schweisskraft
Schweißtechnik

WELDING RODS & WELDING CONSUMABLES

Welding wires

Low alloyed welding rods - Chemical composition
(standard values % of the weld metal)

Material no.	Designation	C	Si	Mn	Cr	Ni	Cu
1615	G II	0.15	0.2	0.9	-	-	-

Medium-alloy welding rods – Chemical composition
(standard values % of the weld metal)

Material no.	Designation	C	Si	Mn	Cr	Ni	Cu
1615	G III	0.09	0.1	1.1	0.4	-	-

High-alloy welding rods – Chemical composition
(standard values % of the weld metal)

Material no.	AWS/AISI	DIN	C max.	Si	Mn	Ni	Cr	Mo	Nb min.	S max.	P max.
1.4316	308L-Si	X 2 CrNi 19 9	0.025	0.8	1.7	10	20	-	-	0.015	0.02
1.4551	347-Si	X 5 CrNiNb 19 9	0.07	0.7	1.7	10	19.5	-	12 x C	0.015	0.02
1.4430	316L-Si	X 2 CrNiMo 19 12	0.025	0.8	1.7	12	18	2.7	-	0.015	0.02
1.4576	318	X 5 CrNiMoNb 19 12	0.05	0.7	1.4	11.5	18.5	2.6	12 x C	0.015	0.02
1.4370	307-Si	X 10 CrNiMn 1 8 8 6	0.10	0.7	6.5	9	19	-	-	0.015	0.02
1.4842	310	X 12 CrNi 25 20	0.12	0.5	1.7	20.5	25	-	-	0.015	0.02

High-alloy welding rods - Mechanical properties
not heat-treated, at 20 °C, MIG welding with argon +2% oxygen, TIG and plasma welding with argon as shielding gas (standard values)

Material no.	Yield strength	Tensile strength	Elongation	Notched impact strength	Hardness
1.4316	450 N/mm²	550 N/mm²	40%	70 J	200 HB
1.4551	320 N/mm²	580 N/mm²	30%	65 J	220 HB
1.4430	330 N/mm²	540 N/mm²	35%	80 J	210 HB
1.4576	350 N/mm²	590 N/mm²	30%	50 J	220 HB
1.4842	300 N/mm²	550 N/mm²	30%	65 J	

Hard coatings - Chemical composition
(standard values % of the weld metal)

Material no.	DIN	C max.	Si	Mn	Cr	Ni	Mo	Nb min.	S max.	P max.
1.4718	MSG 6-60	0.5	3.0	0.4	9.2	-	-	-	-	-

Aluminium welding rods – Chemical composition
(standard values % of the weld metal)

Material no.	DIN	Mn	Mg	Cr max.	Ti max.	Si	Al	Miscellaneous
3.3536	AlMg 3	0.4	3.0	0.3	0.25	-	hereinafter	in accordance with DIN 1732
3.3556	AlMg 5	0.3	5.0	0.3	0.25	-	hereinafter	in accordance with DIN 1732
3.3548	AlMg 4,5 Mn	0.8	5.0	0.25	0.25	-	hereinafter	in accordance with DIN 1732
3.2245	AlSi 5	-	-	-	-	5.0	hereinafter	in accordance with DIN 1732

Aluminium welding rods – Mechanical properties

Material no.	Yield strength	Tensile strength	Elongation
3.3536	175-205 N/mm²	80-100 N/mm²	15-20 %
3.3556	100-135 N/mm²	220-260 N/mm²	15-25 %
3.3548	110-150 N/mm²	275-335 N/mm²	15-20 %
3.2245	min. 50 N/mm²	120-150 N/mm²	10-18 %

Aluminium welding rods - Use

Material no.	Ampere/rod Ø				
	0.8 mm	1.0 mm	1.2 mm	1.6 mm	2.4 mm
3.2245	75 - 150	95 - 210	110 - 240	150 - 350	220 - 500
3.3536	80 - 150	100 - 210	120 - 240	175 - 360	220 - 500
3.3556	80 - 150	100 - 210	120 - 240	175 - 360	220 - 500
3.3548	80 - 150	100 - 210	120 - 240	175 - 360	220 - 500

Tungsten electrode

Composition				
Abbreviation	Oxide additive		Impurities	Tungsten
	% m/m	Type	% m/m	% m/m
W	-	-	‹ _ 0,20	99.8
WT 20	0.35 to 0.55	ThO2	‹ _ 0,20	hereinafter
WC 20	1.80 to 2.20	CeO2	‹ _ 0,20	hereinafter

Labelling		
Abbreviation	Colour code according to RAL	
	Colour tone	Colour no.
W	green	6018
WT 20	red	3000
WC 20	grey	7011

Wire Ø	Ampere
1.6 mm	24-65 A
2.4 mm	60-120 A
3.2 mm	120-180 A
4.0 mm	150-225 A

MAG low-alloy steel welding wires

SG 2 MATERIAL NO. 1.5125 DIN 8559 / DIN EN 440

- for the following base materials:
  Tubular steels St 35, St 45, St 52, St 55;
  Thin sheets St 12, St 13, St 14
  Shipbuilding steels A, B, C, D, E;
  Boiler plates H 1, H 2, H 3; cast steel GS-38, GS-45, GS-52
  Structural steels St 34, St 37, St 42, St 46, St 52, St 55, St 60
  Fine-grained structural steels St E 26, St E 29, St E 32, St E 36, St E 39, St E4
- Low-alloy wire electrode for joint and build-up welding
- Shielding gas: CO_2 and mixed gases

Basket coil K 300 spooled layers 15.0 kg	**Art. no.**
0.8 mm	1116008
1.0 mm	1116010
1.2 mm	1116012
Mandrel spool D 200 normal spool 5.0 kg	
0.8 mm	1115008
1.0 mm	1115010

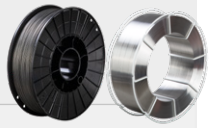
***Larger quantities on request.**

SG 3 MATERIAL NO. 1.5130 DIN 8559 / DIN EN 440

- for the following base materials:
  Tubular steels St 35, St 45, St 52, St 55;
  Thin sheets St 12, St 13, St 14
  Shipbuilding steels A, B, C, D, E;
  Boiler plates H 1, H 2, H 3; cast steel GS-38, GS-45, GS-52
  Structural steels St 34, St 37, St 42, St 46, St 52, St 55, St 60
  Fine-grained structural steels St E 26, St E 29, St E 32, St E 36, St E 39, St E4
- Low-alloy wire electrode for joint and build-up welding
- Shielding gas: CO_2 and mixed gases

Basket coil K 300 spooled layers 15.0 kg	**Art. no.**
0.8 mm	1117008
1.0 mm	1117010
1.2 mm	1117012

Filler wire – low alloy/rutile, for welding without gas DIN EN 758

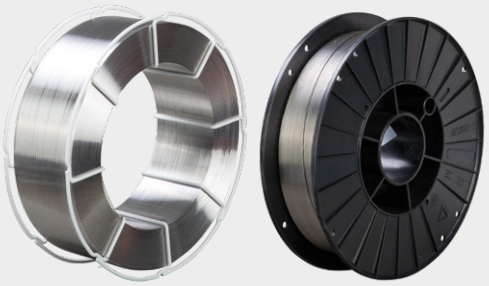


Low alloy/rutile for the following base materials:
With MT-FD: St 33, St37-2 to St52-3, St37.4-St52.4, St35.8, St45.8, St37 to St52, HI, HII, 17 Mn 4

Mandrel coil D 200 normal spool 4.5 kg	**Art. no.**
MT-FD 0.9 mm	1132000
Basket coil K 300 spooled layers 15.0 kg	
MT-CS 1.2 mm	1132001

With MT-CS: s185, S235JR, S355Jo, P295GH, P235GH, P265GH, S355GT

MIG Aluminium welding wires



Al Mg 3 Material no 3.3536 DIN 1732

- for the following base materials: Al Mg 3, Al Mn 1, Al Mg 1.8
- Welding of rolled and cast aluminium alloys
- Shielding gas: Pure argon or argon/helium mixture

Mandrel coil K 300 7.0 kg	**Art. no.**
1.0 mm	1123008
1.2 mm	1123010

AL MG 5 MATERIAL NO. 3.3556 DIN 1732

- for the following base materials: Al Mg 5, Al Mg 3, Al Mg Si 1, Al Mg 1
- Welding of rolled and cast aluminium alloys
- Shielding gas: Pure argon or argon/helium mixture

Mandrel coil D 300 7.0 kg	**Art. no.**
1.0 mm	1125010
1.2 mm	1125012

Al Si 5 Material no. 3.2245 DIN 1732

- for the following base materials: Al Mg Si 1, Al Zn 4.5 MG 1, Al Cu MG 1
- Shielding gas: Pure argon or argon/helium mixture

Mandrel coil D 300 7.0 kg	**Art. no.**
1.0 mm	1126010
1.2 mm	1126012

AL MG 4.5 MN MATERIAL NO. 3.3548 DIN 1732

- for the following base materials: Al Mg 4.5 Mn, Al Mg 3, Al Mg 5
- Welding of rolled and cast aluminium alloys
- Shielding gas: Pure argon or argon/helium mixture

Mandrel coil D 300 7.0 kg	**Art. no.**
1.0 mm	1124010
1.2 mm	1124012
Mandrel coil D 200 2.0 kg	
1.0 mm	1124210

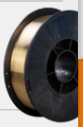
MIG welding wires for MSG brazing

CUSI 3 WELDING WIRE

For copper, low-alloyed copper and copper-zinc alloys, welding on unalloyed or low-alloy steels and cast iron.

Small coil D200, 5 kg	
Ø 0.8 mm	1131620
Ø 1.0 mm	1131619
Basket coil K300, 15 kg	
Ø 0.8 mm	1131625
Ø 1.0 mm	1131624

CuAl 8 welding wire



For manganese and nickel-copper-aluminium alloys. For highly stressed corrosion-resistant build-up welding on unalloyed or low-alloy steels and cast iron.

Small spool D200, 5 kg	
Ø 0.8 mm	1131630
Ø 1.0 mm	1131629
Basket coil K300, 15 kg	
Ø 0.8 mm	1131635
Ø 1.0 mm	1131634

! **Other dimensions, alloys, coil types and larger quantities on request.**

Due to possible fluctuations in commodity prices, prices subject to change.

MAG Stainless steel welding wires

1.4316 DIN 8556: SG X 2 CR NI 19 9

- for the following base materials:
  1.4301, 1.4306, 1.4308, 1.4311, 1.4303, 1.4310, 1.4319, 1.4541, 1.4550, 1.4552
- Connection and build-up welding on stainless and acid-resistant Cr and Cr-Ni steels.
- Not for use in high-sulphur media.
- For operating temperatures from -196°C to 350°C.
- Shielding gas: Argon S 1 -S 3, mixed gases

Mandrel coil D 300 15.0 kg	Art. no.
0.8 mm	1130208
1.0 mm	1130210
1.2 mm	1130212
Mandrel coil D 200 5.0 kg	
0.8 mm	1130238
1.0 mm	1130231

1.4551 DIN 8556: SG X 5 CR NI NB 19 9

- for the following base materials:
  1.4301, 1.4306, 1.4308, 1.4310, 1.4312, 1.4319, 1.4541, 1.4550
- TIG or MIG/MAG welding of stainless austenitic steels
- Not for use in high-sulphur media.
- For operating temperatures of up to 400°C, scale-resistant up to +800°C
- Shielding gas: Argon, mixed gases e.g. M11, M23

Mandrel coil D 300 15.0 kg	Art. no.
1.0 mm	1131610
1.2 mm	1131612

Hardfacing Shielding gas Welding wires

MSG MATERIAL 6-60 NO. 1.4718 DIN 8555

- Materials and application:
  Build-up welding on machine parts made of structural steel or cast steel that are subject to wear. The weld metal is particularly tough and abrasion-resistant. For excavator parts, screw conveyors, roll crushers, impact hammers, rollers and running surfaces.
- Vickers hardness: 650 - 775 HV
- Rockwell hardness: 56 - 62 HR
- Shielding gas: Argon S 1 - S 3, mixed gases

Mandrel coil D 300 15.0 kg	Art. no.
1.0 mm	1130110
1.2 mm	1130112
1.6 mm	1130116

Additional filler wires for build-up welding, dimensions, alloys, coil types and larger quantities available on request.

MAG Stainless steel welding wires

1.4430 DIN 8556: SG X 2 CR NI MO 19 12

- for the following base materials:
  1.4401, 1.4404, 1.4408, 1.4429, 1.4435, 1.4436, 1.4541, 1.4550, 1.4552, 1.4571, 1.4573, 1.4580, 1.4581, 1.4583, 1.6901, 1.6902, 1.6903, 1.6905
- Welding of stainless, cold-resistant and austenitic steels. For operating temperatures up to 400°C
- Shielding gas: Argon S 1 - S 3, mixed gases

Mandrel coil D 300 15.0 kg	Art. no.
0.8 mm	1130508
1.0 mm	1130510
1.2 mm	1130512

1.4576 DIN 8556: SG X 5 CR NI MO NB 19 12

- for the following base materials:
  1.3401,1.4408, 1.4435, 1.4435, 1.4436, 1.4573, 1.4580, 1.4581, 1.4583
- Various types of steel (black-white compounds); high-carbon and difficult-to-weld steels, e.g. manganese hard steel, buffer layers for hard surfacing, cold-tough nickel steels
- For operating temperatures from -120°C (cold-tough) to 300°C

Mandrel coil D 300 15.0 kg	Art. no.
0.8 mm	1130308
1.0 mm	1130310
1.2 mm	1130312

1.4370 DIN 8556: SG X 10 Cr Ni Mn 18 8

- for the following base materials:
  1.4301, 1.4306, 1.4308, 1.4312, 1.4401, 1.4404, 1.4408, 1.441 0, 1.4435, 1.4436, 1.4541, 1.4550, 1.4571, 1.4573, 1.4580, 1.4583 with H 1 to H 2
- Welding of stainless and acid-resistant Cr and Cr-Ni-Mn steels. For high demands on crack resistance and toughness. Work hardening. Joint welding on different types of steel (black and white joints). Temperatures up to 850°C.
- Shielding gas: Argon S 1 - S 3, mixed gases

Mandrel coil D 300 15.0 kg	Art. no.
0.8 mm	1130408
1.0 mm	1130410
1.2 mm	1130412

1.4842 DIN 8556: SG X 12 CR NI 25 20

- for the following base materials:
  1.4832, 1.4837, 1.4841, 1.4845, 1.4840
- Welding of heat-resistant austenitic steels. The steel can be used in air up to 1100°C. Scale resistant up to 1100 °C
- Shielding gas: Argon S 1 - S 3, mixed gases

Mandrel coil D 300 15 kg	Art. no.
0.8 mm	1130708
1.0 mm	1130710
1.2 mm	1130712

Due to possible fluctuations in commodity prices, prices subject to change.

TIG welding rods, low-alloy 1000 mm

WSG 2 MATERIAL NO. 1.5125 DIN 8559

- for the following base materials: St 35 - St 55, St 35.4 - St 55.4, St 33 - St 52.3, St 38.8 - St 45.8, grade A- E, A 32 - A 36, boiler plate H 1 - H 3, StE 255 - StE 380, 17 Mn 4, 19 Mn 6, GS 38 - GS 52
- Welding of unalloyed and low-alloy steels. Melts evenly and smoothly and is well suited for constrained position welding.
- Shielding gas: Pure argon

Designation	PU	Art. no.
1.6 mm	5 kg	1450016
2.0 mm	5 kg	1450020
2.4 mm	5 kg	1450024
3.0 mm	5 kg	1450032

TIG medium alloy welding rods 1000 mm

SG Mo Material no. 1.5424 DIN 8575

- for the following base materials: St 37-3, St 44-3, St 52-3, H 1 - H 4.17 Mn 4.19 Mn 5.19 Mn 6, StE 36 - StE 47, St 45.8, ASt 35 - ASt 45
- Mo-alloyed welding rods for gas-shielded arc welding on high-temperature steels and high-strength fine-grain structural steels. Suitable for operating temperatures up to 550°C. The smooth and clear melting of the welding rod enables good constrained position welding.
- Shielding gas: Pure argon

Designation	PU	Art. no.
2.0 mm	5 kg	1457020
2.4 mm	5 kg	1457024
3.0 mm	5 kg	1457032

TIG high-alloy welding rods

1.4316 DIN 8556: SG X 2 CR NI 19 9

- for the following base materials: 1.4301, 1.4306, 1.4308, 1.4311, 1.4312, 1.4450, 1.4541, 1.4543, 1.4550, 1.4552, 1.4878, 1.4961, 1.6901, 1.6902, 1.6903, 1.6905
- Connection and build-up welding on stainless and acid-resistant Cr and Cr-Ni steels. Not for use in high-sulphur media. Operating temperatures from -196°C to 350°C.
- Shielding gas: Pure argon

Designation	PU	Art. no.
1.0 mm	5 kg	1451010
1.6 mm	5 kg	1451016
2.0 mm	5 kg	1451020
2.4 mm	5 kg	1451024
3.2 mm	5 kg	1451032

1.4551 DIN 8556: SG X 5 CR NI 19 9

- for the following base materials: 1.4301, 1.4306, 1.4308, 1.4310, 1.4312, 1.4319, 1.4541, 1.4550, 1.4840
- TIG or MIG/MAG welding of stainless austenitic steels
- Not for use in high-sulphur media.
- For operating temperatures of up to 400°C, scale-resistant up to +800°C
- Shielding gas: Argon, mixed gases e.g. M11, M23

Designation	PU	Art. no.
1.0 mm	5 kg	1455010
1.6 mm	5 kg	1455016
2.0 mm	5 kg	1455020
2.4 mm	5 kg	1455024
3.2 mm	5 kg	1455032

Other dimensions, alloys, coil types and larger quantities on request.

Supplied in carton quantities (1 or 3 packs)

AL MG 3 MATERIAL NO. 3.3536 DIN 1732

- for the following base materials: Al Mg 3, Al Mg 1, Al Mg 2, Al Mg Mn, AlMg Si 0.5, G-Al Mg 3
- Welding of rolled and cast aluminium magnesium alloys
- Shielding gas: Pure argon

Designation	PU	Art. no.
1.6 mm	5 kg	1450316
2.0 mm	5 kg	1450320
2.4 mm	5 kg	1450324
3.2 mm	5 kg	1450332
4.0 mm	5 kg	1450340

AL MG 5 MATERIAL NO. 3.3556 DIN 1732

- for the following base materials: Al Mg 5, Al Mg 3, Al Mg Mn, Al Mg 3 Si, G-Al Mg 3, G-Al Mg 5
- Welding of rolled and cast aluminium-magnesium alloys
- Shielding gas: Pure argon

Designation	PU	Art. no.
1.6 mm	5 kg	1450416
2.0 mm	5 kg	1450420
2.4 mm	5 kg	1450424
3.2 mm	5 kg	1450432
4.0 mm	5 kg	1450440

AL MG 4.5 MN MATERIAL NO. 3.3548 DIN 1732

- for the following base materials: Al Mg 4.5 Mn, Al Mg 3, Al Mg 5, AlMgSi 0.5, Al Mg Si 1, Al Zn Mg 1
- Welding of rolled and cast aluminium-magnesium alloys
- Shielding gas: Pure argon

Designation	PU	Art. no.
1.6 mm	5 kg	1450516
2.0 mm	5 kg	1450520
2.4 mm	5 kg	1450524
3.2 mm	5 kg	1450532
4.0 mm	5 kg	1450540

AL SI 5 MATERIAL NO. 3.2245 DIN 1732

- for the following base materials: Al Si 5, Al Mg Si 1, Al Cu Mg alloys, Al Zn Mg alloys
- Shielding gas: Pure argon

Designation	PU	Art. no.
1.6 mm	5 kg	1450616
2.0 mm	5 kg	1450620
2.4 mm	5 kg	1450624
3.2 mm	5 kg	1450632
4.0 mm	5 kg	1450640

AL 99.5 MATERIAL NO. 3.0259 DIN 1732

- for the following base materials: l 99.5, Al 99, E-Al 99.5
- Welding of pure aluminium and aluminium
- Shielding gas: Pure argon

Designation	PU	Art. no.
1.6 mm	5 kg	1450716
2.0 mm	5 kg	1450720
2.4 mm	5 kg	1450724
3.2 mm	5 kg	1450732
4.0 mm	5 kg	1450740

Due to possible fluctuations in commodity prices, prices subject to change.

TIG welding rods for hardfacing

W 600 MATERIAL NO. 1.4718 DIN 8555

- Materials and application: Build-up welding on machine parts made of structural steel or cast steel that are subject to wear. The weld metal is particularly tough and abrasion-resistant. For excavator parts, screw conveyors, roll crushers, impact hammers, rollers and running surfaces. **Vickers hardness:** 650 - 775 HV. **Rockwell hardness:** 56 - 62 HRC
- Shielding gas: Pure argon

Designation	PU	Art. no.
1.6 mm	5 kg	1456016
2.0 mm	5 kg	1456020
2.4 mm	5 kg	1456024

Low-alloy autogenous welding rods

G II MATERIAL NO. 1.0349 DIN 8554

- for the following base materials:
  St 34 - St 360-2, St 42, H 1, H 2, St 35, St 45, St 35.4, St 45.4
- Joint welding in apparatus, boiler, pipe, vehicle and mechanical engineering.
- Welding gases: Acetylene-oxygen

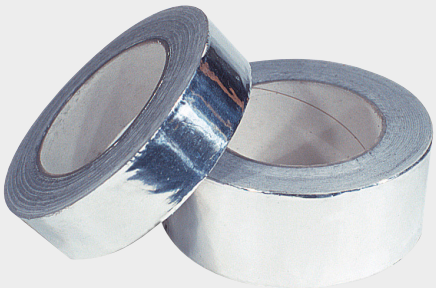
Designation	PU	Art. no.
2.0 mm	5 kg	1450120
2.5 mm	5 kg	1450125
3.0 mm	5 kg	1450130

Medium-alloy autogenous welding rods

G III MATERIAL NO. 1.6215 DIN 8554

- for the following base materials:
  St 34 - St 360-2, St 52-3, H 1, H 2, H 3,17 Mn 4, St 35.4 St 45.4, St 35.8, St 45.8, GS 40 - GS 45
- Joint welding in apparatus, boiler, pipe, vehicle and mechanical
- Welding gases: Acetylene-oxygen

Designation	PU	Art. no.
2.0 mm	5 kg	1450220
2.5 mm	5 kg	1450225
3.0 mm	5 kg	1450230



ALUMINIUM ADHESIVE TAPE, 50 M

- Heat-resistant with PE film cover, DIN4102 Part 1 A2. Building material class non-combustible when bonded to a metallic substrate. DIN4102 Part 1 Class B Flame-retardant building material class, if bonded to mineral fibre products laminated with at least flame-retardant aluminium.

Designation	PU	Art. no.
Width 25mm	5 kg	1251025
Width 38mm	5 kg	1251038
Width 50mm	5 kg	1251050

1.4370 DIN 8556: SG X 15 CR NI MN 18 8

- for the following base materials:
  1.4301, 1.4306, 1.4308, 1.4312, 1.4401, 1.4404, 1.4408, 1.4410, 1.4435, 1.4436, 1.4541, 1.4550, 1.4571, 1.4573, 1.4580, 1.4583, mit H 1 bis H 2
- Welding of stainless and acid-resistant Cr and Cr-Ni-Mn steels. For high demands on crack resistance and tough properties. Work hardening. Temperatures up to 850°C
- Shielding gas: Pure argon

Designation	PU	Art. no.
1.0 mm	5 kg	1453010
1.6 mm	5 kg	1453016
2.0 mm	5 kg	1453020
2.4 mm	5 kg	1453024
3.2 mm	5 kg	1453032

1.4430 DIN 8556: SG X 2 Cr Ni Mo 19 12

- for the following base materials:
  1.4301, 1.4306, 1.4308, 1.4312, 1.4401, 1.4404, 1.4408, 1.4410, 1.4417, 1.4429, 1.4435, 1.4436, 1.4541, 1.4550, 1.4571, 1.4573, 1.4580, 1.4581, 1.4583, 1.6901, 1.6902, 1.6903, 1.6905
- Welding of stainless, cold-resistant and austenitic steels. For operating temperatures up to 400°C.
- Shielding gas: Pure argon

Designation	PU	Art. no.
1.0 mm	5 kg	1452010
1.6 mm	5 kg	1452016
2.0 mm	5 kg	1452020
2.4 mm	5 kg	1452024
3.2 mm	5 kg	1452032

1.4576 DIN 8556: SG X 2 CR NI MO 19 12

- for the following base materials:
  1.4301, 1.4306, 1.4401, 1.4408, 1.441 0, 1.4429, 1.4435, 1.4436, 1.4437, 1.4523, 1.4541, 1.4543, 1.4550, 1.4552, 1.4571, 1.4573, 1.4580, 1.4581, 1.4583
- Due to the addition of niobium, this steel has high strength and high resistance to intergranular corrosion.
- Shielding gas: Pure argon

Designation	PU	Art. no.
1.0 mm	5 kg	1454010
1.6 mm	5 kg	1454016
2.0 mm	5 kg	1454020
2.4 mm	5 kg	1454024
3.2 mm	5 kg	1454032

1.4842 DIN 8556: SG X 12 Cr Ni 25 20

- for the following base materials:
  1.4762, 1.4832, 1.4837, 1.4841, 1.4845, 14848, 1.4849, 1.4543, 1.4550, 1.4552, 1.4878, 1.4961, 1.6901, 1.6902, 1.6903, 1.6905
- Welding of heat-resistant austenitic steels. The steel can be used in air up to 1100°C. Scale resistant up to 1100 °C.
- Shielding gas: Pure argon

Designation	PU	Art. no.
1.0 mm	5 kg	1454510
1.6 mm	5 kg	1454516
2.0 mm	5 kg	1454520
2.4 mm	5 kg	1454524
3.2 mm	5 kg	1454532

Rod electrodes for welding rust- and corrosion-resistant steels, cast iron and for build-up welding

Our **electrodes are** "Made in Germany". They are characterised by due to high quality, excellent welding properties and good slag solubility.

1. Approvals

ABS American Bureau of Shipping
BV Bureau Veritas
GL Germanischer Lloyd
LR Lloyd's Register of Shipping
NV Det Norske Veritas
RRS Russian Register of Shipping
PRS Polski Rejestr Statkow
DB Deutsche Bahn AG
Ü Certificate of conformity
TÜV Technical monitoring association
UDT Urzad Dozoru Technicznego

2. Welding positions

PA (w) horizontal (butt seams, fillet weld in trough position)
PB (h) horizontal (fillet welds)
PC (q) transverse (horizontal welding on vertical wall)
PE (ü) overhead
PF (s) rising (from bottom to top)
PG (f)falling (from top to bottom)

3. Current type

=+ Direct current, electrode at positive pole
=- Direct current, electrode at negative pole
~ Alternating current

Schweisskraft R(C)3

Factory designation: E 51 32 R(C)3, E38 0 RC 11, E 6013 according to DIN 1913/8529 /EN 499/AWS A5,1

Current type/welding position: =- ~/PA, PB, PC, PE, PF, PG

Application, properties, approval
Very easy-to-handle universal electrode, medium-thick, rutile cellulose-coated, with versatile use in machine, steel, ship and pipeline construction. Excellent weldability in all positions including drop stitch. Well-formed seam surface and self-dissolving slag, low spray losses, good re-ignition capability.

Dimensions Ø x L approx.	PU/box pack x pc.	Weight approx.	Art. no.
2.0 x 250 mm	1 x 170	1.6 kg	1161021
2.5 x 350 mm	1 x 250(1)	4.8 kg	1161025
3.2 x 350 mm	1 x 166(1)	5.0 kg	1161032
2.0 x 250 mm	20 pcs.	0.19 kg	1161021SB
2.5 x 350 mm	17 pcs.	0.33 kg	1161025SB
3.2 x 350 mm	7 pcs.	0.22 kg	1161032SB

Schweisskraft RRC6

Factory designation: E 42 0 RC 11, E 51 32 RR(C) 6, E 6013 according to DIN EN ISO 2560-A, DIN 1913, AWS A 5.1

Current type/welding position: =- ~/PA, PB, PC, PE, PF

Application, properties, approval
For joint and repair welding of unalloyed structural steels.
Excellent gap bridging, easy ignition and re-ignition, low spray losses.
Creates smooth, fine-scaled seam surfaces.
Also on rusted and primed base materials.

Dimensions Ø x L approx.	PU/box pack x pc.	Weight approx.	Art. no.
2.0 x 250 mm	1 x 175	1.6 kg	1165021
2.5 x 350 mm	1 x 252(1)	4.8 kg	1165025
3.2 x 350 mm	1 x 147(1)	4.8 kg	1165032
4.0 x 350 mm	3 x 103(1)	4.8 kg	1165040

SCHWEISSKRAFT RR6

Factory designation: E 51 32 RR6, E38 0 RR12, E 6013 according to DIN 1913/8529/EN 499/AWS A5,1

Current type/welding position: =+ ~/PA, PB, PC, PE, PF

Application, properties, approval
Electrode (thick, rutile-coated) for versatile use in industry and trade. For joint welding in vehicle, tank, boiler, pipeline, shipbuilding, steel and mechanical engineering,
boiler, pipeline, shipbuilding, steel and mechanical engineering on unalloyed and low-alloy steels. Excellent ignition properties, soft arc, little spatter, fine-scaled and smooth seam appearance, flat fillet welds, mostly self-dissolving slag.

Dimensions Ø x L approx.	PU/box pack x pc.	Weight approx.	Art. no.
2.0 x 250 mm	1 x 172	1.7 kg	1162021
2.5 x 350 mm	1 x 206	4.6 kg	1162025
3.2 x 350 mm	1 x 128	4.6 kg	1162032
4.0 x 350 mm	1 x 85	4.6 kg	1162040

SCHWEISSKRAFT RR(B)7

Factory designation: E 43 33 RR(B)7, E38 2 RB 12, 5E 6013 according to DIN 1913/DIN EN 499/AWS A5,1

Current type/welding position: =+ ~/PA, PB, PC, PE, PF

Application, properties, approval
Universal electrode, thick, rutile-based coated, particularly suitable for root and constrained position welding in pipework, tank, boiler and shipbuilding. Finely scaled, well-developed, radiopaque seams with notch-free transition to the base material. Very easy slag removal, even in root layers.

Dimensions Ø x L approx.	PU/box pack x pc.	Weight approx.	Art. no.
2.5 x 350 mm	3 x 242(1)	4.8 kg	1163025
3.2 x 350 mm	3 x 144(1)	5.0 kg	1163032

SCHWEISSKRAFT B(R)10

Factory designation: E 51 54 B(R)10, E42 3 B 12 H 10, E 7016 according to DIN 1913/8529/ EN 499/AWS A5,1

Current type/welding position: =+ ~/PA, PB, PC, PE, PF

Application, properties, approval
Universal electrode (thick, basic coated with non-basic components) with high mechanical quality values for industry and trade for welding unalloyed and low-alloy steels. The good weldability in constrained positions and on alternating current should be emphasised.

Dimensions Ø x L approx.	PU/box pack x pc.	Weight approx.	Art. no.
2.5 x 350 mm	3 x 205(1)	4.3 kg	1164025
3.2 x 350 mm	3 x 126(1)	4.3 kg	1164032

(1)When ordering, you will receive 3 packs in a carton

Due to possible fluctuations in commodity prices, prices subject to change.

Quality Made in Germany

Rod electrodes for welding rust- and corrosion-resistant steels

SCHWEISSKRAFT 4316 AC

Factory designation E 19 9 LR 23, E 308 L-16 to DIN 8556/AWS A5.4

Current type/welding position =+ ~/PA, PB, PC, PE, PF

Application, properties, approval
Rutile-coated electrode for joint welding on low-carbon, non-stabilised and stabilised, austenitic, chemically resistant CrNi steels at operating temperatures of up to 350°C, for corrosion-resistant Cr and heat-resistant Cr and CrNi steels, for austenitic steels that are close to cold and for alloy-like claddings.
Material no. 1.4300, 1.4301, 1.4306, 1.4308, 1.4311, 1.4312, 1.4541, 1.4543, 1.4550, 1.4552, 1.4878, 1.6905.

Dimensions Ø x L approx.	PU/plastic/carton Packs x pc.	Weight approx.	Art. no.
2.5 x 300 mm	1 x 234	4.2 kg	1166025
3.2 x 350 mm	1 x 124	4.5 kg	1166032
2.5 x 300 mm	1 x 67	1.2 kg	1166026
3.2 x 350 mm	1 x 36	1.3 kg	1166033

SCHWEISSKRAFT 4430 AC

Factory designation E 19 12 3 LR 23, E 316 L-16 according to DIN 8556/AWS A5,4

Current type/welding position =+ ~/PA, PB, PC, PE, PF

Application, properties, approval
Rutile-coated electrode for joint welding on low-carbon, non-stabilised and stabilised, austenitic, chemically resistant CrNiMo steels at operating temperatures up to 400°C, for corrosion-resistant Cr and CrMo steels, for alloy-like claddings and for austenite-ferrite joints.
Material no. 1.4401, 1.4404, 1.4408, 1.4429, 1.4435, 1.4436, 1.4437, 1.4571, 1.4580, 1.4583

Dimensions Ø x L approx.	PU/plastic/carton Pack x pc.	Weight approx.	Art. no.
2.5 x 300 mm	1 x 233	4.2 kg	1166125
3.2 x 350 mm	1 x 136	4.9 kg	1166132
2.5 x 300 mm	1 x 68	1.2 kg	1166126
3.2 x 350 mm	1 x 39	1.4 kg	1166133

Rod electrodes for welding steels

Schweisskraft 4370 AC

Factory designation E 18 8 Mn R26, approx. E 307-16 according to DIN 8556/AWS A5,4

Current type/welding position =+ ~/PA, PB, PC, PE, PF

Ø in mm 2.5 - 5.0

Application, properties, approval
Rutile-coated electrode for joint welding between unalloyed and low-alloy steels with high-alloy steels and cast steel grades, for austenite-ferrite joints at operating temperatures up to 300°C, for welding high-C and difficult-to-weld steels as well as austenitic hard manganese steels, for welding buffer layers and for wear-resistant surfacing under work-hardening impact, pressure and rolling stress. The weld metal is fully austenitic, corrosion-resistant, scale-resistant up to 850°C and work-hardenable up to a hardness of approx. 350 HB.

Dimensions Ø x L approx.	PU/plastic/carton Pack x pc.	Weight approx.	Art. no.
3.2 x 350 mm	1 x 132	4.8 kg	1167032
4.0 x 350 mm	1 x 92	5.0 kg	1167040
3.2 x 350 mm	1 x 39	1.4 kg	1167033
4.0 x 350 mm	1 x 24	1.3 kg	1167041

Schweisskraft 4337 AC

Factory designation E 29 9 R23, E 312-16 according to DIN 8556/AWS A5,4

Current type/welding position =+ ~/PA, PB, PC, PE, PF

Ø in mm 2.0 - 5.0

Application, properties, approval
Rutile-coated electrode for joint and build-up welding on identical and similar steels and cast steels, for joint welding on high-strength unalloyed and low-alloyed structural steels, heat-treatable steels and tool steels, on hard manganese steel and for joint welding between dissimilar steels and with high-alloy stainless steels. The electrode is also suitable for crack-resistant and tough-hard intermediate layers for hard coatings as well as for wear-resistant, work-hardening and heat-hardening coatings. The austenitic-ferritic weld metal is stainless, corrosion-resistant and suitable for operating temperatures of up to 300°C. The increased delta ferrite content in the weld metal results in a high level of safety against hot cracks in black-white joints.

Dimensions Ø x L approx.	PU/plastic/carton Pack x pc.	Weight approx.	Art. no.
2.5 x 300 mm	1 x 224	4.0 kg	1167125
3.2 x 350 mm	1 x 136	4.8 kg	1167132
2.5 x 300 mm	1 x 62	1.1 kg	1167126
3.2 x 350 mm	1 x 37	1.3 kg	1167133

Rod electrodes for welding cast iron

Schweisskraft NI

Factory designation	E NI BG 11, E NI-C1 according to DIN 8573/AWS A5,15
Current type/welding position	=- =+ ~/PA, PB, PC, PS

Application, properties, approval
Basic graphite-coated nickel electrode for cold welding of grey, malleable and cast steel as well as for welding on fatigued castings. For eliminating blowholes and processing errors. The NI has excellent welding properties even at low amperage settings. It has a smooth, intensive flow and low spray losses, as well as easy slag removal. The weld seam is soft as a file and can be machined, including the transition zones to the base material.

Dimensions Ø x L approx.	PU/plastic/carton Pack x pc.	Weight approx.	Art. no.
2.5 x 350 mm	1 x 74	1.5 kg	1168025
3.2 x 350 mm	1 x 43	1.5 kg	1168032

SCHWEISSKRAFT NIFE

Factory designation	E NiFe-1 BG 11, E NiFe-C1 according DIN 8573/AWS A5,15
Current type/welding position	=- =+ ~/PA, PB, PC, PS

Application, properties, approval
Basic graphite-coated nickel-iron electrode for cold welding of grey cast iron with lamellar and globular graphite structure. Also suitable for joining cast iron (GGL and GGG grades) with unalloyed steel materials. The alloy of the weld metal essentially consists of core wire, 60%Ni and 40%Fe. The weld metal can be machined and is characterised by high crack resistance. It is very similar in colour to the base material and also corrodes like this later on. The soft welding electrode has good wetting properties.

Dimensions Ø x L approx.	PU/plastic/carton Pack x pc.	Weight approx.	Art. no.
2.5 x 300 mm	1 x 82	1.3 kg	1168125
3.2 x 350 mm	1 x 47	1.5 kg	1168132

Rod electrodes for build-up welding

Schweisskraft 60

Factory designation	E 6-UM-60 F/approx. E 307-16 according to DIN 8555
Current type/welding position	=+/ w, h, q, s
Ø in mm	2.5 - 5.0

Application, properties, approval
Basic-coated electrode for tough, impact-resistant and abrasion-resistant coatings on unalloyed and low-alloyed materials of high strength. Particularly suitable for coatings on machine parts, excavator teeth, blow bars, scrapers, screw conveyors, mill beaters, mixer blades, crusher jaws, crusher cones, etc.
The weld metal can only be machined by grinding, it can be soft annealed and hardened.

Dimensions Ø x L approx.	PU/plastic/carton Pack x pc.	Weight approx.	Art. no.
3.2 x 450 mm	1 x 133	6.3 kg	1169032
4.0 x 450 mm	1 x 88	6.3 kg	1169040

Various packaging units ...

Your advantages:
- All rod electrodes are packed in a practical plastic pack or outer carton and therefore do not become damp.
- Many types are available in the favourable small packaging

1. Approvals

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LR	Lloyd's Register of Shipping
NV	Det Norske Veritas
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PRS	Polski Rejestr Statkow
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TÜV	Technical monitoring association
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2. Welding positions

PA	**(w) horizontal (butt seams, fillet weld in trough position)**
PB	**(h) horizontal (fillet welds)**
PC	**(q) transverse (horizontal welding on vertical wall)**
PE	**(ü) overhead**
PF	**(s) rising (from bottom to top)**
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3. Current type

=+	Direct current, electrode at positive pole
=-	Direct current, electrode at negative pole
~	Alternating current