Электроды с низким содержанием водорода LASER

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Low Hydrogen Electrode

LASER B 43

Standards

TS EN ISO 2560-A	: E 38 4 B 42 H5
EN ISO 2560-A	: E 38 4 B 42 H5
AWS A5.1	: E 7016-1 H4

Chemical Composition of Weld Metal % (Typical)

C	Si	Mn
0.06	0.5	0.7

Mechanical Properties

Yield Strength (N/mm^2)	**Tensile Strength** (N/mm^2)	**Impact Strength** (ISO-V/-50°C)	**Elongation** ($L_0=5d_0$) (%)
min. 400	490-600	min. 47 J	min. 24

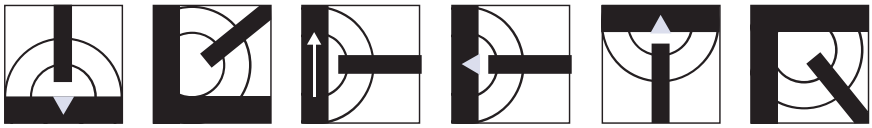
Typical Base Material Grades

- S235JR-E295, S235J2G3-S355J2G3, C22, C35, P235T1-P355T1, P235T2,P355T2, L210 -L320, L290MB-L320MB, P235G1TH, P255G1TH, P235GH,P265GH, P295GH, S235JRS1-S235J4S, S315G1S-S355G3S, S255N-S355N, P255NH-P355NH, S255NL-S355NL, GE200 - GE240
- API 5L: A, B, X42, X46, X52, X56

Features and Applications

- Suitability for use in welding at all positions except for vertical down position
- Weld metal recovery of about 110%
- Weld deposits with very low hydrogen content
- High-quality and ductile, crack-resistant weld metals, mostly forming rigid weldments with beads of large cross-sections
- D.C. (-) is recommended for the root pass
- Requirement of re-drying for minimum 2 hours at the temperatures between 300°C and 350°C

Welding Positions



Current Type

D.C. (-) for root pass / D.C. (+)

Operating Data

Product Code	**Diameter x Length** (mm) / (inch)		**Welding Current** (A)	**Weight** g / 100 pcs
3010100336	2.50 x 350	3/32 x 14”	80 -110	2270
3010100339	3.20 x 350	1/8 x 14”	100 - 140	3610
3010100342	4.00 x 450	5/32 x 18”	130 -190	6760
3010100345	5.00 x 450	3/16 x 18”	190 - 240	10125

Approvals: TSE, CE, ABS SEPRO, DNV-GL

Low Hydrogen Electrode

LASER B 47

Standards

TS EN ISO 2560-A	: E 42 4 B 42 H5
EN ISO 2560-A	: E 42 4 B 42 H5
AWS A5.1	: E 7018 H4

Chemical Composition of Weld Metal % (Typical)

C	Si	Mn
0.07	0.5	1.0

Mechanical Properties

Yield Strength (N/mm^2)	**Tensile Strength** (N/mm^2)	**Impact Strength** (ISO-V/-40°C)	**Elongation** ($L_0=5d_0$) (%)
min. 420	510-600	min. 47 J	min. 24

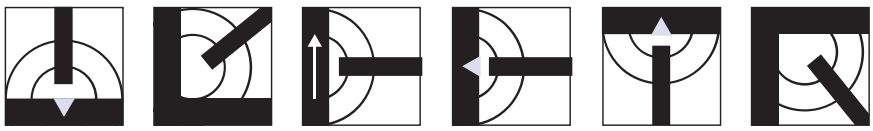
Typical Base Material Grades

- S235JR-E295, E335, S235J2G3-S355J2G3, C22, C35, P235T1-P355T1, P235T2,P355T2, L210-L360, L290MB-L360MB, P235G1TH, P255G1TH, P235GH-P295GH, S235JRS1-S235J4S, S315G1S-S355G3S, S255N-S355N, P255NH-P355NH, S255NL-S355NL, GE200-GE300
- API 5L: A, B, X42, X46, X52, X56, X60

Features and Applications

- Suitabilty for use in out-of-position welding except for welding at veretical down position
- Excellent strength and toughness
- Suitability for use in the fields of steel constructions, boiler, container, machine manufacturing and shipbuilding as well as for use in welding low-purity and high-carbon steels
- Suitability for the formation of welding buffer layers when buiding up high-carbon stees
- Weld deposits with very low hydrogen content
- Weld metal recovery of about 120%
- Requirement of re-drying for minimum 2 hours at the temperatures between 300°C and 350°C

Welding Positions



Current Type

D.C. (+)

Operating Data

Product Code	**Diameter x Length** (mm) / (inch)		**Welding Current** (A)	**Weight** g / 100 pcs
3010100351	2.50 x 350	3/32 x 14”	80 -110	2410
3010100354	3.20 x 350	1/8 x 14”	100 - 140	3790
3010100363	4.00 x 450	5/32 x 18”	130 -190	6850
3010100369	5.00 x 450	3/16 x 18”	190 - 240	10715

Approvals: BV, DNV-GL, TL, DB, ABS, LR, RS, RINA, NK, TSE, TÜV, SEPRO, CWB, HAKC, CE, CWB

Low Hydrogen Electrode

LASER B 47-A

Standards

TS EN ISO 2560-A	: E 42 4 B 32 H5
EN ISO 2560-A	: E 42 4 B 32 H5
AWS A5.1	: E 7016-1 H4

Chemical Composition of Weld Metal % (Typical)

C	Si	Mn
0.07	0.6	1.0

Mechanical Properties

Yield Strength (N/mm^2)	Tensile Strength (N/mm^2)	Impact Strength (ISO-V/-46°C)	Elongation ($L_0=5d_0$) (%)
min. 420	500-610	min. 47 J	min. 24

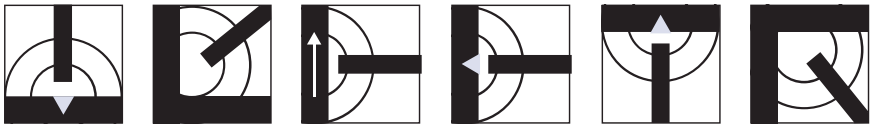
Typical Base Material Grades

- S235JR-E295, E335, S235J2G3-S355J2G3, C22, C35, P235T1-P355T1, P235T2,P355T2, L210-L360, L290MB-L320MB, P235G1TH, P255G1TH, P235GH-P295GH, S235JRS1 S235J4S, S315G1S-S355G3S, S255N-S355N, GE200-GE300
- API 5L: A, B, X42, X46, X52, X56, X60

Features and Applications

- Suitability for welding with AC power
- Suitability for use in out-of-position welding except for welding at vertical down position
- Excellent strength and toughness
- Suitability for use in the fields of steel constructions, boiler, container, machine manifacturing, and shipbuilding construction as well as for use in welding low-purity and high-carbon steels
- Suitability for the formation of welding buffer layers when building up high-carbon steels
- Weld deposits with very low hydrogen content
- Weld metal recovery of about 125%
- Requirement of re drying for minimum 2 hours at the temperatures between 300°C and 350°C

Welding Positions



Current Type

D.C. (+) / A.C.

Operating Data

Product Code	Diameter x Length (mm) / (inch)		Welding Current (A)	Weight g / 100 pcs
3010100372	2.50 x 350	3/32 x 14”	80 -100	2320
3010100375	3.20 x 350	1/8 x 14”	100-140	3720
3010100378	4.00 x 350	5/32 x 14”	130 -190	5380
3010100381	4.00 x 450	5/32 x 18”	130 -190	6820

Approvals: TSE, CE, ABS, SEPRO

Low Hydrogen Electrode

LASER B 50

Standards

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

Chemical Composition of Weld Metal % (Typical)

C	Si	Mn
0.08	0.5	1.1

Mechanical Properties

Yield Strength (N/mm^2)	Tensile Strength (N/mm^2)	Impact Strength (ISO-V/-50°C)	Elongation ($L_0=5d_0$) (%)
min. 420	510-630	min. 47 J	min. 24

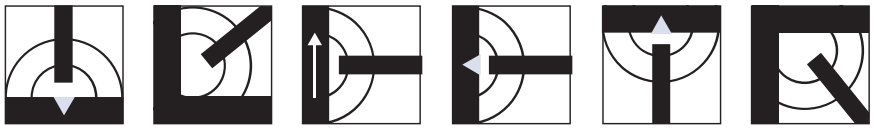
Typical Base Material Grades

- S235JR-E295, E335, S235J2G3-S355J2G3, C22, C35, P235T1-P355T1, P235T2,P355T2, L210-L360, L290MB-L360MB, P235G1TH, P255G1TH, P235GH-P355GH, S235JRS1-S235J4S, S315G1S-S355G3S, S255N-S355N, P255NH-P355NH, S255NL-S355NL, GE200-GE300
- API 5L: A, B, X42, X46, X52, X56, X60

Features and Applications

- Suitability for use in out-of-position welding except for welding at vertical down position
- Excellent strength and toughness
- Suitability for use in the fields of steel constructions, boiler, container, machine manifacturing and vertical construction as well as for use in welding low-purity and high-carbon steels
- Suitability for the formation of welding buffer layers when building up high-carbon steels
- Weld deposits with very low hydrogen content
- Weld metal recovery of about 110%
- Requirement of re-drying for minimum 2 hours at the temperatures between 300°C and 350°C

Welding Positions



Current Type

D.C.(+)

Operating Data

Product Code	Diameter x Length (mm) / (inch)		Welding Current (A)	Weight g / 100 pcs
3010100390	2.50 x 350	3/32 x 14”	80 -100	2220
3010100393	3.20 x 350	1/8 x 14”	100-140	3645
3010100402	4.00 x 450	5/32 x 18”	130 -190	6700
3010100408	5.00 x 450	3/16 x 18”	190/240	10500

Product Code TSE, ABS, CE, DNV-GL, SEPRO, CWB

Low Hydrogen Electrode

LASER B 55

Standards

TS EN ISO 2560-A	: E 46 5 B 42 H5
EN ISO 2560-A	: E 46 5 B 42 H5
AWS A5.1	: E 7018 - 1 H4

Chemical Composition of Weld Metal % (Typical)

C	Si	Mn
0.08	0.4	1.4

Mechanical Properties

Yield Strength (N/mm^2)	**Tensile Strength** (N/mm^2)	**Impact Strength** (ISO-V/-50°C)	**Elongation** ($L_0=5d_0$) (%)
min. 460	530-650	min. 47 J	min. 24

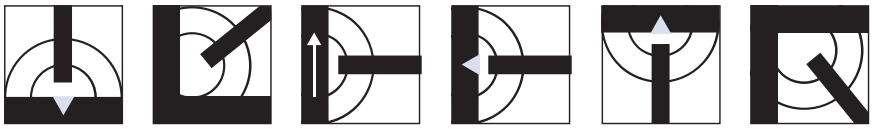
Typical Base Material Grades

- S235JR-E295, E335, S235J2G3-S355J2G3, P235T1-P355T1, P235T2,P355T2, L210NB-L415NB, L290MB-L360MB, P235G1TH, P255G1TH, P235GH-P355GH, S235JRS1-S235J4S, S315G1 S-S355G3S, S255N-S380N, P255NH-P355NH, S255NL-S460NL1, GE200-GE300
- API 5L: X42, X46, X52, X56, X60, X65

Features and Applications

- Suitability for use in out-of-position welding except for welding at vertical down position
- High ductility at low temperatures down to -50°C
- Suitability for use in welding low-purity and high-carbon steels
- Weld deposits with very low hydrogen content
- High-quality weld metals with higher strength values
- Requirement of re-drying for minimum 2 hours at the temperatures between 300°C and 350°C

Welding Positions



Current Type

D.C. (+)

Operating Data

Product Code	**Diameter x Length** (mm) / (inch)		**Welding Current** (A)	**Weight** g / 100 pcs
3010100411	2.50 x 350	3/32 X 14”	80 - 100	2200
3010100414	3.20 x 350	1/8 X 14”	100 - 140	3550
3010100417	4.00 x 450	5/32 X 18”	130 -190	6570
3010100420	5.00 x 450	3/16 X 18”	190 - 240	10220

Approvals: TSE, CE, ABS, SEPRO

Low Hydrogen Electrode

LASER B 55-S

Standards

TS EN ISO 2560-A	: E 46 6 B 42 H5
EN ISO 2560-A	: E 46 6 B 42 H5
AWS A5.1	: E 7018 - 1 H4

Chemical Composition of Weld Metal % (Typical)

C	Si	Mn
0.08	0.4	1.4

Mechanical Properties*

Yield Strength (N/mm^2)	Tensile Strength (N/mm^2)	Impact Strength (ISO-V/-60°C)	Elongation ($L_0=5d_0$) (%)
min. 460	530-650	min. 47 J	min. 24

* CTOD tested

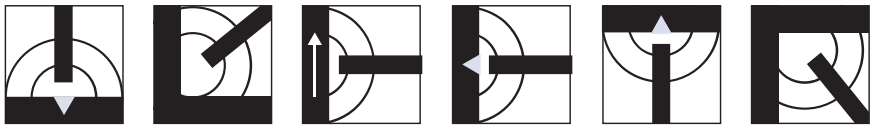
Typical Base Material Grades

- S235JR-E295, E335, S235J2G3-S355J2G3, P235T1-P355T1, P235T2,P355T2, L210NB-L415NB, L290MB-L360MB, P235G1TH, P255G1TH, P235GH-P355GH, S235JRS1-S235J4S, S315G1S-S355G3S, S255N-S380N, P255NH-P355NH, S255NL-S460NL1, GE200-GE300
- API 5L: X42, X46, X52, X56, X60, X65

Features and Applications

- Suitability for use in welding of high-strength, fine-grained steels
- High ductility at low temperatures down to -60°C
- It is used for joining thick materials safely
- Weld metal recovery of approx. 120%
- Requirement of re-drying for minimum 2 hours at the temperatures between 300°C and 350°C
- CTOD tested.

Welding Positions



Current Type

D.C.(+)

Operating Data

Product Code	Diameter x Length (mm) / (inch)		Welding Current (A)	Weight g / 100 pcs
3010100423	2.50 x 350	3/32 x 14”	80 - 100	2380
3010100426	3.20 x 350	1/8 x 14”	100 - 140	3740
3010100432	4.00 x 450	5/32 x 18”	130 -190	7000

Approvals: TSE, BV, ABS, CE, SEPRO, CWB

Low Hydrogen Electrode

LASER B 60

Standards

TS EN ISO 2560-A	: E 42 4 B 42 H5
EN ISO 2560-A	: E 42 4 B 42 H5
AWS A5.1	: E 7018 - H4

Chemical Composition of Weld Metal % (Typical)

C	Si	Mn
0.08	0.6	1.2

Mechanical Properties

Yield Strength (N/mm^2)	Tensile Strength (N/mm^2)	Impact Strength (ISO-V/-40°C)	Elongation ($L_0=5d_0$) (%)
min. 420	520-630	min. 47 J	min. 24

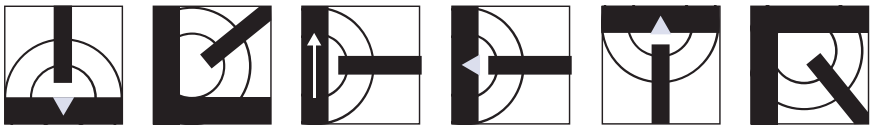
Typical Base Material Grades

- S235JR-E295, E335, S235J2G3-S355J2G3, C22, C35, P235T1-P355T1, P235T2,P355T2, L210-L360, L290MB-L360MB, P235G1TH, P255G1TH, P235GH-P355GH, S235JRS1-S235J4S, S315G1S-S355G3S, S255N-S355N, P255NH-P355NH, S255NL-S355NL, GE200-GE300
- API 5L: A, B, X42, X46, X52, X56, X60

Features and Applications

- Suitability for use in out-of-position welding except for welding at vertical down position
- Excellent strength and toughness
- Suitability for use in the fields of steel constructions, boiler, container, machine manifacturing and shipbuilding as well as for use in welding low purity and high-carbon steels
- The pressure vessels used in the production
- Suitability for the formation of welding buffer layers when building up high-carbon steels
- Weld deposits with very low hydrogen content
- Requirement of re-drying for minimum 2 hours at the temperatures between 300°C and 350°C

Welding Positions



Current Type

D.C. (+)

Operating Data

Product Code	Diameter x Length (mm) / (inch)		Welding Current (A)	Weight g / 100 pcs
3010100438	2.5 x 350	3/32 x 14”	60 - 90	2300
3010100441	3.2 x 350	1/8 x 14”	100 - 140	3700
3010100447	4.0 x 450	5/32 x 18”	150 - 210	6800
3010100450	5.0 x 450	3/16 x 18”	200 - 260	10200

Approvals: TSE, CE, SEPRO

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