



TYSWELD[®]
GERMANY



PRODUCT CATALOGUE

Who are we?

Tysweld is one of the leading brands in welding industry in the South-East Europe. Main customers of our products are in Poland, Czech Republic, Slovakia, Lithuania, Latvia, Ukraine, Romania, Bulgaria, Serbia, Croatia and Scandinavian countries as, for inConditionce, Norway. Every year, the Tysweld brand opens new markets and provides satisfaction for our customers in West Europe countries, for inConditionce, France, Spain and Germany.

Let us present our offer of welding materials of the Tysweld brand.

We offer:

- Electrode wire and welding rods in gas shield:
 - For non-alloy and fine-grained steels
 - For high alloy steels
 - For aluminium alloys
 - For gas welding
- Wires and rods for braze welding CuSi3
- Powder core wires E71T-1
- Gasless, shielded core wires
- Electrodes
- Welding clamps for MIG/MAG and TIG and spare parts
- Anti-spatter welding agent and paste

Tysweld focuses especially on continuous development and improvement of its products. All our welding materials are thoroughly quality controlled. Every product fulfils highest requirements confirmed with respective certificates and the packages are so designed as to facilitate the management of welding materials and wastes.



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GERMANY

Table of contents

Product	EN ISO	DIN	AWS	Page
Gas shielded welding wires				
T20	14341-A: G3Si1	8559 SG-2	A5.18 ER70S-6	7
T30	ISO 14341-A: G4Si1	8559 SG-3	A5.18 ER70S-6	8
T08M	14343-A: G 19 9LSi	8556 SG X5 CrNi 19 9	A-5.9: ER308LSi	14
T09M	14343-A: G 23 12 LSi	8556 SG X2 CrNi 24 12	A 5.9: ER309LSi	16
T16M	14343-A: G 19 12 3 LSi	8556 SG X2 CrNiMo 19 12	A 5.9: ER316LSi	18
T56M	18273: S Al 5356	1732.SG-ALMg5	A 5.10: ER 5356	20
T43M	18273: S Al 4043	1762.SG-ALSi5	A 5.10: ER 4043	22
T83M	18273: S Al 5183	1732.SG-ALMg4,5Mn	A 5.10: ER 5183	24
TCU3M	24373: S Cu 6560	1733.SG-CuSi3Mn1	A 5.7: ERCuSi – A	26
Welding wire under the flux				
T9MT	14171-A: S2	8557-S2	A 5.17: EM12	11
Flux cored welding wires				
T71C/T71M	17632-A-T 42 4 R C/M 2 H10	-	A 5.20: E71T-1C/1M	10
T71GS	-	-	A 5.20: E71T-GS	13
Flux				
TOP17MT	S 38 2 AB S 2	-	-	11
TIG welding rods				
T30W	636-A: W4Si1	8559:SG-3	A 5.18: ER70S-6	9
T08W	14343-A: W 19 9LSi	8556 SG X2 CrNi 19 9	A-5.9: ER308LSi	15
T09W	14343-A: W 23 12 LSi	8556 SG X2 CrNi 24 12	A 5.9: ER309LSi	17
T16W	14343-A: G 19 12 3 LSi	8556 SG X2 CrNiMo 19 12	A 5.9: ER316LSi	19
T56W	18273: S Al 5356	1732.SG-ALMg5	A 5.10: R 5356	21
T43W	18273: S Al 4043	1762.SG-ALSi5	A 5.10: R 4043	23
T83W	18273: S Al 5183	1732.SG-ALMg4,5Mn	A 5.10: R 5183	25
TCU3W	24373: S Cu 6560	1733.SG-CuSi3Mn1	A 5.7: ERCuSi – A	27
Gas welding rods				
TG1A	12536:0 II	8555. SPG1A	A 5.2.R60	28
Welding electrodes				
E13	2560-A: E 38 0 RC 11	1913 E43 22 R(C) 3	A5.1: E 6013	30
E13MW	499:E 38 0 RC 11	2560-A-E 38 0 RC 11	A 5.1: E 6012	31
E13EMW	2560-A- E 38 0 RC 11	-	A 5.1:E 6013	32
E18	2560-A: E 42 4 B 42	1913 E51 54 B 10	A5.1: E 7018	33
E50MW	499: E 42 4 B 31 H 5	1913: E 51 54 B9	A 5.1: E 7018	34
E08	1600: E 19 9 LR 1 1	8556 E19 9 LR 26	A 5.4: E308L – 16	35
E16	1600: E 19 12 3 LR 1 1	8556 E19 12 LR 26	A 5.4: E316L – 16	36
EDUR250MW	-	8555: E 1-UM-250	-	37
EDUR400MW	-	8555: E 1-UM-400	-	38
EDUR600MW	-	8555: E 1-UM-600	-	39
EMONELMW	-	8573: E Ni Cu BG1	A 5.15: E NiCu-B	40
EBRONMW	-	1733: E CuSn-7	A 5.6: E CuSn-A	41
ECUTMW	-	-	-	42
Welding handle for MIG/MAG and spare parts				46-51
Welding handle for TIG and spare parts				54-57
Welding chemicals				59



Wires for gas shielded welding





TYSWELD[®]
GERMANY

Welding wire for MIG/MAG - T20

EN ISO 14341-A: G3Si1
DIN 8559 SG-2
AWS A5.18 ER70S-6

The manganese-silicon electrode wires, copper plated are intended for welding by MIG/MAG methods of low-carbon construction steel and fine-grained manganese construction steel. It allows using both high currents with spray arc and low currents at short-circuit metal transfer. The welding wire Tysweld T20 is offered only in precision winding and is widely used in engineering, automotive, petrochemical industries as well as at boiler and ship building and containers. This high quality welding wire has very well deserved good reputation which it owes to high quality feeding, arc stability and its unique characteristics. Caring for invariable quality every spool is subject to internal quality control.

Approvals:

TÜV 11185
DB 42.107.02
CE 13479
ABS 3YSA

Welded material:

P235 / S 235 - P420 / S420 etc.

Shielding gas (EN ISO 14175):

M20, M21, M3, C1

Welding current:

=(+)

Weld metal classification:

EN ISO 14341-A-G 42 4 C1/M21 G3Si1

Welding positions:



Product no

ø mm	1 kg	5 kg	15 kg	250 kg
0,6	T20.000	T20.001	-	-
0,8	T20.002	T20.003	T20.004	T20.005
1,0	-	T20.006	T20.007	T20.008
1,2	-	T20.009	T20.010	T20.012
1,6	-	-	T20.013	

Typical Chemical composition of the weld metal (%)

C	Si	Mn
0,1	0,85	1,4

Typical mechanical properties of the weld metal

Test method	Condition	Gas	R _m MPa	R _{eL} (R _{p0,2}) MPa	A ₅ /(A ₄) %	KV (J)/°C			
						+20	-20	-30	-29
EN	TZ0	M21	560	470	26	130	90	70	
EN	TZ1	M21	495	370	28	120	90		
EN	TZ2	M21	455	310	32	100	75		
EN	TZ0	C1	540	450	25	110	70		
AWS	TZ0	C1	>480	(>400)	(>22)				>27

TZ0 - after welding, TZ1 - after heat treatment - 620 °C/15h, TZ2 - after normalization - 920 °C/10,5h

Technological parameters

ø d	Welding current	Arc voltage	Deposition efficiency	Gas flow rate	Feed speed	Weld metal efficiency
(mm)	(A)	(V)	(%)	(l/min)	(m/min)	(kg/h)
0,6	30 - 100	15 - 20	95	12	5,5 - 13,0	0,7 - 1,7
0,8	60 - 200	18 - 24	95	14	3,2 - 13,0	0,8 - 3,0
1,0	80 - 300	18 - 32	96	16	2,7 - 15,0	1,0 - 5,6
1,2	120 - 380	18 - 34	97	18	2,5 - 15,0	1,3 - 8,0
1,6	225 - 550	28 - 38	98	20	2,3 - 12,0	2,1 - 11,4

Welding wire for MIG/MAG - T30

EN ISO 14341-A: G4Si1
 DIN 8559 SG - 3
 AWS A5.18 ER70S-6

The manganese-silicone electrode wires, copper plated are designed for welding by MIG/MAG methods of low-carbon construction steel and low alloy steel. Increased content of Si - Mn in comparison to T20 assures higher resistance to contamination of welded surfaces. It is recommended for welding of construction elements with high strength requirements.

Approvals:

TÜV 11186
 DB 42.107.03
 CE 14341

Welded material:

P 235/S 235 - P460/S 460 etc.

Shielding gas (EN ISO 14175):

M20, M21, C1

Welding current:

=(+)

Weld metal classification:

EN ISO 14341-A-G 42 4 C1 G4Si1
 EN ISO 14341-A-G 46 4 M21 G4Si1

Welding positions:



Typical Chemical composition of the weld metal (%)

C	Si	Mn
0,09	0,92	1,7

Product no

ø mm	0,8	1,0	1,2
Code	T30.014	T30.015	T30.016

Typical mechanical properties of the weld metal

Test method	Condition	Gas	R _m MPa	R _{eL} (R _{p0,2}) MPa	A ₅ /(A ₄) %	KV (J)/°C			
						+20	-20	-30	-29
EN	TZ0	M21	595	525	26	130	>90	70	
EN	TZ1	M21	520	385	28	120	90		
EN	TZ2	M21	460	320	32	100	75		
EN	TZ0	C1	570	475	25	110	70		
AWS	TZ0	C1	>480	(>400)	(>22)				>27

TZ0 - after welding, TZ1 - after heat treatment - 620 °C/15h, TZ2 - after normalization 920 °C/10,5h

Technological parameters

ø d	Welding current	Arc voltage	Deposition efficiency	Gas flow rate	Feed speed	Weld metal efficiency
(mm)	(A)	(V)	(%)	(l/min)	(m/min)	(kg/h)
0,8	30 - 100	15 - 20	95	12	5,5 - 13,0	0,7 - 1,7
1,0	60 - 200	18 - 24	95	14	3,2 - 13,0	0,8 - 3,0
1,2	80 - 300	18 - 32	96	16	2,7 - 15,0	1,0 - 5,6

Welding rods for TIG - T30W

EN ISO 636-A: W4Si1
 DIN 8559: SG - 3
 AWS A5.18 ER70S-6

Copper plated wire with admixture of manganese and silicone what increases the strength of the weld metal and resistance to contamination of welded surfaces elements. It is intended for welding of non-alloy steel using TIG method.

Approvals:

TÜV*

DB*

* Certificate is pending

Welded material:

P 235/S - P 460/S 460 etc.

Shielding gas (EN ISO 14175):

l1, C1

Welding current:

= (-)

Product no

ø mm	1,6	2,0	2,4	3,2
Code	T30W.060	T30W.061	T30W.062	T30W.063

Typical Chemical composition of the weld metal (%)

C	Si	Mn
0,10	1,00	1,70

Typical mechanical properties of the weld metal

Test method	Condition	Gas	R _m MPa	R _{eL} MPa	A ₅ /(A ₄) %	KV (J)/°C	
						-29	-30
EN	TZ0	l1	595	525	26		70
AWS	TZ0	l1	>480	>400	(>22)	>27	0

TZ0 - after welding

Flux cored welding wire - T71C/T71M

EN ISO 17632-A-T 42 4 R C/M 2 H10
AWS A5.20 E71T-1C/1M

Rutile flux-cored wire is suitable for welding in all positions of universal application. It is suitable for spray arc welding and offers excellent weldability. It is recommended for ship constructions.

Approvals:

TÜV	12545
DNV	III YMS(H10)
CE	13479
GL	3YH10S
LR	3YS
BV	SA3YH10
ABS	3YSAH10

Core type:

Rutile

Shielding gas (EN ISO 14175):

M21, C1

Deposition efficiency:

ca. 85%

Welding current:

=(+)

Hydrogen content:

< 10ml/100g of weld

Other data:

ø 1,6 only in PA, PB positions

Welding positions:



Product no

ø mm	1,2 CO ₂	1,2 M	1,4 CO ₂
Code	T71C.020	T71M.021	T71C.133

Typical Chemical composition of the weld metal (%)

Gas	C	Si	Mn
C1	0,05	0,55	1,25
M21	0,09	0,38	1,75

Typical mechanical properties of the weld metal

Test method	Condition	Gas	R _m MPa	R _{eL} MPa	A ₅ %	KV (J)/°C
						-20
EN	TZ0	C1	588	497	27	110

TZ0 - after welding

Technological parameters

ø d	Welding current	Arc voltage	Feed speed	Weld metal efficiency
(mm)	(A)	(V)	(m/min)	(kg/h)
1,2	110 - 300	21 - 32	3,2 - 14,0	1,3 - 5,8
1,4	130 - 320	22 - 32	3,0 - 12,5	1,4 - 6,3

Welding wire under the flux MIG/MAG - T9MT

EN: ISO 14171-A: S2
DIN 8557-S2
AWS A5.17:EM12

Electrode wire, copper plated in combination with fluxing agent is suitable for welding of non-alloy and low-alloy steel of increased strength (construction steel, boiler steel and ship steel). It is also used for surfacing in railroad industry.

Welding current: ~ = (+)

Approvals:

TÜV*
DB*
ABS*
BV*
GL*
DNV*
PRS*
LRS*

* Certificate is pending

Product no

ø mm	1,6	2,0	2,5	3,0	3,2	4,0	5,0
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Code	T9MT.552	T9MT.553	T9MT.554	T9MT.555	T9MT.556	T9MT.557	T9MT.558
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Typical Chemical composition of the weld metal (%)

C	Si	Mn
0,10	0,14	1,00

FLUX - TOP17MT

EN: S 38 2 AB S 2

Alkaline agglomerated flux for welding of low-alloy steel, fine-grained steel or for sheet pile walls. The flux is intended for multilayer welding with one or two electrodes, using DC and AC. In combination with suitable wires (type IMT 6, IMT 9 Ni2) it assures excellent impact properties at low temperatures. Its additional advantage is very good slag detachability. The flux assures very low levels of hydrogen diffusion (<4ml/100g of weld).

Typical application: welding under the flux of low-alloy steel (yield point up to 420N/mm²), pressure vessels, high-strength ship steel such as EH36 and fine-grained steel (yield point up to 460N/mm²).

Typical Chemical composition of the weld metal (%)

CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂	SiO ₂ + TiO ₂
30%	30%	15%	20%

Product no

Code	TOP17MT.559
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Typical mechanical properties of the weld metal

Test method	Condition	R _m MPa	R _e MPa	A ₅ %	KV (J)/°C		
					0	-20	-40
EN	TZO	510	420	24	160	120	60

TZO - after welding



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Self-shielding cored wire - T71GS

AWS A5.20: E71T-GS

This core wire is suitable for welding of steel elements of low thickness without use of shielding gas. It is applied in building, production of vessels, farming equipment and is used both for production and for repairs of equipment.

Core type:

Specialny

Shielding gas (EN ISO 14175):

Self-shielding wire

Deposition efficiency:

75 - 85%

Welding current:

=(-)

Welding positions:



Product no

ø mm 0,8

Code T71GS.018

Typical Chemical composition of the weld metal (%)

C	Si	Mn	Al
0,2	0,3	1,0	2,0

Typical mechanical properties of the weld metal

Test method	Condition	Gas	R _m MPa	R _{eL} MPa	A ₅ %	KV (J)/°C +20
EN	TZO	-	500	380	>22	>27

TZO - after welding

Technological parameters

ø d	Welding current	Arc voltage	Feed speed	Weld metal efficiency
(mm)	(A)	(V)	(m)/min	(kg/h)
0,8	40 - 100	14 - 16	3,0 - 7,0	0,4 - 2,6

Welding wire for stainless steel MIG/MAG - T08M

EN ISO 14343-A: G 19 9 LSi
DIN 8556 SG - X5 CrNi 19 9
AWS A-5.9: ER308LSi

This austenitic wire with very low content of carbon is intended for welding of corrosion-proof steel containing approximately 18% Cr and 8% Ni. Increased content of Si improves its weldability. It can be used in constructions of chemical and food industry.

Approvals:

TÜV*

DB*

* Certificate is pending

Welded material:

1.4301, 1.4306, 1.4550 etc.

Shielding gas (EN ISO 14175):

M13, M12

Welding current:

=(+)

Welding positions:



Product no

ø mm	1 kg	5 kg	15 kg
0,6	T08M.024	T08M.025	-
0,8	T08M.026	T08M.027	T08M.028
1,0	-	T08M.029	T08M.030
1,2	-	T08M.031	T08M.032

Typical Chemical composition of the weld metal (%)

C	Si	Mn	Cr	Ni
<0,03	0,80	1,80	20,0	10,0

Typical mechanical properties of the weld metal

Test method	Condition	Gas	Test temperature °C	R _m MPa	R _{p0,2} MPa	A ₅ %	KV (J)/°C		
							+20	-60	-196
EN	TZ0	M13	+20	620	370	36	110	90	60
EN	TZ0	M13	+350	490	370	25			
EN	A	M13	+20	600	340	43	90	80	60
EN	A	M13	+350	460	240	28			

TZ0 - after welding, A - heat treatment 1050 °C/10,5h

Technological parameters

ø d	Welding current	Arc voltage	Gas flow rate	Feed speed	Weld metal efficiency
(mm)	(A)	(V)	(l/min)	(m/min)	(kg/h)
0,8	55 - 160	15 - 24	12	4,0 - 17,0	1,0 - 4,1
1,0	80 - 240	15 - 28	15	4,0 - 16,0	1,5 - 6,0
1,2	100 - 300	15 - 29	18	3,0 - 14,0	1,6 - 7,5

Rods for stainless steel TIG - T08W

EN ISO 14343-A: W 19 9 LSI
 DIN 8556 SG - X2 CRNI 19 9
 AWS A-5.9: ER308LSI

These not coated rods are resistant to corrosion and are intended for welding using TIG method of austenitic chrome-nickel steel, type 18%Cr, 8%Ni. The weld metal features good resistance to general corrosion. Low carbon content makes them especially suitable in situations where the risk of intercrystalline corrosion occurs. Increased silicon content improves welding properties such as wetting properties. The weld metal is widely used in chemical and food industry as well as for welding of pipelines, pipes and boilers.

Approvals:

TÜV*

DB*

* Certificate is pending

Welded material:

AISI 304, 304L,
 W. Nr: 1.4301; 1.4541; 1.4550 etc.

Shielding gas (EN ISO 14175):

l1

Welding current:

(-)

Product no

ø mm	1,0	1,2	1,6	2,0	2,4	3,2	4,0
Code	T08W.064	T08W.065	T08W.066	T08W.067	T08W.068	T08W.069	T08W.070

Typical Chemical composition of the weld metal (%)

C	Si	Mn	Cr	Ni
<0,03	0,85	1,80	20,00	10,00

Typical mechanical properties of the weld metal

Test method	Condition	Gas	R _m MPa	R _{p0,2} MPa	A ₅ %	KV (J)/°C			
						+20	-60	-110	-196
EN	TZ0	l1	625	480	37	170	150	140	100

TZ0 - after welding

Welding wire for stainless steel MIG/MAG - T09M

EN ISO 14343-A: G 23 12 LSi
DIN 8556 SG - X2 CrNi 24 12
AWS A 5.9: ER309LSi

This welding wire is intended for welding of acid resistant steel and cast steel, type 23% Cr, 12% Ni and for joining them with non-alloy steels as well as for laying the buffer layers in heteronymous joints. Increased Si content improves weldability. The joint is creep-resistant up to 1000 °C

Approvals:

TÜV*

DB*

* Certificate is pending

Welded material:

1.4583 + S235 - S355 etc.

Shielding gas (EN ISO 14175):

M13, M12

Welding current:

=(+)

Welding positions:



Product no

ø mm	5 kg	15 kg
0,8	T09M.033	T09M.108
1,0	T09M.034	T09M.109
1,2	T09M.035	T09M.110

Typical Chemical composition of the weld metal (%)

C	Si	Mn	Cr	Ni
<0,03	0,80	1,80	24,0	13,0

Typical mechanical properties of the weld metal

Test method	Condition	Gas	R _m MPa	R _{p0,2} MPa	A ₅ %	KV (J)/°C		
						+20	-60	-110
EN	TZ0	M13	600	440	41	160	130	90

TZ0 - after welding

Technological parameters

ø d	Welding current	Arc voltage	Gas flow rate	Feed speed	Weld metal efficiency
(mm)	(A)	(V)	(l/min)	(m/min)	(kg/h)
0,8	55 - 160	15 - 24	12	4,0 - 17,0	1,0 - 4,1
1,0	80 - 240	15 - 28	15	4,0 - 16,0	1,6 - 6,0
1,2	100 - 300	15 - 29	18	3,0 - 14,0	1,6 - 7,5

Rods for stainless steel TIG - T09W

EN ISO 14343-A: W 23 12 LSi
 DIN 8556 SG - X2 CrNi 24 12
 AWS A 5.9: ER309LSi

These welding rods are intended for welding of acid resistant steel and cast steel, type 23% Cr, 12% Ni and for joining them with non-alloy steels as well as for laying the buffer layers in heteronymous joints. Increased Si content improves weldability. The joint is creep-resistant up to 1000 °C.

Approvals:

TÜV*

DB*

* Certificate is pending

Welded material:

1.4583 +S235 - S355 etc.

Shielding gas (EN ISO 14175):

l1

Welding current:

=(-)

Product no

ø mm	1,0	1,2	1,6	2,0	2,4	3,2	4,0
Code	T09W.121	T09W.071	T09W.072	T09W.073	T09W.074	T09W.075	T09W.122

Typical Chemical composition of the weld metal (%)

C	Si	Mn	Cr	Ni
<0,03	0,80	1,80	24,00	13,00

Typical mechanical properties of the weld metal

Test method	Condition	Gas	R _m MPa	R _{p0,2} MPa	A ₅ %	KV (J)/°C		
						+20	-60	-110
EN	TZ0	L1	635	475	32	150	150	130

TZ0 - after welding

Welding wire for stainless steel MIG/MAG - T16M

EN ISO 14343-A: G 19 12 3 LSi
DIN 8556 SG - X2 CrNiMo 19 12
AWS A 5.9: ER316LSi

This austenitic wire with very low carbon content is intended for welding of corrosion resistant steel containing approximately 18% Cr, 12% Ni. It is recommended where there is a risk of general and intercrystalline corrosion in contact with acids and chlorides. Increased Si content improves weldability. It is used in constructions of chemical and food industry and in ship building and for welding of architectural elements.

Approvals:

TÜV*

DB*

* Certificate is pending

Welded material:

1.4301, 1.4541, 1.4550, 1.4435, 1.4571, 1.4583 etc.

Shielding gas (EN ISO 14175):

M13, M12

Welding current:

=(+)

Welding positions:



Product no

ø mm	5 kg	15 kg
0,8	T16M.036	T16M.037
1,0	T16M.038	T16M.039
1,2	T16M.040	T16M.041

Typical Chemical composition of the weld metal (%)

C	Si	Mn	Cr	Ni	Mo
<0,03	0,80	1,90	19,0	12,0	2,70

Typical mechanical properties of the weld metal

Test method	Condition	Gas	Test temperature °C	R _m MPa	R _{p0,2} MPa	A ₅ %	KV (J)/°C		
							+20	-60	-196
EN	TZ0	M13	+20	620	440	37	120	95	55
EN	TZ0	M13	+350	440	340	26			
EN	A	M13	+20	590	350	42	110	90	50
EN	A	M13	+350	430	250	31			

TZ0 - after welding, A - heat treatment - 1050 °C/10,5h

Technological parameters

ø d	Welding current	Arc voltage	Gas flow rate	Feed speed	Weld metal efficiency
(mm)	(A)	(V)	(l/min)	(m/min)	(kg/h)
0,8	55 - 160	15 - 24	12	4,0 - 17,0	1,0 - 4,1
1,0	80 - 240	15 - 28	15	4,0 - 16,0	1,6 - 6,0
1,2	100 - 300	15 - 29	18	3,0 - 14,0	1,6 - 7,5

Rods for stainless steel - T16W

EN ISO 14343-A: W 19 12 3 LSi
 DIN 8556 SG - X2 CrNiMo 19 12
 AWS A 5.9: ER316LSi

These austenitic rods of low carbon content are intended for welding of corrosion resistant steel containing approximately 18% Cr ,12% Ni. It is recommended for welding where there is a risk of exposure to general and intercrystalline corrosion in contact with acids and chlorides. Increased Si content improves weldability. It is used in constructions of chemical and food industry and ship building and for welding of architectural elements.

Welded material:

AISI 316, AISI 316L, W.Nr 1.4301, 1.4541, 1.4550, 1.4435, 1.4571, 1.4583 etc.

Approvals:

TÜV*
 DB*

* Certificate is pending

Shielding gas (EN ISO 14175):

l1

Welding current:

=(-)

Product no

ø mm	1,0	1,2	1,6	2,0	2,4	3,2	4,0
Code	T16W.076	T16W.077	T16W.078	T16W.079	T16W.080	T16W.081	T16W.123

Typical Chemical composition of the weld metal (%)

C	Si	Mn	Cr	Ni	Mo
<0,03	0,80	1,80	19,00	12,00	2,8

Typical mechanical properties of the weld metal

Test method	Condition	Gas	R _m MPa	R _{p0,2} MPa	A ₅ %	KV (J)/°C		
						+20	-110	-196
EN	TZ0	l1	630	480	44	175	150	110

TZ0 - after welding

Welding wire for aluminium MIG/MAG - T56M

EN ISO 18273: S Al 5356
DIN 1732. SG - AlMg5
AWS A 5.10: ER 5356

It is widely used alloy that is classified as the weld metal of general application. AlMg5 is usually selected as the weld metal because of its high shear strength. It assures higher resistance to cracking than the weld metals of lower magnesium content. It is resistant to sea water.

Approvals:

TÜV*

DB*

* Certificate is pending

Welded material:

AlMg1 - AlMg5, AlMg4Mn, AlMgSi1, AlZn4,5Mg1 etc.

Shielding gas (EN ISO 14175):

l1, l3

Welding current:

=(+)

Welding positions:



Product no

ø mm	2 kg	7 kg
0,8	T56M.042	T56M.043
1,0	T56M.044	T56M.045
1,2	T56M.046	T56M.047

Typical Chemical composition of the weld metal (%)

Si	Mn	Al	Fe	Mg
<0,25	<0,20	podstawa	<0,40	5,00

Typical mechanical properties of the weld metal

Test method	Gas	R _m MPa	R _{p0,2} MPa	A ₅ %
EN	l1	265	120	26

Technological parameters

ø d	Welding current	Arc voltage	Gas flow rate	Feed speed	Weld metal efficiency
(mm)	(A)	(V)	(l/min)	(m/min)	(kg/h)
0,8	60 - 170	13 - 24	15	11,0 - 14,0	0,9 - 1,1
1,0	90 - 210	15 - 26	16	7,0 - 14,0	0,9 - 1,8
1,2	140 - 260	20 - 29	19	7,0 - 13,0	1,2 - 2,3

Rods for welding of aluminium TIG - T56W

EN ISO 18273: S Al 5356
 DIN 1732. SG - AlMg5
 AWS A 5.10: R 5356

It is widely used alloy that is classified as the weld metal of general application. AlMg5 is usually selected as the weld metal because of its high shear strength. It assures higher resistance to cracking than the weld metals of lower magnesium content. It is resistant to sea water.

Approvals:

TÜV*
 DB*

* Certificate is pending

Welded material:

AlMg1 - AlMg5, AlMg4,5Mn, AlMgSi1, AlZn4,5Mg1 etc.

Shielding gas (EN ISO 14175):

l1, l3

Welding current:

(→)

Product no

ø mm	1,6	2,0	2,4	3,2	4,0
Code	T56W.082	T56W.083	T56W.084	T56W.085	T56W.086

Typical Chemical composition of the weld metal (%)

Al	Si	Mn	Fe	Mg
95,0	<0,25	<0,20	<0,40	5,0

Typical mechanical properties of the weld metal

Test method	Gas	R _m MPa	R _{p0,2} MPa	A _{5(A₄)} %
EN	l1	265	120	26

Welding wire for aluminium MIG/MAG - T43M

EN ISO 18273: S Al 4043
DIN 1762 AlSi5
AWS A 5.10: ER 4043

It is widely used aluminium alloy for joining of alloys type AlMgSi and AlSi of silicone content up to 7%. Silicone addition in the alloy increases welding smoothness. The alloy is resistant to hot cracking and the weld face is almost completely devoid of temper.

Approvals:

TÜV*
DB*

* Certificate is pending

Welded material:

AlMgSi0,5, AlMgSi1, AlMg1SiCu,
G-AlSi6Cu4 etc.

Shielding gas (EN ISO 14175):

l1, l3

Welding current:

=(+)

Other data:

W.Nr ~3.2245

Welding positions:



Product no

ø mm	2 kg	7 kg
0,8	T43M.048	T43M.049
1,0	T43M.050	T43M.051
1,2	T43M.052	T43M.053

Typical Chemical composition of the weld metal (%)

Si	Mn	Al	Fe	Mg
5,00	<0,05	95,0	<0,60	<0,10

Typical mechanical properties of the weld metal

Test method	Gas	R _m MPa	R _{p0,2} MPa	A ₅ %
EN	l1	165	55	18

Technological parameters

ø d	Welding current	Arc voltage	Gas flow rate	Feed speed	Weld metal efficiency
(mm)	(A)	(V)	(l/min)	(m/min)	(kg/h)
0,8	60 - 170	13 - 24	15	8,0 - 11,0	0,6 - 0,9
1,0	90 - 210	15 - 26	16	7,0 - 12,0	0,9 - 1,8
1,2	140 - 260	20 - 29	19	5,5 - 11,0	1,0 - 2,1

Rods for welding of aluminium TIG - T43W

EN ISO 18273: S Al 4043
 DIN 1732. SG - AlSi5
 AWS A 5.10: R 4043

It is widely used aluminium alloy for joining of alloys type AlMgSi and AlSi of silicone content up to 7%. Silicone addition in the alloy increases welding smoothness. The alloy is resistant to hot cracking and the weld face is almost completely devoid of temper.

Approvals:

TÜV*
 DB*

* Certificate is pending

Welded material:

AlMgSi0,5, AlMgSi1, AlmgSiCu,
 G-AlSi6Cu4, etc.

Shielding gas (EN ISO 14175):

l1, l3

Welding current:

(-)

Product no

ø mm	1,6	2,0	2,4	3,2	4,0
Code	T43W.087	T43W.088	T43W.089	T43W.090	T43W.091

Typical Chemical composition of the weld metal (%)

Si	Mn	Al	Fe	Zn
5,00	<0,05	Basis	<0,60	<0,10

Typical mechanical properties of the weld metal

Test method	Gas	R _m MPa	R _{p0,2} MPa	A ₅ %
EN	l1	165	55	18

Welding wire for aluminium MIG/MAG - T83M

EN ISO 18273: S Al 5183
DIN 1732 AlMg4,5Mn
AWS A 5.10: ER 5183

This aluminium wire from the alloy type AL.-Mg 4,5 Mn is intended for welding of aluminium alloys of similar composition. The weld metal has better strength than AlMg5. It finds application in marine constructions and where high strength, and resistance to impact and corrosion are required.

Approvals:

TÜV*

DB*

* Certificate is pending

Welded material:

AlMg5, AlMg4,5Mn, AlMgSi1 etc.

Shielding gas (EN ISO 14175):

l1, l3

Welding current:

=(+)

Welding positions:



Product no

ø mm	2 kg	7 kg
0,8	T83M.111	T83M.112
1,0	T83M.113	T83M.114
1,2	T83M.115	T83M.116

Typical Chemical composition of the weld metal (%)

Si	Mn	Al	Fe	Mg
<0,45	<0,80	Basis	<0,40	4,80

Typical mechanical properties of the weld metal

Test method	Gas	R _m MPa	R _{p0,2} MPa	A ₅ %	KV (J)/°C +20
EN	l1	290	140	25	30

Technological parameters

ø d	Welding current	Arc voltage	Gas flow rate	Feed speed	Weld metal efficiency
(mm)	(A)	(V)	(l/min)	(m/min)	(kg/h)
0,8	60 - 70	13 - 24	15	8,0 - 11,0	0,6 - 0,9
1,0	90 - 210	15 - 26	16	7,0 - 14,0	0,9 - 1,8
1,2	140 - 260	20 - 29	19	7,0 - 13,0	1,2 - 2,3

Rods for welding of aluminium TIG - T83W

EN ISO 18273: S Al 5183
 DIN 1732. SG - AlMg4,5Mn
 AWS A 5.10: R 5183

This aluminium wire from the alloy type AL.-Mg 4,5 Mn is intended for welding of aluminium alloys of similar composition. The weld metal has better strength than AlMg5. It finds application in marine constructions and where high strength, and resistance to impact and corrosion are required.

Approvals:

TÜV*

DB*

* Certificate is pending

Welded material:

AlMg5, AlMg4,5Mn, AlMgSi1 etc.

Shielding gas (EN ISO 14175):

l1, l3

Welding current:

(~)

Product no

ø mm	1,6	2,0	2,4	3,2	4,0
Code	T83W.124	T83W.125	T83W.126	T83W.127	T83W.128

Typical Chemical composition of the weld metal (%)

Si	Mn	Al	Fe	Mg	Zn
<0,45	<0,80	Basis	<0,40	4,80	<0,25

Typical mechanical properties of the weld metal

Test method	Gas	R _m MPa	R _{p0,2} MPa	A ₅ %	KV (J)/°C +20
EN	l1	290	140	25	30

Wire for braze welding MIG/MAG - TCU3M

EN ISO 24373: S Cu 6560
DIN 1733. SG - CuSi3Mn1
AWS A 5.7: ERCuSi - A

This wire is used for welding of silicone copper and similar copper alloys. It can also be used for surface welding of ferritic-pearlitic steel and for braze welding of thin galvanized sheets in automotive industry.

Welded material:

2.0090, 2.0230, 2.0241, 2.0265, 2.0360 etc.

Shielding gas (EN ISO 14175):

l1 - l3 l3 for copper, M13 for galvanized sheets

Welding current:

= (+)

Welding positions:



Product no

ø mm	1 kg	5 kg	15 kg
0,8	TCU3M.054	TCU3M.055	TCU3M.056
1,0	-	TCU3M.057	TCU3M.058
1,2	-	-	TCU3M.059

Typical Chemical composition of the weld metal (%)

Si	Mn	Cu
4,0	1,0	>94

Typical mechanical properties of the weld metal

Test method	Gas	R _m MPa	R _{p0,2} MPa	A ₅ %	HB
EN	i1	350	130	40	80 - 100

Technological parameters

ø d	Welding current
(mm)	(A)
0,8	60 - 165
1,0	80 - 210
1,2	150 - 320

Rods for braze welding TIG - TCU3W

EN ISO 24373: S Cu 6560
 DIN 1733. SG - CuSi3Mn1
 AWS A 5.7: ERCuSi - A

This wire is used for welding of silicone copper and similar copper alloys. It can also be used for surface welding of ferritic-pearlitic steel and braze welding of thin galvanized sheets in automotive industry.

Welded material:
 2.0090, 2.0230, 2.0240, 2.0241 etc.

Shielding gas (EN ISO 14175):
 I1, I3

Welding current: =(-)

Product no

ø mm	1,6	2,0	2,4	3,2
Code	TCU3W.129	TCU3W.130	TCU3W.131	TCU3W.132

Typical Chemical composition of the weld metal (%)

Si	Mn	Cu
4,0	1,0	>94

Typical mechanical properties of the weld metal

Test method	Gas	R _m MPa	R _{p0,2} MPa	A ₅ %	HB
EN	I1	350	130	40	80-100

Rods for gas welding - TG1A

EN 12536: O II
DIN 8555. SPG1A
AWS A5.2. R60

This weld metal is intended for acetylene-oxygen welding of non-alloy steels. Typically, it is used to water heating installations and vessels.

Welded material:
St33 - St52, St35 - St35.8

Product no

ø mm	2,5	3,25	4,0
------	-----	------	-----

Code	TG1A.092	TG1A.093	TG1A.094
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Typical Chemical composition of the weld metal (%)

C	Si	Mn	P	S	Cr	Ni	Cu
0,06	0,04	0,52	0,009	0,011	0,05	0,06	0,12

Typical mechanical properties of the weld metal

Test method	Gas	R _m MPa	R _{p0,2} MPa	A ₅ %	HB
EN	i1	390	270	35	80 - 100

Welding electrodes



Rutile electrode - E13

EN ISO 2560-A: E 38 0 RC 11
DIN 1913 E43 22 R(C) 3
AWS A5.1: E 6013

This rutile electrode is intended for general applications for welding in all positions recommended for joining the elements of small and average thickness and edges with large gaps between them. It assures smooth face with easy removable slag. It is recommended for small transformer welding machines.

Approvals:

ABS*
LR*
BV*

* Certificate is pending

Coating:

Rutile

Drying:

100 - 120 °C/1h

Welding current:

~=(+/-)

Welding positions:



Product no

ø mm	2,0	2,5	3,25	4,0
Code	E13.095	E13.096	E13.097	E13.098

Typical Chemical composition of the weld metal (%)

C	Si	Mn
0,09	0,20	0,41

Typical mechanical properties of the weld metal

Test method	Condition	R _m MPa	R _{el} (R _{p0,2}) MPa	A ₅ /(A ₄) %	KV (J)/°C
ISO	TZ0	470 - 600	>380	>20	>47

TZ0 - after welding

Technological parameters

ø d	Length	Welding current	Arc voltage	Deposition efficiency	Melting time	Electrode deposition efficiency	pcs./kg od of weld metal	Weld metal efficiency
(mm)	(mm)	(A)	(V)	(%)	(s)			(kg/h)
2,0	300	35 - 50	22	148	77	0,50	150	0,31
2,5	350	50 - 80	25	89	59	0,60	94	0,65
3,2	450	80 - 130	22	93	79	0,63	42	1,08
4,0	450	120 - 180	22	90	85	0,62	29	1,47

Rutile electrode - E13MW

EN 499: E 38 0 RC 11
 EN ISO 2560-A-E 38 0 RC 11
 DIN 1913: E 43 22 R(C)3
 AWS A-5.1: E 6012

This medium coated rutile-cellulose electrode is recommended for welding in all positions and is intended for assembly and shop works. It has excellent primary and secondary ignition properties. Because of high electric arc concentration, it can be used for welding of penetration layers in pipe welding. It features, among others, flexible electric arc and great easiness in handling in enforced positions due to which welding with this electrode does not require much welding experience. It can be used for welding with small welding transformer 230 V.

Coating:
Rutile-cellulose

Drying:
140 °C/1h

Welding current: $\sim =(+/-)$

Welding positions:



Product no

ø mm	2,0	2,5	3,25	4,0	5,0
Code	E13MW.500	E13MW.501	E13MW.502	E13MW.503	E13MW.504

Typical Chemical composition of the weld metal (%)

C	Si	Mn
0,08	0,30	0,50

Typical mechanical properties of the weld metal

Test method	Condition	Test temperature °C	R _m MPa	R _{p0,2} MPa	A ₅ %	KV (J)/°C
						0
ISO	TZO	+20	600	380	28	47

TZO - after welding

Technological parameters

ø d	Length	Welding current
(mm)	(mm)	(A)
2,0	300	50 - 70
2,5	350	55 - 75
3,2	350	90 - 140
4,0	450	130 - 180
5,0	450	180 - 230

Rutile electrode - E13EMW

EN ISO 2560-A- E 38 0 RC 11
AWS A-5.1: E 6013

This electrode is intended for welding of steel structures and penetrations on pipes. During welding it features flexible and stable arc. There is no problem with slag removal. It has very good weldability in all positions. It is excellent for welding of thin elements on butt joints and fillet joints in a vertical down position without necessity of increasing the welding current. The face of weld has fine regular flake. It can be welded with small welding transformers 230 V.

Coating:
Rutile-cellulose

Drying:
120 °C/1h

Welding current: $\sim = (+/-)$

Welding positions:



Product no

ø mm	2,0	2,5	3,25	4,0	5,0
Code	E13EMW.505	E13EMW.506	E13EMW.507	E13EMW.508	E13EMW.509

Typical Chemical composition of the weld metal (%)

C	Si	Mn
0,08	0,30	0,50

Typical mechanical properties of the weld metal

Test method	Condition	Test temperature °C	R _m MPa	R _{p0,2} MPa	A ₅ %	KV (J)/°C 0
ISO	TZO	+ 20	> 600	> 380	> 20	> 47

TZO - after welding

Technological parameters

ø d	Length	Welding current
(mm)	(mm)	(A)
2,0	300	50 - 70
2,5	350	55 - 75
3,2	350	90 - 140
4,0	450	130 - 180
5,0	450	180 - 230

Alkaline electrode - E18

EN ISO 2560-A: E 42 4 B 42
DIN 1913 E51 54 B 10
AWS A5.1: E 7018

This infallible of general application alkaline electrode is recommended for welding of structures exposed to high static and dynamic loads. It has quite broad tolerance with regard to the chemical composition of its basic material. It assures high welding speed in a position vertical up and is suitable for joining of sheets protected with galvanic coatings.

Approvals:

ABS*
LR*
BV*

* Certificate is pending

Coating:

Alkaline

Drying:

350°C/2h

Welding current:

= (+)

Welding positions:



Product no

ø mm	2,5	3,25	4,0
Code	E18.099	E18.100	E18.101

Typical Chemical composition of the weld metal (%)

C	Si	Mn
0,08	0,60	1,20

Typical mechanical properties of the weld metal

Test method	Condition	R _m MPa	R _{eL} MPa	A ₅ %	KV (J)/°C
ISO	TZ0	500 - 640	>420	>20	>47

TZ0 - after welding

Technological parameters

ø d	Length	Welding current	Arc voltage	Deposition efficiency	Melting time	Electrode deposition efficiency	Pcs./kg od of weld metal	Weld metal efficiency
(mm)	(mm)	(A)	(V)	(%)	(s)			(kg/h)
2.5	350	70 - 100	24	117	63	0.62	71	0.80
3.2	450	90 - 140	24	113	84	0.63	34	1.24
4.0	450	130 - 190	26	110	96	0.61	24	1.57

Alkaline electrode - E50MW

EN 499: E 42 4 B 31 H 5
 EN ISO2560-A-E 42 4 B 31 H5
 DIN 1913: E 51 54 B9
 AWS A-5.1: E 7018

This electrode of excellent parameters is recommended for welding of structures with normal and increased strength and with high dynamic loads especially in shipbuilding industry, machine building and rolling stock. It is designed for welding of static and dynamic structures. It is especially recommended for welding of construction elements that cannot be turned. It is suitable for sheets of thickness 5-6 mm in PG, in PF – all thicknesses. Its deposition efficiency is about 118%.

Approvals:

TUV*
 DB*
 BV*
 ABS*
 GL*
 DNV*
 LR*

* Certificate is pending

Coating:

Alkaline

Drying:

300-350°C/2h

Welding current:

=(+)

Welding positions:



Product no

ø mm	2,0	2,5	3,25	4,0	4,5	5,0
Code	E50MW.510	E50MW.511	E50MW.512	E50MW.513	E50MW.514	E50MW.515

Typical Chemical composition of the weld metal (%)

C	Si	Mn
0,06	0,50	1,20

Typical mechanical properties of the weld metal

Test method	Condition	R _m MPa	R _{eL} MPa	A ₅ %	KV (J)/°C	
					-20	-40
ISO	TZ0	640	420	22	90	47

TZ0 - after welding

Technological parameters

ø d	Length	Welding current
(mm)	(mm)	(A)
2.0	300	50 - 60
2.5	350	65 - 90
3.2	350 / 450	110 - 140
4.0	350 / 450	140 - 180
5.0	450	180 - 230

Electrode Inox - E08

EN 1600: E 19 9 L R 1 1
DIN 8556 E19 9 LR 26
AWS A 5.4: E308L - 16

This is the rutile electrode intended for welding of chrome-nickel steel. It is also suitable for stabilized steels of similar chemical composition except for the required heat-resistance. It is especially designed for welding of thin-wall pipes. Using the electrodes of diameters 1,6 - 2,5mm it is possible to weld in vertical down position.

Coating:

Rutile

Drying:

350 °C/2h

Welding current:

~ = (+)

Arc voltage:

50 V

Welding positions:



Product no

ø mm	2,0	2,5	3,25	4,0
Code	E08.102	E08.103	E08.104	E08.105

Typical Chemical composition of the weld metal (%)

C	Si	Mn	Cr	Ni
<0,03	0,70	0,80	19,5	10,0

Typical mechanical properties of the weld metal

Test method	Condition	R _m MPa	R _{p0.2} MPa	A ₅ /(A ₄) %	KV (J)/°C	
					+20	-60
ISO	TZ0	560	430	43	70	49
AWS	TZ0	>520	>320	(>35)	-	-

TZ0 - after welding

Technological parameters

ø d	Length	Welding current	Arc voltage	Deposition efficiency	Melting time	Electrode deposition efficiency	pcs./kg od of weld metal	Weld metal efficiency
(mm)	(mm)	(A)	(V)	(%)	(s)			(kg/h)
2.0	300	35 - 65	29	105	29	0.55	160	0.80
2.5	300	50 - 90	31	105	36	0.55	99	1.10
3.2	350	70 - 130	31	105	54	0.60	49	1.40
4.0	350	90 - 180	32	105	60	0.60	33	20.0

Electrode Inox - E16

EN 1600: E 19 12 3 L R 1 1
DIN 8556 E19 12 LR 26
AWS A 5.4: E316L - 16

This electrode is intended for welding of stainless steel. It is very resistant to chlorides, sea salt and water and the weld has high plasticity. It features excellent weldability, smooth face of the weld and high resistant to hot cracking. It is designed for welding of thin-wall elements in all positions.

Coating
Rutile-acid

Drying:
350 °C/2h

Welding current: - (+)

Arc voltage:
50 V

Welding positions:



Product no

ø mm	2,0	2,5	3,25	4,0
Code	E16.117	E16.118	E16.119	E16.105

Typical Chemical composition of the weld metal (%)

C	Si	Mn	Cr	Ni	Mo
<0.03	0.35	0.80	18.0	12.0	2.8

Typical mechanical properties of the weld metal

Test method	Condition	R _m MPa	R _{90,2} MPa	A ₅ /(A ₄) %	KV (J)/°C		
					+20	-20	-60
ISO	TZ0	570	460	40	60	55	43
AWS	TZ0	>510	>320	(>30)	-	-	-

TZ0 - after welding

Technological parameters

ø d	Length	Welding current	Arc voltage	Deposition efficiency	Melting time	Electrode deposition efficiency	pcs./kg od of weld metal	Weld metal efficiency
(mm)	(mm)	(A)	(V)	(%)	(s)			(kg/h)
2.0	300	45 - 65	29	104	39	0.60	147	0.60
2.5	300	45 - 80	29	100	45	0.55	96	0.90
3.2	350	60 - 125	30	100	57	0.55	52	1.40
4.0	350	70 - 190	32	100	57	0.56	34	2.0

Electrode for surfacing - EDUR250MW

DIN 8555: E 1-UM-250

This alkaline electrode with addition of Cr is used for surfacing by welding of elements where medium hardness is required. The padding weld is resistant to abrasion and high impact. It is recommended for surfacing of parts exposed to wear such as gears, traction etc. The padding weld cannot be hardened.

Coating:

Alkaline

Drying:

300°C/2h

Hardness:

220-270 HB

Welding current:

= (+)

Welding positions:



Product no

ø mm	2,5	3,25	4,0	5,0
Code	EDUR250.518	EDUR250.519	EDUR250.520	EDUR250.521

Typical Chemical composition of the weld metal (%)

C	Cr	Mn
0,16	1,20	1,10

Technological parameters

ø d	Length	Welding current
(mm)	(mm)	(A)
2.5	300	70 - 90
3.2	350	100 - 130
4.0	450	130 - 170
5.0	450	180 - 220

Electrode for surfacing - EDUR400MW

DIN 8555: E 1-UM-400

This electrode with addition of Cr and Mn is used for surfacing by welding of elements where high impact strength and medium resistance to abrasion is required. It is recommended for surfacing of parts exposed to wear: gears, chain links, rails etc.

Coating:

Alkaline

Drying:

300°C/2h

Hardness:

375-450 HB

Welding current:

=(+)

Welding positions:



Product no

ø mm	2,5	3,25	4,0	5,0
Code	EDUR400.523	EDUR400.524	EDUR400.525	EDUR400.527

Typical Chemical composition of the weld metal (%)

C	Cr	Mn
0,22	1,50	1,40

Technological parameters

ø d	Length	Welding current
(mm)	(mm)	(A)
2.5	300	70 - 90
3.2	350	100 - 130
4.0	450	130 - 170
5.0	450	180 - 220

Electrode for surfacing - EDUR600MW

DIN 8555: E 6-UM-60

This electrode is intended for welding of steel elements exposed to high impact. The weld pad has high resistance to abrasion. It is recommended for repair of parts exposed to high abrasion and wear by stone, carbon, sand etc. The weld metal can be grinded and grooved.

Coating:

Alkaline

Drying:

300°C/2h

Hardness:

57-62 HRC

Welding current:

=(+)

Welding positions:



Product no

ø mm	2,5	3,25	4,0	5,0
Code	EDUR600.529	EDUR600.530	EDUR600.531	EDUR600.533

Typical Chemical composition of the weld metal (%)

C	Cr	Mn
0,50	7,50	1,40

Technological parameters

ø d	Length	Welding current
(mm)	(mm)	(A)
2.5	350	70 - 90
3.2	350	100 - 135
4.0	450	140 - 180
5.0	450	180 - 230

Electrode for cast iron - EMONELMW

DIN 8573: E Ni Cu BG1
AWS A-5.15: E NiCu-B

This medium coated electrode is used for welding of cast iron and for regeneration of castings by cold method. It can be used for welding in all positions, also vertical down. When welding use possibly low currents.

Coating:
Special

Drying:
200 °C/1h

Hardness:
160 HB

Welding current: 

Welding positions:



Product no

ø mm	2,5	3,25	4,0	5,0
Code	EMONELMW.535	EMONELMW.536	EMONELMW.537	EMONELMW.539

Typical Chemical composition of the weld metal (%)

Cu	Ni
30,0	65,0

Technological parameters

ø d	Length	Welding current
(mm)	(mm)	(A)
2.5	300	50 - 80
3.2	350	80 - 110
4.0	350	110- 150
5.0	350	150 - 190

Electrode for copper - **EBRONMW**

DIN 1733: E CuSn-7
AWS A-5.6: E CuSn-A

This electrode is used for welding and surfacing of copper and its alloys. It can also be used for welding of copper alloys with steel and cast iron. It is suitable for surfacing of steel and cast iron elements.

Coating:
Special

Drying:
300°C/2h

Hardness:
70-110 HB

Welding current: =(+)

Other data:
RM: 300-350 N/mn²

Welding positions:



Product no

ø mm	2,5	3,25	4,0	5,0
Code	EBRONMW541	EBRONMW542	EBRONMW543	EBRONMW545

Typical Chemical composition of the weld metal (%)

Cu	Sn	Mn	P
93,0	6,0	0,10	0,2

Technological parameters

ø d	Length	Welding current
(mm)	(mm)	(A)
2.5	300	40 - 70
3.2	350	80 - 120
4.0	350	120- 150
5.0	350	130 - 190

Electrode for cutting and grooving - ECUTMW

This electrode is used for cutting and grooving of all types of steel, iron castings, copper and its alloys.

Note: when welding in small rooms assure good ventilation.

Coating:

Special

Welding current: $\sim =(-/+)$

Welding positions:



Product no

ø mm	3,25	4,0	5,0
Code	ECUTMW548	ECUTMW549	EMONELMW551

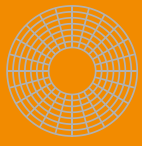
Technological parameters

ø d	Length	Welding current
(mm)	(mm)	(A)
3.2	350	130 - 200
4.0	350	180 - 250
5.0	450	250 - 350



Welding handle and spare parts MIG/MAG





TYSWELD[®]
GERMANY

MIG/MAG - welding handle

The welding handle by Tysweld feature advanced technology and quality of workmanship which is required for problem-free work during realization of various welding tasks. The design of all handle is well-thought-out in every detail and guarantees precise and comfortable work.

The welding handle MIG/MAG TS are cooled with air and liquid and are of very good quality which is required for realization of various special tasks.



1 TS MINI

2 TS 15

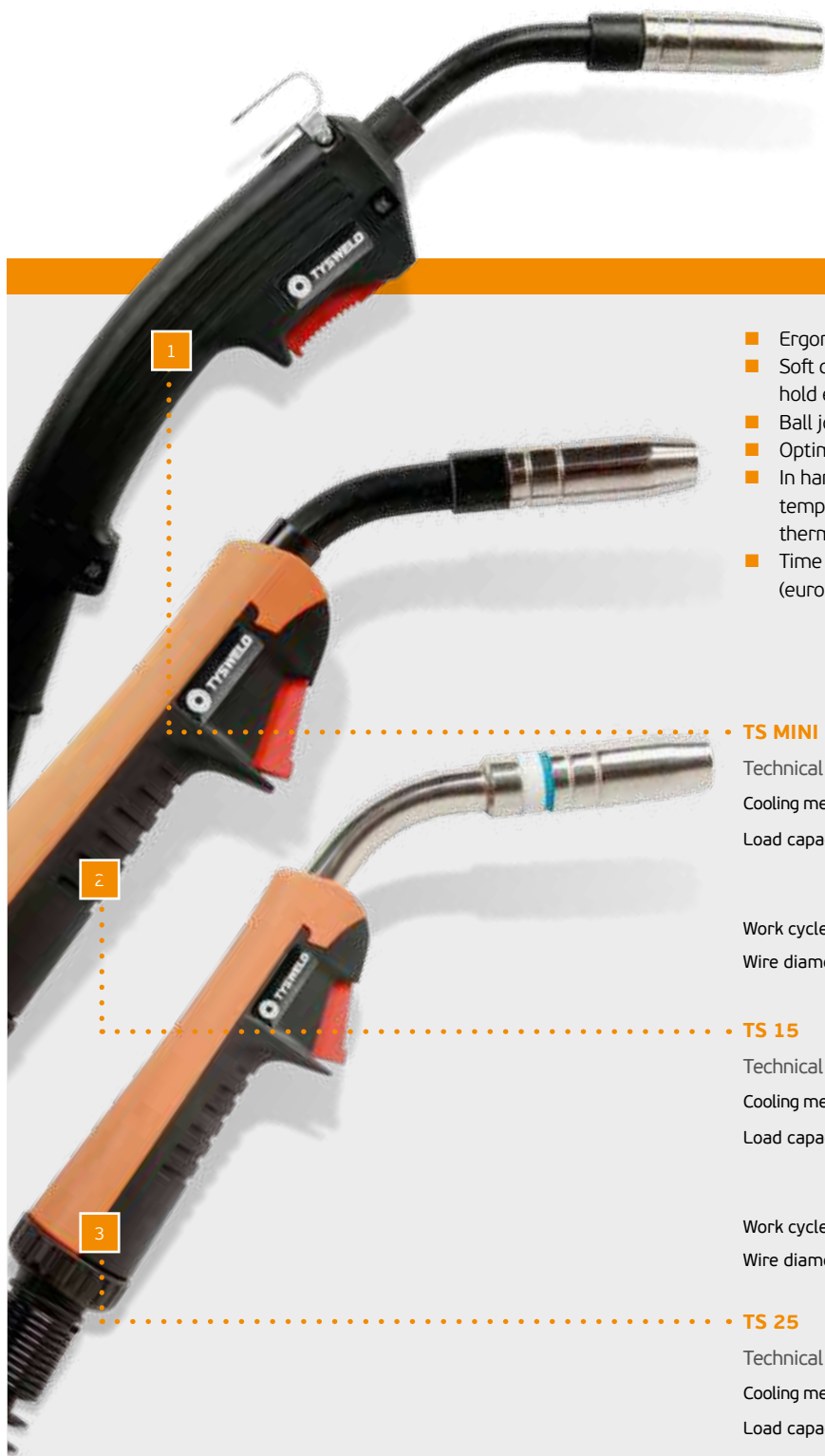
3 TS 24

4 TS 25

5 TS 26

6 TS 36

7 TS 401 i 501



1 TS MINI

2 TS 15

3 TS 25

- Ergonomic, short handle, best accessibility
- Soft components at the handling area and thumb support – firm hold even in extreme positions
- Ball joint with optimal radius of rotation – ideal handiness
- Optimal cooling of the handle – long life cycle
- In handles which are air cooled – high flexibility even in low temperatures, high resistance to UV, improved mechanical and thermal strength
- Time saving during replacement of clamps due to central joint (euro joint)

• TS MINI

Technical data (EN 60 974-7):

Cooling medium: air

Load capacity: 180 A CO₂
150 A mixture
M21 (acc. to EN 439)

Work cycle: 60%

Wire diameter: 0,6 - 1,0 mm

• TS 15

Technical data (EN 60 974-7):

Cooling medium: air

Load capacity: 180 A CO₂
150 A mixture
M21 (acc. to EN 439)

Work cycle: 60%

Wire diameter: 0,6 - 1,0 mm

• TS 25

Technical data (EN 60 974-7):

Cooling medium: air

Load capacity: 230 A CO₂
200 A mixture
M21 (acc. to EN 439)

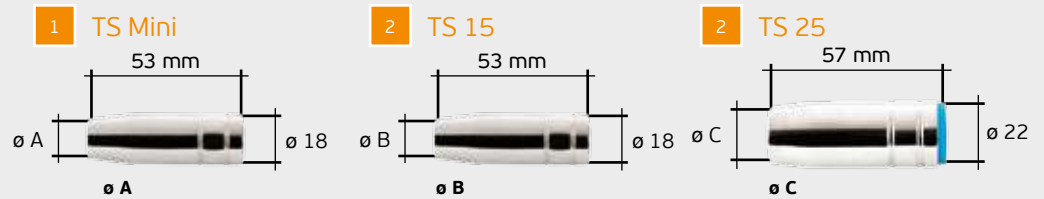
Work cycle: 60%

Wire diameter: 0,8 - 1,2 mm

TS MINI/ TS 15/ TS 25

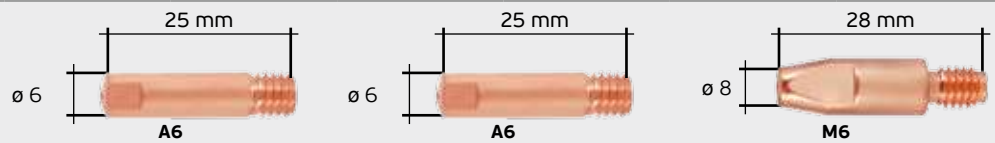
Handle complete	2,5m	3m	4m	5m
TS MINI	TS.250	-	-	-
TS 15	-	TS.251	TS.252	TS.253
TS 25	-	TS.257	TS.258	TS.259

Spare parts



GAS NOZZLE

	ø A	TS.150	ø B	TS.150	ø C	TS.156
Cylindrical	ø 16	TS.150	ø 16	TS.150	ø 18	TS.156
Conical	ø 12	TS.152	ø 12	TS.152	ø 15	TS.158
Very Conical	ø 9,5	TS.151	ø 9,5	TS.151	ø 11,5	TS.157



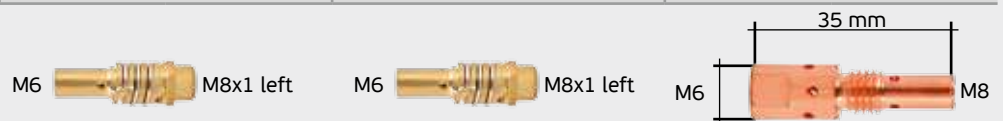
CONTACT TIP

	ø	TS.172	TS.172	-
E-Cu	ø 0,6	TS.172	TS.172	-
	ø 0,8	TS.174	TS.174	TS.170
	ø 1,0	TS.184	TS.184	TS.187
	ø 1,2	TS.193	TS.193	TS.195
E-Cu do Al	ø 0,8	TS.175	TS.175	TS.178
	ø 1,0	TS.185	TS.185	TS.188
	ø 1,2	TS.194	TS.194	TS.196
CuCrZr	ø 0,8	TS.176	TS.176	TS.179
	ø 1,0	TS.186	TS.186	TS.189
	ø 1,2	TS.192	TS.192	TS.197

SPRING



Code	TS.235	TS.235	TS.236
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CURRENT CONNECTOR

M6	TS.209	TS.209	TS.211
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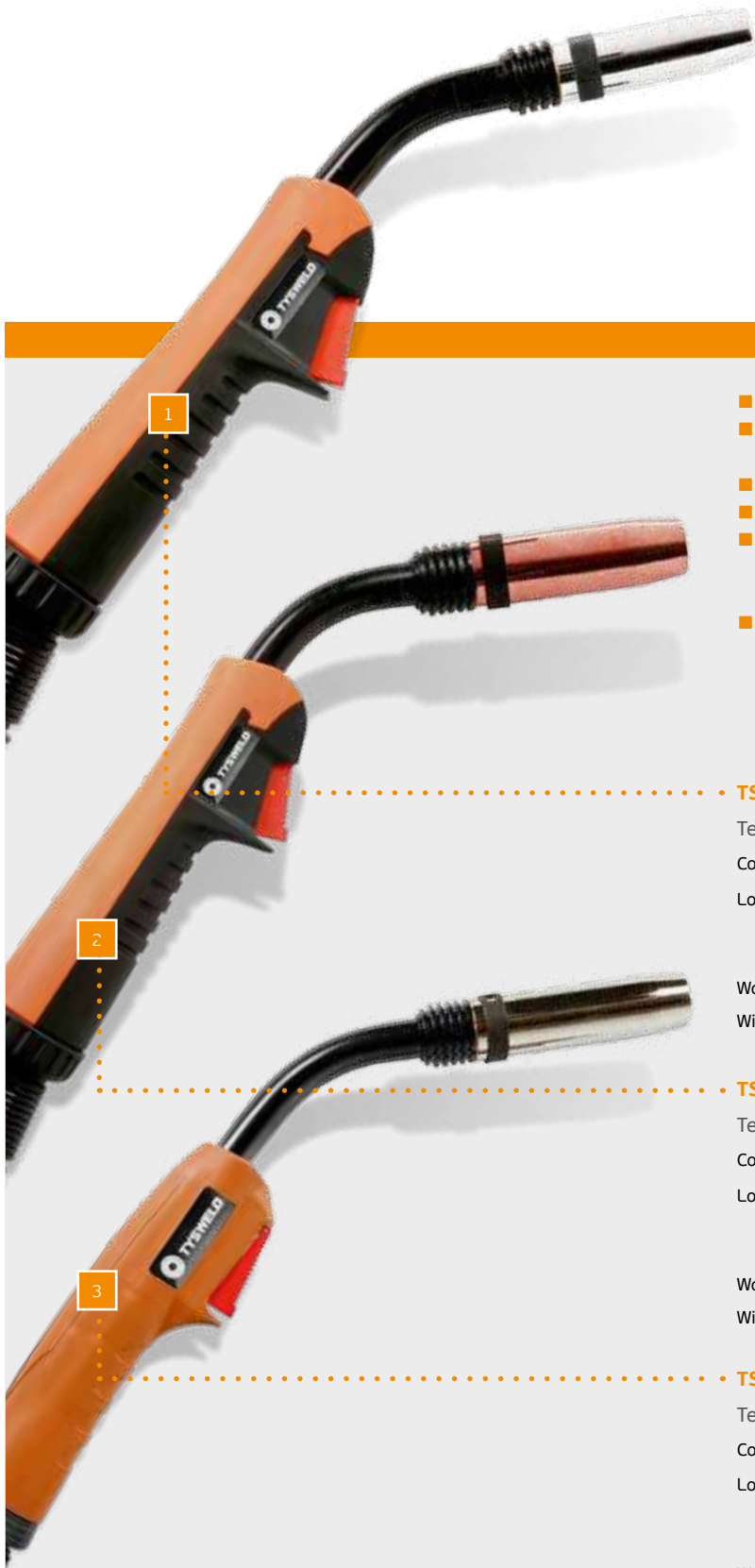
TORCH HANDLE



Code	TS.217	TS.219	TS.221
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WIRE GUIDE

	3m	4m	5m
Blue ø 0,6-0,8	TS.272	TS.273	TS.274
Red ø 1,0-1,2	TS.275	TS.276	TS.277



1 TS 24

2 TS 26

3 TS 36

- Ergonomic, short handle, best accessibility
- Soft components at the handling area and thumb support – firm hold even in extreme positions
- Ball joint with optimal radius of rotation – ideal handiness
- Optimal cooling of the handle – long life cycle
- In handles which are air cooled – high flexibility even in low temperatures, high resistance to UV, improved mechanical and thermal strength
- Time saving during replacement of clamps due to central joint (euro joint)

• TS 24

Technical data (EN 60 974-7):

Cooling medium: air
 Load capacity: 250 A CO₂
 220 A mixture
 M21 (acc. to EN 439)
 Work cycle: 60%
 Wire diameter: 0,8 - 1,2 mm

• TS 26

Technical data (EN 60 974-7):

Cooling medium: air
 Load capacity: 270 A CO₂
 240 A mixture
 M21 (acc. to EN 439)
 Work cycle: 60%
 Wire diameter: 0,8 - 1,2 mm

• TS 36

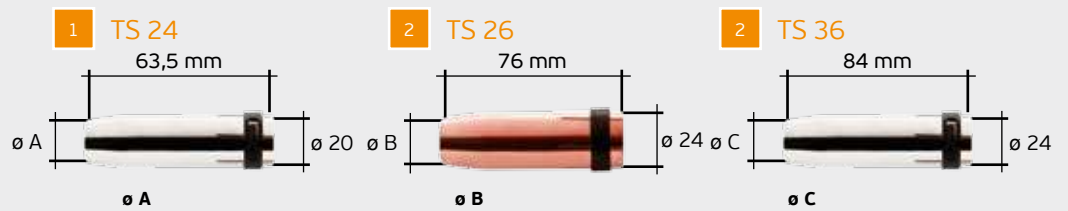
Technical data (EN 60 974-7):

Cooling medium: air
 Load capacity: 320 A CO₂
 290 A mixture
 M21 (acc. to EN 439)
 Work cycle: 60%
 Wire diameter: 0,8 - 1,2 mm

TS 24/TS 26/T3 36

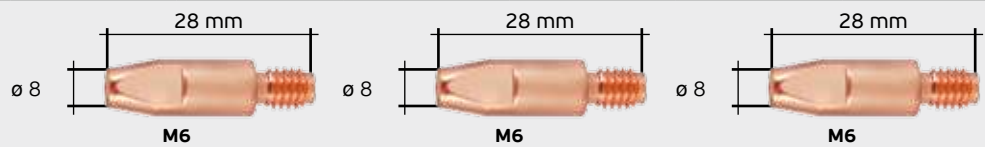
Handle complete	3m	4m	5m
TS 24	TS.254	TS.255	TS.256
TS 26	TS.260	TS.261	TS.262
TS 36	TS.263	TS.264	TS.265

Spare parts



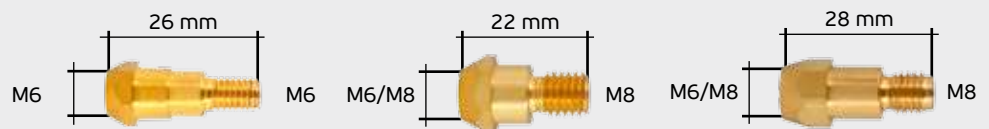
GAS NOZZLE

	ø A	TS.153	ø B	TS.162	ø C	TS.159
Cylindrical	ø 17	TS.153	ø 20	TS.162	ø 19	TS.159
Conical	ø 12,5	TS.155	ø 16	TS.163	ø 16	TS.161
Very Conical	ø 10	TS.154	ø 14	TS.164	ø 12	TS.160



CONTACT TIP

	ø	TS.170	TS.170	TS.170
E-Cu	ø 0,8	TS.170	TS.170	TS.170
	ø 1,0	TS.187	TS.187	TS.187
	ø 1,2	TS.195	TS.195	TS.195
	ø 1,4	-	-	-
	ø 1,6	TS.204	TS.204	TS.204
E-Cu für Al	ø 0,8	TS.178	TS.178	TS.178
	ø 1,0	TS.188	TS.188	TS.188
	ø 1,2	TS.196	TS.196	TS.196
	ø 1,4	-	-	-
	ø 1,6	TS.205	TS.205	TS.205
CuCrZr	ø 0,8	TS.179	TS.179	TS.179
	ø 1,0	TS.189	TS.189	TS.189
	ø 1,2	TS.197	TS.197	TS.197
	ø 1,4	-	-	-



CURRENT CONNECTOR

	TS.201	TS.212	TS.213
M6	TS.201	TS.212	TS.213
M8	-	-	TS.214



GAS DIFFUSER

	TS.238	TS.241	TS.244
Standard (white)	TS.238	TS.241	TS.244
Strengthened (black)	TS.240	TS.243	TS.246
Ceramic	TS.239	TS.242	TS.245



TORCH HANDLE

Code	TS.239	TS.222	TS.223
Code	TS.239	TS.222	TS.223

WIRE GUIDE

	3m	4m	5m
Blue ø 0,6-0,8	TS.272	TS.273	TS.274
Red ø 1,0-1,2	TS.275	TS.276	TS.277
Yellow ø 1,0-1,6	TS.278	TS.279	TS.280



1 TS 401

2 TS 501

- Ergonomic, short handle, best accessibility
- Soft components at the handling area and thumb support – firm hold even in extreme positions
- Ball joint with optimal radius of rotation – ideal handiness
- Optimal cooling of the handle – long life cycle
- Time saving during replacement of clamps due to central joint (euro joint)
- Technically refined and 100% reliable

• TS 401

Technical data (EN 60 974-7):

Cooling medium: liquid
 Load capacity: 400 A / 450 A CO₂
 350 A / 400 A mixture
 M21 (acc. to EN 439)
 Work cycle: 100%
 Wire diameter: 0,8 - 1,2 mm

• TS 501

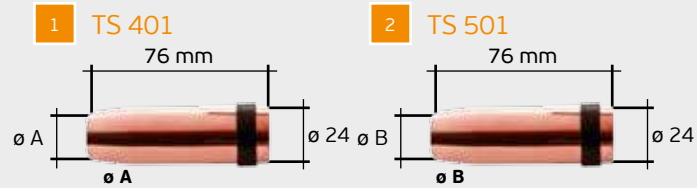
Technical data (EN 60 974-7):

Cooling medium: liquid
 Load capacity: 500 A / 550 A CO₂
 450 A / 500 A mixture
 M21 (acc. to EN 439)
 Work cycle: 100%
 Wire diameter: 1,0 - 1,6 mm

TS 401/TS 501

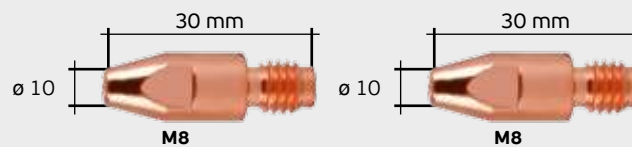
Handle complete	3m	4m	5m
TS 401	TS.266	TS.267	TS.268
TS 501	TS.269	TS.270	TS.271

Spare parts



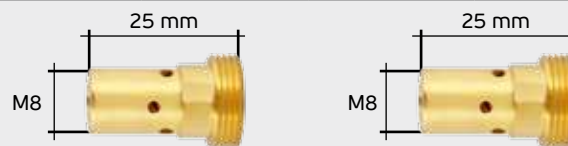
GAS NOZZLE

	Ø A	TS.162	Ø B	TS.162
Cylindrical	Ø 20	TS.162	Ø 20	TS.162
Conical	Ø 16	TS.163	Ø 16	TS.163
Very Conical	Ø 14	TS.164	Ø 14	TS.164



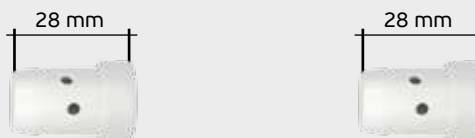
CONTACT TIP

E-Cu	Ø 0,8	TS.180	TS.180
	Ø 1,0	TS.190	TS.190
	Ø 1,2	TS.198	TS.198
	Ø 1,4	TS.201	TS.201
	Ø 1,6	TS.206	TS.206
E-Cu do Al	Ø 0,8	TS.181	TS.181
	Ø 1,0	TS.191	TS.191
	Ø 1,2	TS.199	TS.199
	Ø 1,4	TS.207	TS.207
	Ø 1,6		
CuCrZr	Ø 0,8	TS.182	TS.182
	Ø 1,0	TS.192	TS.192
	Ø 1,2	TS.200	TS.200
	Ø 1,4	TS.202	TS.202
	Ø 1,6	TS.203	TS.203



CURRENT CONNECTOR

M6	TS.215	TS.215
M8	TS.216	TS.216



GAS DIFFUSER

Standard (white)	TS.247	TS.247
Strengthened (black)	TS.248	TS.248
Ceramic	TS.249	TS.249

TORCH HANDLE

Code	TS.224	TS.225
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WIRE GUIDE

	3m	4m	5m
Red Ø 1,0-1,2	TS.275	TS.276	TS.277
Yellow Ø 1,0-1,6	TS.278	TS.279	TS.280
Without coat Ø 1,0-1,6	TS.281	TS.282	TS.283



Welding handle and spare parts TIG





1 SR 9

2 SR 20

- Ergonomic handle for all types of SR handles offering high firmness of grip
- Modules connecting and adjusting in the handle – ergonomic and individually fitted
- Short ball joints for optimal inclination radius and ideal grip
- Light and flexible packets of cords with modular connection system for all TIG devices
- Consumables compatible with national standards

SR 9

Technical data (EN 60 974-7):

Cooling medium:	air
Load capacity:	110 A DC 80 A AC
Work cycle:	35%
Tungsten electrode	ø 0,5 - 1,6 mm

SR 20

Technical data (EN 60 974-7):

Cooling medium:	liquid*
Load capacity:	240 A DC 170 A AC
Work cycle:	100%
Tungsten electrode	ø 0,5 - 3,2 mm

* Pressure of the cooling liquid at the input:
Min. 2,5 bar (max 3,5 bar);
Min. – flow rate: 0,7 l/min

Technical data apply for clamps with cords packet length up to 8,00 m.

SR9/SR20

Handle complete	4m	8m
SR 9	SR.422	SR.423
SR 20	SR.418	SR.419

Spare parts



CAP

short

medium

long

Code	SR.358	SR.359	SR.360
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COLLET

standard version

INSULATING RING / ADAPTER

insulating ring

ø 1,0	SR.401
ø 1,2	SR.402
ø 1,6	SR.403
ø 2,0	SR.404
ø 2,4	SR.405
ø 3,2	SR.406

Code	SR.395
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COLLET BODY

standard version

body with gas lens

ø 1,0 mm	SR.374	-
ø 8,0 mm	SR.375	-
ø 1,6 mm	SR.376	SR.380
ø 2,0 mm	SR.377	SR.424
ø 2,4 mm	SR.378	SR.381
ø 3,2 mm	SR.379	SR.382



CERAMIC GAS NOZZLE

standard version

standard version for gas lens

Nr. 4 ø 6,5 mm	SR.347	-
Nr. 5 ø 8,0 mm	SR.348	-
Nr. 6 ø 9,5 mm	SR.349	SR.353
Nr. 7 ø 11,0 mm	SR.350	SR.354
Nr. 8 ø 12,5 mm	SR.351	-
Nr. 10 ø 16,0 mm	SR.352	-

TUNGSTEN ELECTRODES

ø mm	1,0	1,2	1,6	2,0	2,4	3,2	4,0
Grey	-	-	SR.310	SR.311	SR.312	SR.313	-
Red	SR.314	SR.315	SR.316	SR.317	SR.318	SR.319	-
Blue	-	-	SR.320	SR.321	SR.322	SR.323	-
Green	SR.324	SR.325	SR.326	SR.327	SR.328	SR.329	SR.330
Yellow	-	-	SR.331	SR.332	SR.333	SR.334	-

1 SR 17

2 SR 18

3 SR 26

- Ergonomic handle for all types of SR handles offering high firmness of grip
- Modules connecting and adjusting in the handle – ergonomic and individually fitted
- Short ball joints for optimal inclination radius and ideal grip
- Light and flexible packets of cords with modular connection system for all TIG devices
- Consumables compatible with national standards

SR 17

Technical data (EN 60 974-7):

Cooling medium:	air
Load capacity:	140 A DC 100 A AC
Work cycle:	35%
Tungsten electrode	ø 0,5 - 2,4 mm

SR 18

Technical data (EN 60 974-7):

Cooling medium:	liquid*
Load capacity:	320 A DC 230 A AC
Work cycle:	100%
Tungsten electrode	ø 0,5 - 4,0 mm

SR 26

Technical data (EN 60 974-7):

Cooling medium:	air
Load capacity:	180 A DC 130 A AC
Work cycle:	35%
Tungsten electrode	ø 0,5 - 4,0 mm

* Pressure of the cooling liquid at the input:
Min. 2,5 bar (max 3,5 bar);
Min. – flow rate: 0,7 l/min

Technical data apply for clamps with cords packet length up to 8,00 m.

SR 17/SR18/SR26

Handle complete	4m	8m
SR 17	SR.414	SR.415
SR 18	SR.416	SR.417
SR 26	SR.420	SR.421

Spare parts



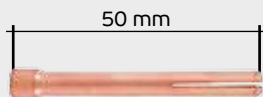
CAP

short

medium

long

Code	SR.355	SR.356	SR.357
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COLLET

standard version

INSULATING RING / ADAPTER

insulating ring

ø 1,0	SR.407
ø 1,2	SR.408
ø 1,6	SR.409
ø 2,0	SR.410
ø 2,4	SR.411
ø 3,2	SR.412
ø 4,0	SR.413

Code	SR.394
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COLLET BODY

standard version

body with gas lens

ø 1,0 mm	SR.361	-
ø 1,2 mm	SR.362	-
ø 1,6 mm	SR.363	SR.368
ø 2,0 mm	SR.364	SR.369
ø 2,4 mm	SR.365	SR.370
ø 3,2 mm	SR.366	SR.371
ø 4,0 mm	SR.367	SR.372



CERAMIC GAS NOZZLE

standard version

standard version for gas lens

Nr. 4 ø 6,5 mm	SR.340	Sr.335
Nr. 5 ø 8,0 mm	SR.341	Sr.336
Nr. 6 ø 9,5 mm	SR.342	SR.337
Nr. 7 ø 11,0 mm	SR.343	SR.338
Nr. 8 ø 12,5 mm	SR.344	SR.339
Nr. 10 ø 16,0 mm	SR.345	-
Nr. 12 ø 19,5 mm	SR.346	-

TUNGSTEN ELECTRODES

ø mm	1,0	1,2	1,6	2,0	2,4	3,2	4,0
Grey	-	-	SR.310	SR.311	SR.312	SR.313	-
Red	SR.314	SR.315	SR.316	SR.317	SR.318	SR.319	-
Blue	-	-	SR.320	SR.321	SR.322	SR.323	-
Green	SR.324	SR.325	SR.326	SR.327	SR.328	SR.329	SR.330
Yellow	-	-	SR.331	SR.332	SR.333	SR.334	-



TYSWELD[®]
GERMANY

Certificates and approvals

■ TÜV

■ DNV

■ GL

■ BV

■ DB

■ CE

■ LR

■ ABS



ANTI-SPATTER SPRAY

ANTI-SPATTER SPRAY

This anti-spatter spray is an odourless aerosol formulation used to prevent adhesion of unwanted spatter that is manufactured on the basis of mineral oils, is solvent-free and also without dichloromethane and silicone. It is used for protection of a nozzle, torch, tools and surface of the welding material against fusing of metal spatters into the substrate during welding using electric methods.

Packing 400 ml.

SPRAY **400 ml**

Code	TSW.425
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ANTI-SPATTER PASTE

ANTI-SPATTER PASTE

This anti-spatter paste is a professional product intended for protection of current tips and gas nozzles of welding clamps against fusing of metal spatters into the substrate during semi-automatic welding process. The paste does not contain any hazardous substances and its application does not have any undesired effect on the welding processes and also it does not cause any welding defects.

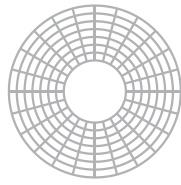
Packing 300g.

PASTE **300 g**

Code	TSW.426
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Our Distributors





TYSWELD[®]
GERMANY





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Germany

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