	—	—	—	—	—	—	—
	HT-309L	S309L	EP309L	—	—	309L	—	—	—	—	—	—	—
	HT-316L	S316L	EP316L	—	—	316L	—	—	—	—	—	—	—
	HTHT55-N11	W55A 4H1 N2	ER80S-N11	4YSAHH5	—	IV	4YSH5	—	—	—	—	—	—
	HTHT-2209	S2209	EP2209	—	—	2205S	—	—	—	—	—	—	—
	THH-43	SU08A	—	—	—	37M	—	—	—	—	3 T/3	—	—
	THH-43A	SU26	—	—	—	37M	—	—	—	—	M	—	—
	THH-43B	SU34	—	3YTM	3YTM	III YTM	3Y/	3YTM	KM53TM	3Y/	3Y T/ 3Y M	—	—
	THH-EH14	SU41	EH14	3YTMH5	—	4YTM H5	—	—	—	—	—	—	—
	THM-308L	S308L	EP308L	—	—	304L	—	—	—	—	—	—	—
	THM-316L	S316L	EP316L	—	—	316L	—	—	—	—	—	—	—
	TH-SJ101	S A FB 1	—	3YTM	3YTM	III YTM	3Y/	3YTM	KM53TM	3YTM	—	—	—
	TH-SJ101Y	S A FB 1	—	3YTMH5	—	4YTM H5	—	—	—	—	—	—	—
Flux (SAW)	TH-SJ301	S A CS 1	—	—	—	31M	—	—	—	—	—	—	—
	TH-SJ301	S A AB 2	—	—	—	304L	—	—	—	—	—	—	—
	TH-SJ601	S A AB 2	—	—	—	316L	—	—	—	—	—	—	—

Approvals and certifications of EU(2023)

Type	Product	ISO classification	CPR-CE	DB-AG	VD-TUV
Covered electrode (SWAM)	J421	ISO 2560-A-E 35 0 RA 1 2	✓		
	THJ421X	ISO 2560-A-E 42 0 RC 1 1	✓		
	THJ507	ISO 2560-A-E 42 3 B 2 2 H5	✓		
	THJ506Fe-1	ISO 2560-A-E 42 5 B 3 2 H5	✓		
Gas shield solid wire (GMAW/GTAW)	THQ-50C	ISO 14341-A-G 42 3 C1 Z3Si1	✓		
	THQ55-Ni1	ISO 14341-A-G 46 5M22 3Ni1	✓	✓	✓
	THQ-G2Si	ISO 14341-A-G 38 4 M21 2Si	✓	✓	✓
	THQ-50CG3	ISO 14341-A-G 42 3 C1/G42 4 M21 3Si1	✓	✓	✓
	THQ-50CG4	ISO 14341-A-G 42 3 C1/G46 4 M21 4Si1	✓	✓	✓
	THS-309L	ISO 14343-A-G 23 12 L	✓	✓	
	THT-309L	ISO 14343-A-G 23 12 L	✓		
	THQ-50N	ISO 14341-A-G 42 4 M21 3Si1/ ISO 14341-A-G 42 3 C1 3Si1	✓		
Flux cored wire (FCAW)	THY-51B	ISO 17632-A-T 42 2 P C 2 H10	✓		
	THY-51A	ISO 17632-A-T 42 4 P C1 2 H10	✓		
	THY-J552K2C	ISO 17632-A-T 46 3 P 1.5Ni C1 2 H10	✓	✓	✓
Sub-arc wire/flux (FCAW)	THM-43B/TH-SJ101	ISO 14171-A-S 42 4 FB S3/ ISO 14174 S A FB1	✓		
	THM-EH14/TH-SJ101	ISO 14171-A-S 42 4 FB S4/ ISO 14174 S A FB1	✓		
	THM-Ni1K/TH-SJ101Y	ISO 14171-A-S 46 5 FB SUN21/ ISO 14174 S A FB1 H5	✓		

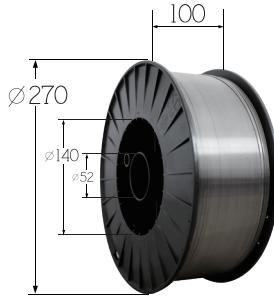
Package Specifications

Type of welding consumables		Inner packaging (N.W)	Outer packaging (N.W)	Introduction of packing material
Carbon and low alloyed electrodes (SMAW)		2.5kg/box 5kg/box	20kg/carton	Inner packaging: paperboard Outer packaging: corrugated cardboard
Stainless steel electrode (SMAW)	stainless steel electrode	2.5kg/box	20kg/carton	Inner packaging: plastic box Outer packaging: corrugated cardboard
	Special stainless steel electrode (Inner packaging is plastic box)	5kg/box	20kg/carton	Inner packaging: plastic box Outer packaging: corrugated cardboard
Surfacing electrode (SMAW)		5kg/box	20kg/carton	Inner packaging: paperboard Outer packaging: corrugated cardboard
Cast iron electrode (SMAW)	THZ308, THZ408, THZ508	1kg/box	10kg/carton	Inner packaging: plastic box Outer packaging: corrugated cardboard
	Other cast iron electrode	5kg/box	20kg/carton	Inner packaging: paperboard Outer packaging: corrugated cardboard
Gas shielded solid wire (GMAW)		20kg/spool 15kg/spool 5kg/spool 1kg/spool 250kg/drum 350kg/drum	20kg/spool 15kg/spool 5kg/spool 1kg/spool 250kg/drum 350kg/drum	D270 plastic spool D300 plastic spool BS300 basket spool D200 plastic spool D100 plastic spool Round drum (paperboard) Round drum (paperboard)
Flux cored wire (FCAW)		15kg/spool 5kg/spool 1kg/spool 200kg/drum	15kg/spool 5kg/spool 1kg/spool 200kg/drum	D300 plastic spool, D270 plastic spool D200 plastic spool D100 plastic spool Round drum (paperboard)
Submerged arc solid wire (SAW)		25kg/coil 50kg/coil 100kg/coil 250kg/coil 350kg/coil	25kg/coil 50kg/coil 100kg/coil 250kg/coil 350kg/coil	Coil without spool Outer packaging: corrugated cardboard Coil without spool Outer packaging: Covered by PP strip
TIG rod (GTAW)	Carbon and low alloyed steel	5kg/tube	20kg/carton	Inner packaging: plastic tube (square) Outer packaging: corrugated cardboard
	Stainless steel	5kg/tube	20kg/carton	Inner packaging: plastic tube (square) Outer packaging: corrugated cardboard
Sintered flux & Fused flux (SAW)		25kg/bag		Paper-plastic bag



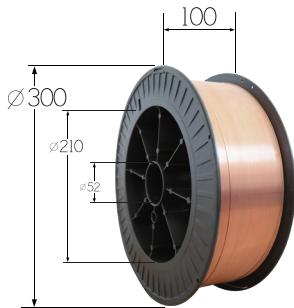
Spoiled Wire (GMAW)

- For gas shield solid wire (GMAW)
- Specification: EN ISO544
- Designation: BS300
- Material: Basket spool
- Net weight of wire: 15kg/spool
- Outer carton material: corrugated cardboard



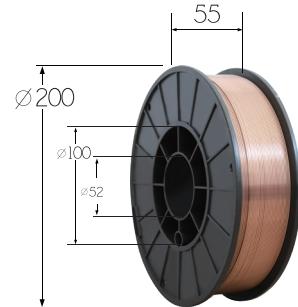
Spoiled Wire (GMAW & FCAW)

- For gas shield solid wire (GMAW)
- Specification: EN ISO 544
- Designation: D270
- Material: Plastic spool
- Net weight of wire:
 - 20kg/spool (Dia. of GMAW wire: 0.9mm to 2.0 mm)
 - 15kg/spool (Dia. of GMAW wire: 0.6mm to 2.0 mm)
 - 15kg/spool (carbon steel FCAW wire)
- Outer carton material: corrugated cardboard



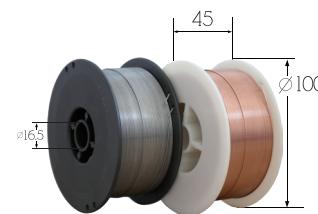
Spoiled Wire (GMAW & FCAW)

- For gas shield wire (GMAW & FCAW)
- Specification: EN ISO544
- Designation: D300
- Material: Plastic spool
- Net weight of stainless steel wire: 15kg/spool
- Outer carton material: corrugated cardboard



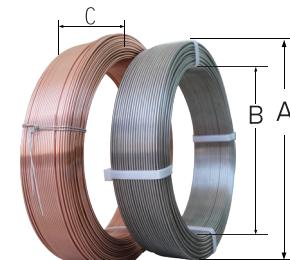
Spoiled Wire (GMAW & FCAW)

- For gas shield wire (GMAW & FCAW)
- Specification: EN ISO544
- Designation: D200
- Material: Plastic spool
- Net weight of wire: 5kg/spool
- Outer carton material: corrugated cardboard



Spoiled Wire (GMAW & FCAW)

- For gas shield wire (GMAW & FCAW)
- Specification: EN ISO544
- Designation: D100
- Material: Plastic spool
- Net weight of wire: 1kg/spool
- Inner box material: corrugated cardboard
- Outer carton material: corrugated cardboard
- 20 inner boxes in a outer carton



Coil Wire (SAW)

Type	25kg	50kg	100kg	250kg	350kg
A	390	590	640	860	890
B	300	500	500	630	630
C	80	105	125	160	160

- For sub-arc welding solid wire (SAW)
- Coil without spool
- Net weight of wire: 25kg/coil, 50kg/coil, 100kg/coil, 250kg/coil and 350kg/coil
- Outer carton material:
 - Corrugated cardboard (for 25kg/coil only)
 - PP strip covered (for other packaging)



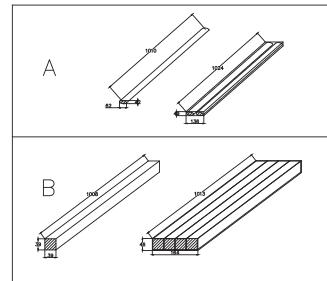
DrumWire (GMAW & FCAW)

- For gas shield solid wire (GMAW & FCAW)
- Designation: Round drum
- Material: Paperboard
- Net weight of wire:
 - 250kg/spool (GMAW)
 - 200kg/spool (FCAW)



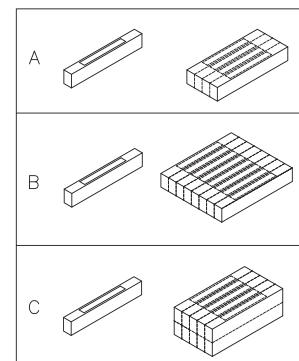
Drum Wire (GMAW)

- For gas shield solid wire (GMAW)
- Designation: Round drum
- Material: Paperboard
- Net weight of wire: 350kg/spool



TIG Rod (GTAW)

- For all type of TIG rod
- Inner packaging: plastic tube (ellipse or circle)
- Outer packaging: corrugated carton
- Fig A: 2 pieces of inner packaging in a outer packaging carton (carbon and low alloyed TIG Rod)
- Fig B: 4 pieces of inner packaging in a outer packaging carton (stainless steel TIG Rod)



Covered Electrode (SMAW)

- For all type of covered electrodes
- Inner packaging: paperboard box or plastic box
- Outer packaging: corrugated carton
- Fig A: 4 pieces of inner packaging in a outer packaging carton (normal packaging)
- Fig B: 8 pieces of inner packaging in a outer packaging carton (stainless steel electrode)
- Fig C: Fig C 10 pieces of inner packaging in a outer packaging carton (THZ308, THZ408 and THZ508 only)
- For detail size of inner packaging & outer packaging (or other special packaging requirement) for any type of covered electrode, please contact our International trade department

Prestigious Projects



African union conference centre



South-to-North Water Diversion



Costa Rica National stadium



117 Building Tianjin



New San Francisco Bay Bridge



Nest-type Beijing Olympic Stadium

Applications



Vehicle & Aerospace



Bridge & Construction machinery



Construction & High-rise building



Shipbuilding & Offshore



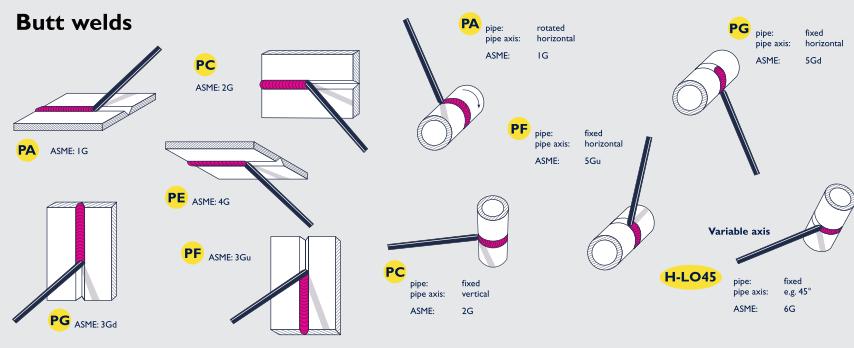
Energy equipment & Pressure vessel



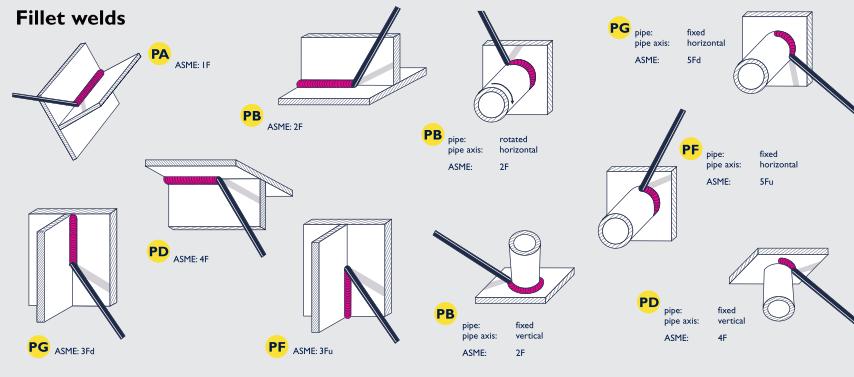
Nuclear power & Military

Welding positions

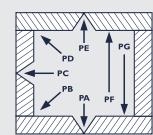
Butt welds



Fillet welds



Key to abbreviations



PA Horizontal welding of butt welds and fillet welds in flat position

PB Horizontal welding of fillet welds (downhand position)

PC Transverse position

PD Horizontal overhead position

PE Overhead position

PF Vertical up position

PG Vertical down position

