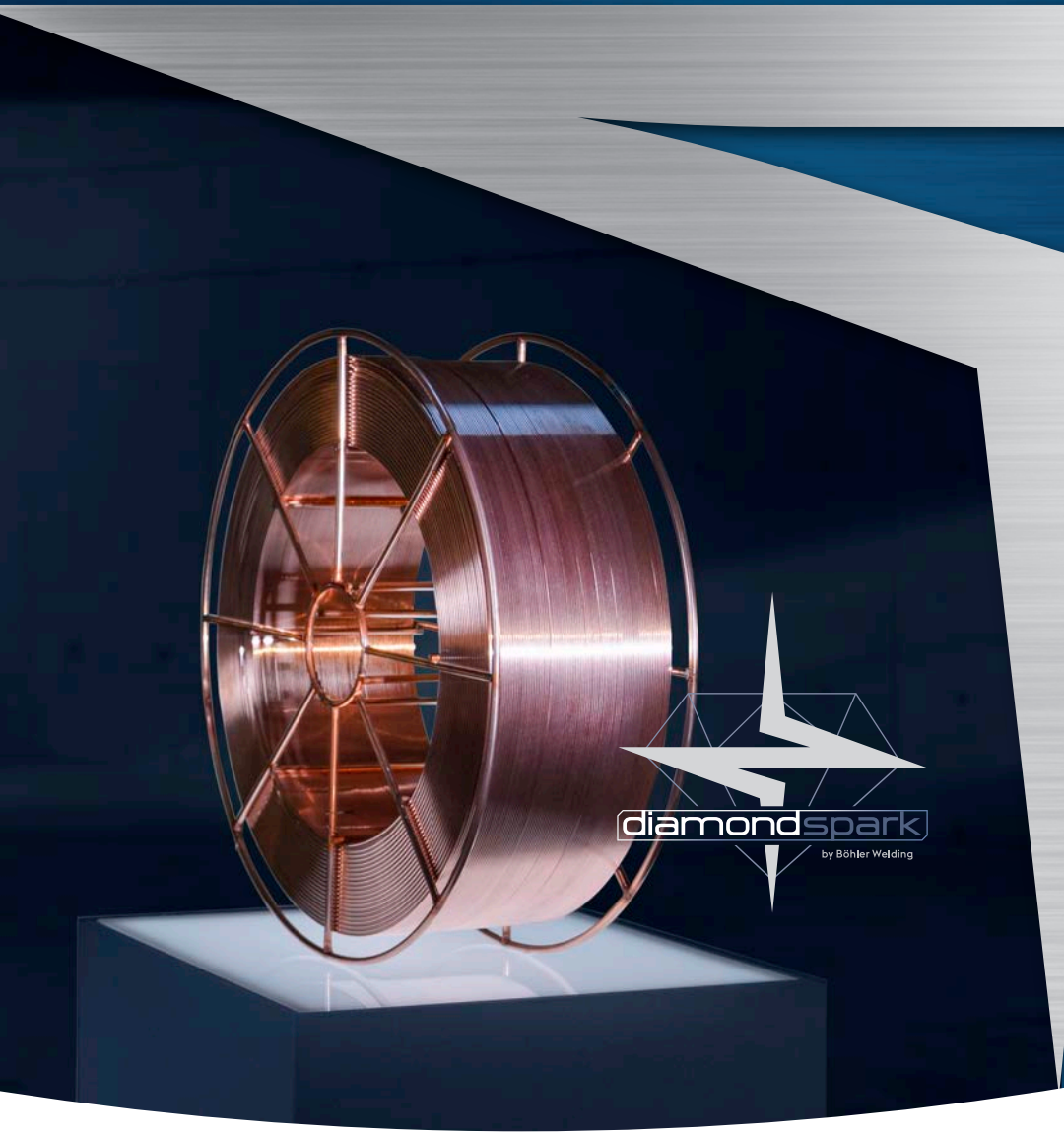
böhler welding
by voestalpine

Lasting Connections

diamondspark – THE BEST SEAMLESS CORED WIRES FOR BEST WELDERS



voestalpine Böhler Welding
www.voestalpine.com/welding

voestalpine
ONE STEP AHEAD.

YOUR ULTIMATE GOAL MUST BE diamondspark.

Designed by the leading pioneers in filler materials, diamondspark wires are tailored to match the highest requirements for demanding applications. diamondspark seamless cored wires – brilliance established in 1967

The future of seamless cored wire starts now:
diamondspark fulfils the highest requirements for productivity and quality.
diamondspark by Böhler Welding covers a full range of premium seamless cored wires. It is fabricated for a new area in high duty cycle welding in mechanized and robotic applications to match the needs of demanding applications. diamondspark seamless cored wires are today's best available choice for welding applications with most stringent requirements for productivity, safety and weld quality, such as in robotic serial manufacturing and mechanized welding, of high integrity components in demanding industries, perfect for high and ultra-high strength steel welding, and for hydrogen critical applications.

Maximize your productivity and benefit from the expertise of the leading supplier for seamless cored wires. Our technical consultancy service will demonstrate the outstanding performance on site or in one of our technology application centers.

Make your call today and experience the future of seamless cored wires.

Filippo Campaci
Global Product Manager Flux-Cored Wires

Curious? See the full video OPERATION: DIAMONDSPARK online on our website!

Lasting Connections

As a pioneer in innovative welding consumables, Böhler Welding offers a unique product portfolio for joint welding worldwide. More than 2000 products are adapted continuously to the current industry specifications and customer requirements, certified by well-respected institutes and thus approved for the most demanding welding applications.

Our customers benefit from a partner with

- the highest expertise in joining, rendering the best application support globally available
- specialized and best in class product solutions for their local and global challenges
- an absolute focus on customer needs and their success
- a worldwide presence through factories, offices and distributors

diamondspark – PREMIUM SEAMLESS CORED WIRES FROM MARKET LEADER BÖHLER WELDING

diamondspark is representing the ultimate range of all seamless cored wires from Böhler Welding manufactured with tubular and laser technology for gas-shielding and Sub-Arc applications

Main application fields

- Steel constructions
- Crane and lifting
- Automotive applications
- Oil & Gas
- Pipeline
- Shipbuilding

Full range of FCAW & MCAW for differents alloy groups

- Unalloyed steels
- Medium alloyed steels low temperature
- Medium alloyed steels creep resistant
- Medium alloyed steels high strenght
- Atmospheric corrosion resistant steels

RELIABLE EXPERTISE FOR LASTING CONNECTIONS

As early as in 1927, Böhler Welding invented the “Seelendraht”, which is generally consid- ered the predecessor of the modern cored wire. Today we reinforce our reputation as leading pioneers in filler materials with brand new laser-sealed types in the diamondspark series – our seamless cored wire portfolio for the most demanding of welding applications.

diamondspark
by Böhler Welding

diamondspark – YOUR PRECISION TOOL FOR MOST DEMANDING MANUFACTURING

diamondspark – your precision tool for most demanding manufacturing applications. They enable you to optimize your welding application and ensure highest productivity. diamondspark seamless cored wires are today's best available choice for:

- welding applications with most stringent requirements for productivity, safety and weld quality
- robotic serial manufacturing and mechanized welding
- high integrity components in demanding industries
- high and ultra-high strength steel welding
- low diffusible hydrogen requirements

CUSTOMER BENEFITS

If we wanted to list all the customer benefits here, it would go beyond the scope of this brochure. That is why we have only summarised the essentials very briefly. Let's bet you can leave all your pain points behind with diamondspark! (or: If you have any questions, you know where to find us!)

Product characteristics	User benefits
Lowest content of diffusible Hydrogen (1-3 ml per 100 g deposited weld metal)	**Low risk of hydrogen assisted cracking, low defect rate**
Total resistance to humidity permeability	**Less issue for storage and handling**
Better wire positioning due to closed tube	**Excellent behavior in fully automated and mechanized applications**
Excellent arc stability, low spatter	**Dependable starting, less post weld cleaning**
Copper-coated seamless cored wire	**Elevate atmospheric corrosion resistant, excellent current transfer**
Excellent mechanical properties for low temperature and high strength applications	**Guarantee of quality performance during welding procedure qualification process**
Excellent wire feeding properties	**Low contact tip wear, less downtime for maintenance**

diamondspark – MAXIMUM WELDING PRODUCTIVITY AND WELL-DESIGNED FORMULATIONS

Next level productivity in a growing range of formulations

High deposition rate.

diamondspark seamless cored wires carry all general productivity advantages brought along by the cored wire product design, when compared with solid wires. At equal wire diameters, the current conducting cross section of cored wires is smaller and, therefore, resistance heating in the sheath (I2R effect) is higher at the same welding current. This translates into a higher wire melt-off rate and – depending on cored wire type (flux- or metal-cored) – in higher deposition rates than with solid wires.

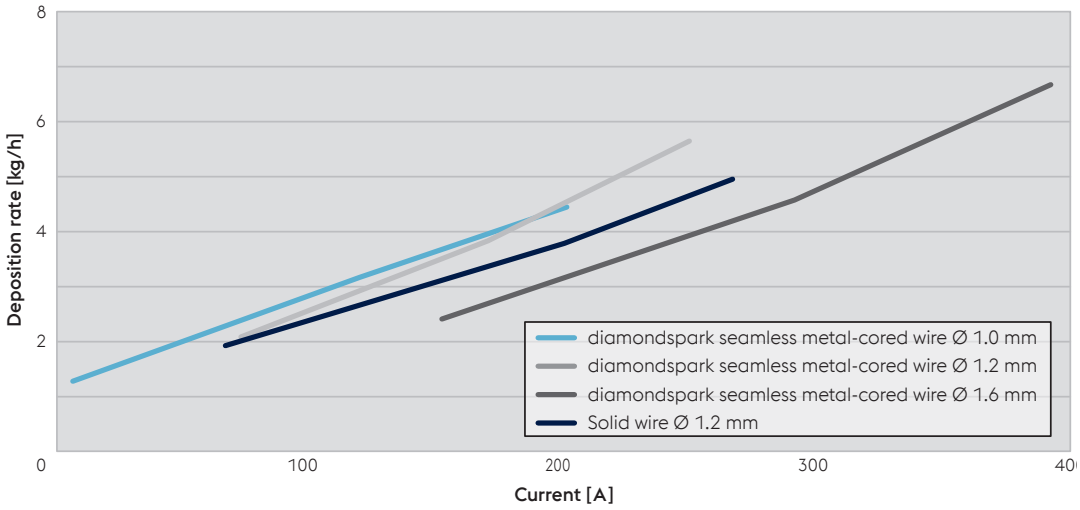
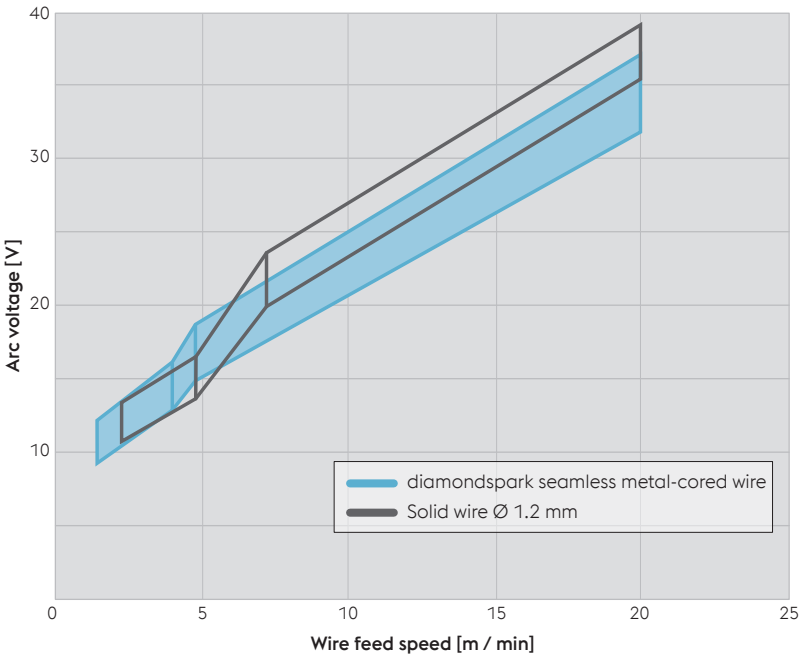


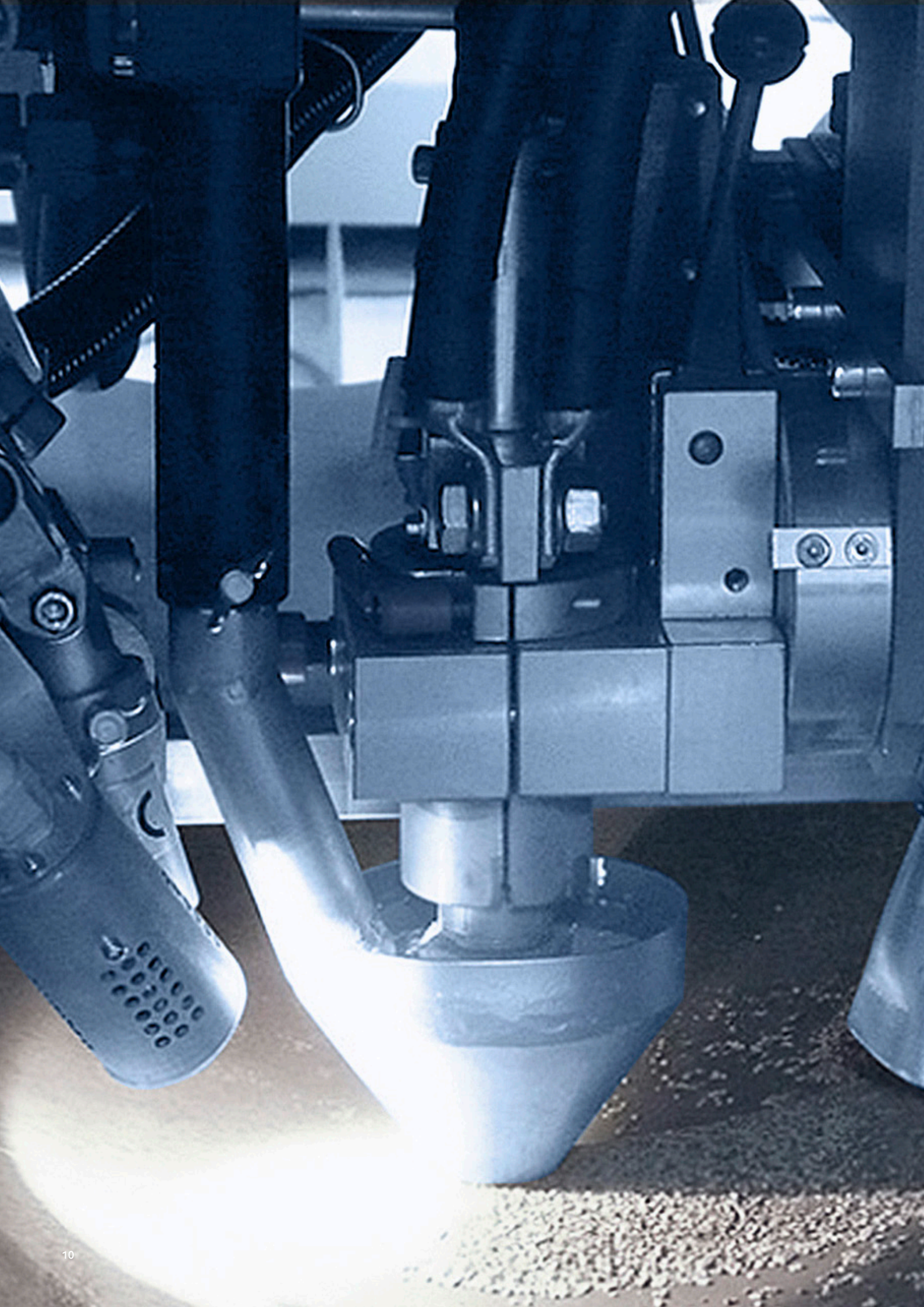
Diagram showing 1.0, 1.2 and 1.6 mm diamondspark metal-cored wire in comparison with solid wire.

Growing portfolio.

On top of this basic productivity advantage, diamondspark cored wires make use of the powerful option to very precisely influence welding characteristics with well-designed cored wire formulations. diamondspark rutile cored wires with fast freezing slag, for instance, provide deposition rates in positional welding up to three times as high as obtainable with any conventional arc welding process. In the downhand position, diamondspark metal-cored wires are the fastest way to join steel plate. Arc stabilizers make favorable spray arc welding start at welding currents where solid wires of the same diameter operate in the short or globular arc mode, with associated superior productivity and virtual absence of spatter. In fillet welding, significantly higher travel speed can be applied than with solid wires, with excellent weld quality.



One of the features of diamondspark metal-cored wires is a wide envelope of applicable welding parameters, enabling easy setting and wider use of productive spray arc parameters.



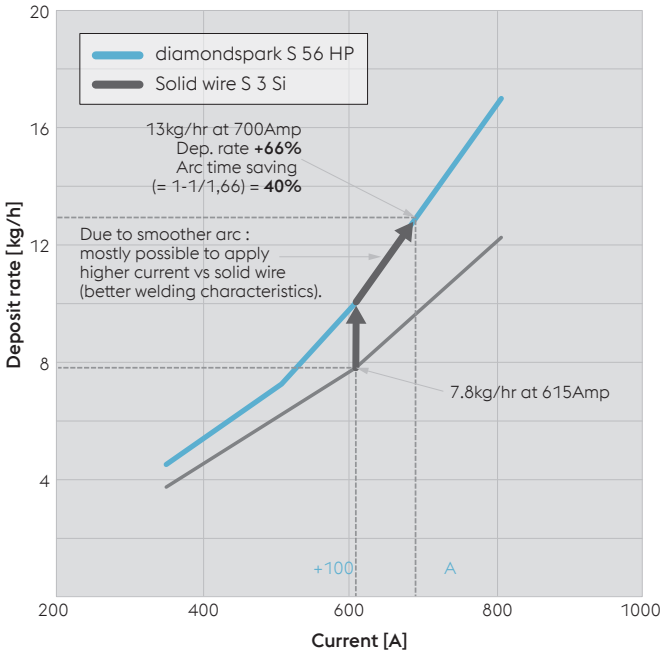
diamondspark – SAW CORED WIRES HP VERSIONS IN COMPARISON TO SOLID WIRE

No question, diamondspark SAW flux cored wires HP versions are the right ones for your requirements!

diamondspark S HP SAW flux cored wires are seamless, copper coated flux cored wires designed for submerged arc welding, offering enhanced deposition performance. These products can be combined with various SAW fluxes (e.g. UV 400, UV 306, UV 418 TT and UV 422 TT-LH) in unlimited thicknesses for a wide range of applications.

Sensational advantages (over solid wire) include that these wires drastically reduce overall submerged arc welding costs and project lead times. They allow much higher welding currents, higher travel speeds and also higher heat input. Alternatively, users can opt for lower heat input at the same deposition rate/travel speed.
The diamondspark SAW filler wire/flux combinations can be used in single wire, tandem and multi-wire SAW systems.

More welding productivity and lower total welding costs are not all we can offer you. There are many more benefits, such as lower root pass penetration (avoiding burn-through), easier slag removal and lower flux consumption, lower defect rates and lower contact tip wear.



ULTRA DRY – ULTIMATELY PROTECTED

diamondspark – the new benchmark in low hydrogen and moisture safety

Hermetically sealed.

Within the field of flux-cored arc welding, the seamless design offers optimal protection against moisture reabsorption and thereby against hydrogen induced cracking / hydrogen assisted cracking (HIC, HAC, cold cracking). For the simple reason that there is no open seam running over the wire length, moisture cannot penetrate into the filling. diamondspark seamless cored wires are produced with very low levels of diffusible hydrogen – typically 2-3 ml / 100 g weld metal for rutile types and even lower for metal-cored and basic wires. They maintain this property until the moment of welding, regardless duration of storage and time of exposure at the work site. diamondspark seamless cored wires offer the best protection against hydrogen and moisture pick-up in the flux-cored arc welding process.
As an additional advantage, the copper-coating counteracts the formation of rust on the wire surface, which is a potential source of hydrogen.

Unique in the market – Ultra-Dry.

Let the following facts convince you and have a look at the diagram showing weld metal hydrogen content in relation to the exposure time for diamondspark seamless cored wires.

- Ultra-low weld metal hydrogen content.
  Out of the box and during storage and operation
- Best possible protection against hydrogen induced / assisted cracking
- Reduced preheating temperature for heavy wall constructions
- Best solution for high strength steels (>460 MPa)

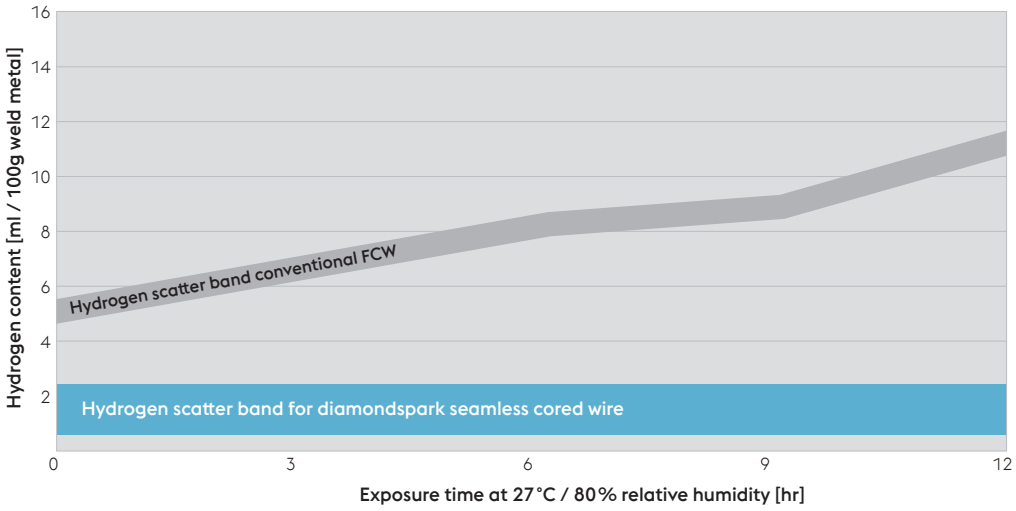


Diagram showing weld metal hydrogen content in relation to exposure time for diamondspark seamless cored wires.


welding
by voestalpine

INCREASED ARC TIME – LOWER COSTS

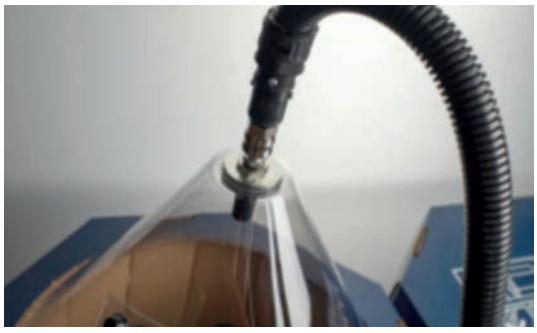
diamondspark – brilliant characteristics for mechanized and robotic welding

Convincing benefits.

Whether you weld manually close to the power source or robotic with long liners – problem-free wire feeding is what you will get. diamondspark seamless, copper coated wire design adds sufficient stiffness and glide to overcome friction in liners, welding guns and contact tips. The copper coating enhances current transfer between contact tip and wire – and together with arc stabilizers in the filling – promotes good arc ignition and a stable arc. Controlled wire cast and helix largely avoids “dog tailing”, giving, well positioned welds.

Product characteristics	User benefits
» Reduced contact tip wear	» **High productivity, less down-time, less maintenance costs**
» Constant positioning accuracy of the metal-cored wire at start ignition and during welding	» **Highly beneficial for robotic welding**
» Reduced wire feeding force	» **Constant feeding behaviour with reduced copper flaking**
» Improved weldability and bead shape appearance	» **Less cleaning, post-welding, lower defect weld deposit**
» Optimal copper coating	» **Excellent current transfer, Arc stability, Less spatters, Safer storage**

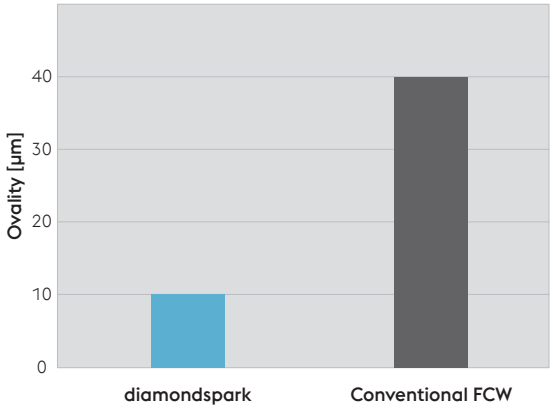
A range of accessories for efficient internal transport and installation of the drums is available, including a choice of four different “click and go” liner types to connect the drums with the wire feed unit.



MUCH LESS DOWNTIME AND EFFICIENCY OF A SPECIAL KIND

Contact tip wear

Let's talk about the low wear rate of the contact tip. The uniform copper coating of the wire surface in combination with the notch-free design, results in a very smooth and therefore low-friction surface. As a consequence, the wear effect of the wire is reduced by about 80 % compared to folded wires. This also leads to significantly less downtime, since the contact tip has to be changed mush less frequently. This also contributes to the high efficiency of diamondspark wires.

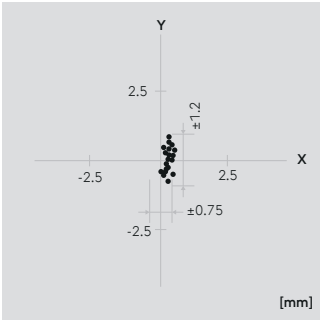


80 % less contact tip wear
= less maintenance and dowtime

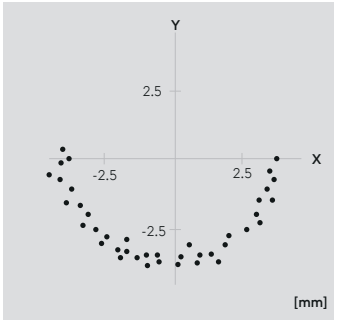
THE PARTICULARLY HIGH POSITIONING ACCURACY CREATES A REPRODUCIBLE EXECUTION OF THE WELDING TASK

Wire positioning and impact points

For the mechanized manufacturing process, a very high positioning accurancy of the wire-end is particulary important to ensure a reproducible performance of the welding job.
Due to the high dimensional stability of the wire, this positioning succeeds with particulary high accurancy. All the impact points of the wire on the workpiece are within a radius of 1.0 mm.
This feature make the diamondspark wires particulary valuable for fully mechanized applications.



diamondspark



Conventional FCW


diamondspark

ARC STABILITY IMPROVES THE QUALITY OF WELDED JOINTS

The particular characteristcs of diamondspark wires as uniform copper coating of the surface, natural lubricant without additing addional one; notch-free design and high dimensional stability guarantee an unique feeding properties of the wire with an extreme arc stability behaviour during all the welding time.

The arc stability performance for all the diamondspark wires but in particular for the metalcored types can improve the quality of the welding joints reducing the lack of fusion issues, spatter emission and reducing consequently all the jobs after welding as repairs, grinding and cleaning.

Because Böher Welding cares.

DRUM SYSTEM FOR MAXIMIZED PROFITABILITY.

Drum system for maximized profitability.

diamondspark cored wires are available in spools of 16 kg, in round and in octagonal drums with a filling content of 250-400 kg. Use of the drum avoids 15 spool changes of roughly 10 minutes, compared with wire spools. The result is 150 more minutes of net arc time and a correspondingly higher duty cycle and production output. Use of the drums will thereby immediately lower your welding costs and increase your company's profit.

However, there is much more to be gained. The implementation of our drum systems – with high quality welding wires and dedicated accessories – will streamline your entire cored wire welding operation and further lower your welding costs.

Product characteristics	User benefits
» Problem-free feeding	» **Increased arc time and higher production output**
» Stable arc	» **Uniform bead shape and weld penetration**
» Good arc ignition	» **High quality welds with multiple starts**
» Controlled wire cast and helix	» **Precise weld positioning**
» Available in 250-400 kg drums	» **Drastically increased net arc time**

diamondspark SEAMLESS CORED WIRES
A FULL RANGE FOR NON AND LOW-ALLOYED STEEL

SEAMLESS COPPER-COATED CORED WIRES FOR MILD STEELS

TYPE	Product name	Classification		Gas	Typical analyses all weld metal		Mechanical properties* Typical values			
		EN ISO	AWS / SFA	Flux	[%]		Condition	Re Mpa	Rm Mpa	
Self-shielded FCAW	**diamondspark 31 NG**	EN ISO 17632-A: T 42 Z Y NO 1 H10 EN ISO 17632-B: T 49 T11-1NO-H10	A5.20 / SFA-5.20: E71T-11	NO GAS	C Si Mn Al	0.25 0.40 1.00 1.50	as welded	440 (≥420)	600 (500-640)	
Rutile FCAW	**diamondspark 42 RC**	EN ISO 17632-A: T 46 2 R M21 3 H5 T 42 0 R C1 3 H5	A5.20 / SFA-5.20: E70T-1M/T-9M H4 E70T-1C/T-9C H4	M21	C Si Mn	0.04 0.50 1.55	as welded	500 (≥460)	590 (550-660)	
		EN ISO 17632-B: T 49 2 T1-0M21A-H5 T 49 0 T1-0C1A-H5		C1	C Si Mn	0.03 0.35 1.30	as welded	450 (≥420)	520 (500-640)	
	diamondspark 44 RC-SR (C1)	EN ISO 17632-A: T 42 5 P C1 1 H5	A5.20 / SFA-5.20: E71T-1C/T-9C/T-12C JH4	C1	C Si Mn Ni	0.04 0.40 1.3 0.40	as welded	500 (≥420)	570 (500-640)	
		EN ISO 17632-B: T 49 5 T12-1C1AP-UH5					annealed 620°C/3h	460 (≥420)	550 (500-640)	
							annealed 620°C/13h	460 (≥420)	550 (500-640)	
	diamondspark 46 RC	EN ISO 17632-A: T 46 3 P M21 1 H5 T 42 2 P C1 1 H5	A5.20 / SFA-5.20 E71T-1M/T-9M H4 E71T-1C/T-9C H4	M21	C Si Mn	0.06 0.45 1.3	as welded	530 (≥460)	590 (550-660)	
		EN ISO 17632-B: T 49 3 T1-1M21A- H5 T 49 2 T1-1C1A-H5		C1	C Si Mn	0.05 0.35 1.2	as welded	470 (≥420)	550 (500-640)	
	diamondspark 46 RC (C1)	EN ISO 17632-A: T 46 3 P C1 1 H5	A5.20 / SFA-5.20: E71T-1C H4 E71T-9C H4	C1	C Si Mn	0.065 0.45 1.3	as welded	520 (≥460)	580 (550-660)	
		EN ISO 17632-B: T 49 3 T1-1C1A-H5								
	diamondspark 52 RC	EN ISO 17632-A: T 46 4 P M21 1 H5 T 46 2 P C1 1 H5	A5.20 / SFA-5.20: E71T-1M/T-9M/T-12M JDH4 E71T-1C/T-9C/T-12C DH4	M21	C Si Mn	0.06 0.40 1.45	as welded	500 (≥460)	590 (530-620)	
		EN ISO 17632-B: T 49 5 T1-1M21A-H5 T 49 3 T1-1C1A-H5		C1	C Si Mn	0.04 0.35 1.25	as welded	470 (≥460)	560 (530-620)	
	diamondspark 53 RC	EN ISO 17632-A: T 46 5 P M21 1 H5 T 42 2 P C1 1 H5	A5.20 / SFA-5.20: E71T-1M/T-9M/T-12M JH4 E71T-1C/T-9C/T-12C H4	M21	C Si Mn Ni	0.06 0.45 1.30 0.35	as welded	500 (≥460)	590 (550-660)	
		EN ISO 17632-B: T 49 5 T1-1M21A-H5 T 49 2 T1-1C1A-H5		C1	C Si Mn Ni	0.05 0.35 1.00 0.30	as welded	450 (≥420)	550 (500-640)	
				M21			annealed 620°C/1h	510 (≥460)	590 (550-660)	

			Operational Data			Characteristics and applications	Approvals
	A5 [%]	CVN [°C]	[J]	Welding Position	Polarity	Shielding gas EN ISO 14175 Flux		
	24 (≥22)					No Gas	Self-shielded seamless flux cored wire designed for all position welding of low and medium alloyed steels. This wire is especially useful for on-site fabrication, structural or repair welding applications, single or multipass welding. Main features: good weldability, also vertical-up position, good bead appearance, low spatter levels and easy to remove slag.	CE
	28 (≥22)	0 -20 -29	100 70 (≥47) 85 (≥27)			M21 - C1	Seamless rutile flux cored wire designed for multi-purpose applications for steels with up to 460 MPa YS, with Argon-CO_2 shielding gas or pure CO_2, for flat and horizontal positions. Easy to remove and slow freesing slag behaivour. Bead appearance is smooth and bright. This wire is especially suitable for ship building, steel structural work or wherever good bead appearance is required.	ABS, CWB, CE
	26 (≥22)	0 -20 -29	60 (≥47) 40 35 (≥27)					
	24 (≥20)	-40 -50 -60	110 (≥47) 100 (≥47) 60			C1	Seamless rutile cored wire for multi-purpose applications for steel with up to 420 MPa YS with pure CO_2 shielding gas, suitable also for stress relieve requirements. Excellent weldability and very high productivity in positional welding. Good CVN impact toughness down to -40 °C, both as welded and stress relieved. For excellent performance in shipbuilding, storage vessels and heavy wall thickness steel constructions. CTOD tested at -10 °C	ABS, BV, CWB, DNV, LR, CE
	28 (≥20)	-40 -50 -60	80 (≥47) 75 (≥47) 55					
	29 (≥20)	-40 -50 -60	95 (≥47) 90 (≥47) 60					
	24 (≥22)	-20 -30	90 70 (≥47)			M21 - C1	Seamless rutile cored wire for multipurpose applications for steels with up to 460 MPa YS, using M21 (Ar/CO_2) shielding gas or pure CO_2. The weld deposit has excellent mechanical properties till -30 °C in mix gas application. The main features of this wire are: excellent weldability in all positions, excellent bead appearance, low amount of spatter, easy to remove slag, no hydrogen pickup during operation, no porosity issues even on primer plates and very good feeding performance are achievable.	TÜV (19372), DB (42.052.24), ABS, BV, DNV, LR, CE
	25 (≥22)	-20	60 (≥47)					
	25 (≥20)	+20 -20 -30	100 95 70 (≥47)			C1	Seamless rutile cored wire for multi-purpose applications for steels with up to 460 MPa YS. Excellent weldability and very high productivity in positional welding. Good CVN impact toughness down to -30 °C. For excellent performance in shipbuilding.	TÜV (06221), DB (42.052.07), ABS, BV, DNV, LR, RINA, RS, CE
	26 (≥22)	-40 -46 -50	70 (≥47) 50 (≥27) 45 (≥27)			M21 - C1	Seamless rutile cored wire for multi-purpose wire for steels with up to 460 MPa YS. Excellent weldability and very high productivity in positional welding. Good CVN impact toughness down to -40 °C. General fabrication, shipbuilding. D1.8 Seismic Supplement approved.	TÜV (06219), DB (42.052.03), ABS, BV, CWB, DNV, LR, RINA, RS, CE, D1.8 seismic supplement
	28 (≥22)	-20	80 (≥47)					
	28 (≥20)	-20 -40 -51	110 90 (≥47) 80 (≥47)			M21 - C1	Seamless rutile cored wire for multi-purpose wire for steels with up to 460 MPa YS. Excellent weldability and very high productivity in positional welding. Excellent CVN impact toughness down to -50 °C both as welded and stress relieved, for applications with highest toughness demands e.g. in offshore and shipbuilding.	TÜV (12897), DB (42.052.25), CWB, DNV, LR, RINA, CE
	24 (≥20)	-20	100 (≥47)					
	26 (≥20)	-46 -51	80 (≥27) 60 (≥27)					

SEAMLESS COPPER-COATED CORED WIRES FOR MILD STEELS

TYPE	Product name	Classification		Gas	Typical analyses all weld metal		Mechanical properties* Typical values			
		EN ISO	AWS / SFA	Flux	[%]		Condition	Re Mpa	Rm Mpa	
Basic FCAW	**diamondspark 44 BC**	EN ISO 17632-A: T 42 4 B M21 1 H5 T 42 4 B C1 1 H5	A5.20 / SFA-5.20: E71T-5M JH4 E71T-5C JH4	M21	C Si Mn	0.07 0.40 1.40	as welded	450 (≥420)	550 (500-640)	
		EN ISO 17632-B: T 49 6 T5-1M21A-H5 T 49 6 T5-1C1A-H5		C1	C Si Mn	0.06 0.30 1.30	as welded	430 (≥420)	530 (500-640)	
	diamondspark 52 BC	EN ISO 17632-A: T 46 4 B M21 3 H5 T 42 4 B C1 3 H5	A5.20 / SFA-5.20: E70T-5M JH4 E70T-5C JH4	M21	C Si Mn	0.07 0.55 1.4	as welded	500 (≥460)	610 (550-660)	
		EN ISO 17632-B: T 49 6 T5-0M21A-H5 T 49 6 T5-0C1A-H5		C1	C Si Mn	0.06 0.50 1.2	as welded	430 (≥420)	510 (500-640)	
Metalcored Wires	**diamondspark 46 MC**	EN ISO 17632-A: T 46 3 M M21 1 H5 T 46 3 M M20 1 H5	A5.18 / SFA-5.18: E70C-6M H4	M21	C Si Mn	0.06 0.8 1.5	as welded	480 (≥460)	580 (550-660)	
		EN ISO 17632-B: T 49 3 T15-1M21A-UH5 T 49 3 T15-1M20A-UH5								
	diamondspark 52 MC	EN ISO 17632-A: T 46 4 M M21 1 H5 T 46 5 M M20 1 H5	A5.18 / SFA-5.18: E70C-6M H4	M21	C Si Mn	0.07 0.7 1.5	as welded	490 (≥460)	600 (550-660)	
		EN ISO 17632-B: T 49 4 T15-1M21A-UH5 T 49 5 T15-1M20A-UH5								
	diamondspark 54 MC	EN ISO 17632-A: T 46 6 M M21 1 H5 T 42 5 M C1 1 H5	A5.18 / SFA-5.18: E70C-6M H4 E70C-6C H4	M21	C Si Mn	0.07 0.75 1.40	as welded	500 (≥460)	600 (550-660)	
		EN ISO 17632-B: T 49 6 T15-1M21A-UH5 T 49 5 T15-1C1A-UH5					annealed 620°C/2h	420	510	
				C1	C Si Mn	0.06 0.55 1.20	as welded	460 (≥420)	560 (500-640)	
SAW FCAW	**diamondspark S 55 HP**	EN ISO 14171-A: S 50 4 AR T3 H5	A5.17 / SFA-5.17: F7A5-ECG-H4	UV 306	C Si Mn	0.04 0.7 1.75	as welded	560 (≥500)	645 (600-660)	
		EN ISO 14171-A: S 46 6 FB T3 H5	A5.17 / SFA-5.17: F7A8-EC1-H4 / F7P8-EC1	UV 418 TT	C Si Mn	0.07 0.4 1.4	as welded	470 (≥460)	560 (530-680)	
							annealed 620°C/1h	450 (≥420)	540 (490-660)	
	diamondspark S 56 HP	EN ISO 14171-A: S 46 6 AB TZ3 H5	A5.17 / SFA-5.17: F7A8-EC1-H4 / F7P8-EC1	UV 400	C Si Mn	0.06 0.3 1.6	as welded	490 (≥460)	560 (530-680)	

				Operational Data			Characteristics and applications	Approvals
	A5 [%]	CVN [°C]	[J]	Welding Position	Polarity	Shielding gas EN ISO 14175 Flux		
	28 (≥20) 30 (≥20)	-40 -60 -40 -60	140 (≥47) 100 90 (≥47) 80			M21 - C1	Seamless basic cored wire for Carbon and Carbon-Manganese steels up to 420 MPa YS, including fine grain steels. Excellent weldability in flat and horizontal position. Excellent CVN impact toughness down to -60 °C.	TÜV (06202), CE
	28 (≥20) 29 (≥20)	+20 -40 -60 +20 -40	160 (≥47) 100 (≥47) 80 140 80 (≥47)			M21 - C1	Seamless basic cored wire for Carbon and Carbon-Manganese steels up to 420 MPa YS. Excellent weldability in flat and horizontal position. Very tough weld metal with high crack resistance for steels with high CE and constructions with high restraint. Unlimited wall thickness. Outstanding CVN impact toughness down to -60 °C with mixed gas.	TÜV (06218), DB (42.052.04), ABS, BV, DNV, LR, RINA, CE
	29 (≥22)	-20 -30 -50	120 90 (≥47) 70 (≥27)			M21 - M20	Seamless metal-cored wire for multi-purpose applications for steel up to 460 MPa YS and CVN impact requirements down to -30 °C. Steady spray arc with minimal spatter and very low silicates production for multi-run welding without interrun cleaning. Ideal for flat and horizontal fillet welds.	TÜV (09023), DB (42.052.08), ABS, BV, CWB, DNV, LR, RINA, CE, D1.8 seismic supplement
	27 (≥22)	-40 -46 -50* * only for shielding gas M20	90 (≥47) 70 (≥27) 60 (≥47)*			M21 - M20	Seamless metal-cored wire with excellent characteristics for high duty cycle, mechanized and robotic welding of unalloyed and fine-grained constructional steel up to 460 MPa yield and impact requirements down to -40 °C. Ultra-low weld metal hydrogen content – at the level of solid wires – for best possible protection against hydrogen assisted / induced cracking.	TÜV (11163), DB (42.052.26), ABS, BV, CWB, DNV, LR, CE
	29 (≥20) 24 30 (≥20)	-40 -60 -40 -40 -50	120 80 (≥47) 90 80 60 (≥47)			M21 - C1	Seamless metal-cored wire for multi-purpose wire for steel up to 460 MPa YS and excellent CVN impact requirements in the as welded (-60 °C) and stress relieved (-40 °C) condition. Steady spray arc with minimal spatter. This wire is especially suitable for automated-robotized applications and for root pass welding for piping and butt-joints. This wire is CTOD-tested.	TÜV (06220), DB (42.052.02), ABS, BV, CWB, DNV, LR, RINA, CE
	24 (≥20)	-20 -40 -46	90 (≥47) 55 (≥47) 40 (≥27)			UV 306	Seamless wire-flux combination for submerged arc welding of unalloyed structural steels up to 500 MPa YS in a very wide range of applications. This combination gives the fabricator the possibility to weld with high productivity with good bead appearance, nice fusion and good slag detachability. The aluminate-rutile flux has a relative low basicity index and is selected for its excellent welding properties and is suitable for high welding speed and moderate toughness.	TÜV (19473), DB (51.052.01/01), CE
	27 (≥22) 28 (≥22)	-40 -60 -40 -60	160 (≥47) 150 (≥47) 160 (≥47) 150 (≥47)			UV 418 TT	Seamless wire-flux combination for submerged arc welding of unalloyed structural steels up 460 MPa YS for very good toughness properties at low temperatures. This combination gives the fabricator the possibility to weld with high productivity with a good bead appearance, nice fusion and good slag detachability. The combination can be used for joining applications in unlimited thickness, with DC+ or AC current, which allows Tandem process (~30 kg/hour) with 2 wires (3.2 or 4.0 mm).	TÜV (19044), ABS, BV, DNV, LR, CE
	28 (≥22)	-40 -60	160 110 (≥47)			UV 400	Seamless wire-flux combination for submerged arc welding of unalloyed structural steels up to 460 MPa YS for applications with very high deposit rates (>30 kg/hour with multiple wires). The weld metal shows relative high toughness. Optimised combination with UV 400 for its relative high current carrying capacity. Recommended also for 2 run procedures.	TÜV (19505), DB (51.052.02), ABS DNV, LR, CE

SEAMLESS COPPER-COATED CORED WIRES FOR WEATHER-RESISTANT STEELS

TYPE	Product name	Classification		Gas	Typical analyses all weld metal		Mechanical properties* Typical values			
		EN ISO	AWS / SFA	Flux	[%]		Condition	Re Mpa	Rm Mpa	
Rutile FCAW	**diamondspark NiCu1 RC**	EN ISO 17632-A: T 46 4 Z P M21 1 H5 EN ISO 17632-B: T 55 4 T1-1M21A-G-H5	A5.29 / SFA-5.29: E81T1-WGM H4	M21	C Si Mn Ni Cu	0.05 0.40 1.55 1.10 0.50	as welded	530 (≥470)	620 (550-680)	
Basic FCAW	**diamondspark NiCu1 BC**	EN ISO 17632-A: T 46 6 Z B M21 3 H5 EN ISO 17632-B: T 55 6 T5-0M21A-G-H5	A5.29 / SFA-5.29: E80T5-WGM H4	M21	C Si Mn Ni Cu	0.05 0.45 1.20 1.20 0.50	as welded	480 (≥470)	570 (550-680)	
Metalcored Wires	**diamondspark NiCu1 MC**	EN ISO 17632-A: T 46 6 Z M M21 1 H5 EN ISO 17632-B: T 55 6 T15-1M21A-G-H5	A5.28 / SFA-5.28: E80C-G H4	M21	C Si Mn Ni Cu	0.06 0.45 1.20 0.50 0.50	as welded	490 (≥470)	590 (550-680)	
SAW FCAW	**diamondspark S NiCu1**	EN ISO 14171-A: S 46 4 AR TZ3Ni1Cu H4	A5.23 / SFA-5.23: F8A5-ECG-H4	UV 306	C Si Mn Ni Cu	0.04 0.6 1.5 1.0 0.55	as welded	510 (≥470)	590 (550-680)	
		EN ISO 14171-A: S 46 6 AB TZ3Ni1Cu H5	A5.23 / SFA-A5.23: F7A8-ECG	UV 400	C Si Mn Ni Cu	0.04 0.35 1.40 1.0 0.55	as welded	475 (≥460)	565 (480-650)	
		EN ISO 14171-A: S 42 6 FB T2Ni1Cu H5	A5.23 / SFA-A5.23: F7A8-ECG	UV 418 TT	C Si Mn Ni Cu	0.06 0.45 1.2 1.0 0.55	as welded	450 (≥420)	530 (480-650)	

			Operational Data			Characteristics and applications	Approvals
	A5 [%]	CVN [°C]	[J]	Welding Position	Polarity	Shielding gas EN ISO 14175 Flux		
	25 (≥20)	-40	70 (≥47)			M21	Seamless rutile cored wire with excellent weldability and very high productivity in positional welding, designed for weathering resistant steels. Good CVN impact toughness down to -40 °C. Main applications are for buildings and bridges constructions.	CE
	30 (≥20)	-60	130 (≥47)			M21	Seamless basic cored wire for weathering resistant steels. Very high CVN impact toughness down to -60 °C. Main applications are for buildings and bridges constructions.	CE
	27 (≥20)	-40 -60	100 70 (≥47)			M21	Seamless metal-cored wire for weathering resistant steels. Good CVN impact toughness down to -60 °C. Main applications are for buildings and bridges constructions.	CE
	21 (≥20)	-20 -40 -46	120 (≥47) 80 (≥47) 60 (≥27)			UV 306	Seamless wire-flux combination for submerged arc welding of weather resistant applications. The weld metal is alloyed with Ni and Cu to make the weld metal weather-resistant and to give its characteristic rusty brown colouring after exposure to weather conditions. It is mainly applied to clad facades, for bridges and other engineering structures. The basic-cored wire provides higher toughness properties and higher deposit rate compared to similar solid SAW wire.	
	26 (≥20)	-20 -40 -60	170 (≥47) 150 (≥47) 135 (≥47)			UV 400	Seamless wire-flux combination for submerged arc welding of weather resistant applications. The basic-cored wire provides higher deposit rate compared to solid SAW wire and is alloyed with Ni and Cu to make the weld metal weather resistant and to give its characteristic rusty brown colouring after exposure to weather conditions. It is mainly applied to clad facades, for bridges and other engineering structures. With UV 400 it can be applied for all wall thicknesses with high toughness properties.	
	31 (≥22)	-40 -60	170 (≥47) 160 (≥47)			UV 418 TT	Seamless wire-flux combination for submerged arc welding of weather resistant applications. The basic-cored wire is alloyed with Ni and Cu to make the weld metal weather-resistant and to give its characteristic rusty brown colouring after exposure to weather conditions. It is mainly applied to clad façades, for bridges and other engineering structures. Suitable for single pass and multi-pass UV 418 TT is a fluoride-basic flux.	

SEAMLESS COPPER-COATED CORED WIRES FOR LOW TEMPERATURE STEELS

TYPE	Product name	Classification		Gas	Typical analyses all weld metal		Mechanical properties* Typical values		
		EN ISO	AWS / SFA	Flux	[%]		Condition	Re Mpa	Rm Mpa
Rutile FCAW	**diamondspark Ni1 RC**	EN ISO 17632-A: T 50 6 1Ni P M21 1 H5 EN ISO 17632-B: T 55 6 T1-1M21A-N2-UH5	A5.29 / SFA-5.29: E81T1-Ni1M-JH4	M21	C Si Mn Ni	0.05 0.45 1.3 0.85	as welded annealed 550-600°C/2h	550 (≥500) 520 (≥500)	610 (560-690) 580 (560-690)
	diamondspark Ni1 RC (C1)	EN ISO 17632-A: T 46 6 1Ni P C1 1 H5 EN ISO 17632-B: T 55 6 T1-1C1A-N2-UH5	A5.29 / SFA-5.29: E81T1-Ni1C-JH4	C1	C Si Mn Ni	0.07 0.35 1.1 0.85	as welded	550 (≥470)	600 (550-680)
	diamondspark Ni1 RC-SR	EN ISO 17632-A: T 50 6 1Ni P M21 1 H5 EN ISO 17632-B: T 55 6 T1-1M21AP-N2-H5	A5.29 / SFA-5.29: E81T1-Ni1M-JH4	M21	C Si Mn Ni	0.07 0.45 1.3 0.85	as welded annealed 620°C/2h annealed 620°C/6h	520 (≥500) 500 (≥470) 490 (≥470)	600 (560-690) 580 (550-680) 570 (550-680)
	diamondspark Ni1.5 RC (C1)	EN ISO 17632-A: T 50 6 1,5Ni P C1 1 H5 EN ISO 17632-B: T 55 6 T1-1C1A-N3-H5	A5.29 / SFA-5.29: E81T1-K2C-JH4	C1	C Si Mn Ni	0.04 0.3 1.2 1.5	as welded annealed 635°C/3h annealed 635°C/15h	580 (≥500) 520 500	605 (570-690) 580 570
	diamondspark Ni2 RC	EN ISO 17632-A: T 50 6 2Ni P M21 1 H5 EN ISO 17632-B: T 57 6 T1-1M21A-N5-H5	A5.29 / SFA-5.29: E81T1-Ni2M-JH4	M21	C Si Mn Ni	0.06 0.45 1.30 2.00	as welded	580 (≥500)	640 (570-690)
Basic FCAW	**diamondspark Ni1 BC**	EN ISO 17632-A: T 46 6 1Ni B M21 3 H5 EN ISO 17632-B: T 55 6 T5-0M21A-N2-UH5	A5.29 / SFA-5.29: E80T5-Ni1M-JH4	M21	C Si Mn Ni	0.06 0.45 1.35 0.95	as welded annealed 620°C/1h	500 (≥470) 480 (≥470)	600 (550-680) 570 (550-680)
Metalcored Wires	**diamondspark Ni1 MC**	EN ISO 17632-A: T 50 6 1Ni M M21 1 H5 EN ISO 17632-B: T 57 6 T15-1M21A-N2-UH5	A5.28 / SFA-5.28: E80C-Ni1 H4	M21	C Si Mn Ni	0.06 0.5 1.3 0.9	as welded annealed 580°C/3h normalized 920°C/30h	530 (≥500) 500 360	620 (570-690) 560 520
	diamondspark Ni3 MC	EN ISO 17632-A: T 46 6 3Ni M M21 1 H5 EN ISO 17632-B: T 55 6 T15-1M21A-N7-H5	A5.28 / SFA-5.28: E80C-Ni3 H4	M21	C Si Mn Ni	0.04 0.3 1.0 3.0	as welded annealed 620°C/2h normalized 920°C/4h	480 (≥470) 440 420 (≥335)	560 (550-680) 520 490 (470-630)

			Operational Data			Characteristics and applications	Approvals
	A5 [%]	CVN [°C]	[J]	Welding Position	Polarity	Shielding gas EN ISO 14175 Flux		
	25 (≥18) 29 (≥18)	-40 -60 -40	100 75 (≥47) 60			M21	Seamless rutile cored wire with Argon-CO_2 shielding gas, for low-temperature steels up to 500 MPa YS and impact requirements down to -60 °C. Excellent weldability and very high productivity in positional welding. Alloyed with <1 % Ni to meet NACE offshore require- ment. HIC tested according to NACE TM-0284. CTOD tested at -10 °C. Main field of applications are off-shore, upstream, oil and gas exploration.	TÜV (06226), DB (42.052.11), ABS, BV, CWB, DNV, LR, RINA, RS, CE
	24 (≥20)	-20 -60	110 85 (≥47)			CO_2	Seamless rutile cored wire with pure CO_2 shielding gas, for low-temperature steels up to 500 MPa YS and impact requirements down to -60 °C. Excellent weldability and very high productivity in positional welding. Alloyed with <1 % Ni to meet NACE offshore require- ment. CTOD tested at -10 °C. Main field of applications areOffshore, upstream oil and gas exploration.	TÜV (12887), ABS, DNV, LR, CE
	25 (≥20) 29 (≥20) 30 (≥20)	-40 -60 -40 -60 -40 -60	120 100 (≥47) 120 90 (≥47) 110 60 (≥47)			M21	Seamless rutile cored wire with Argon-CO_2 shielding gas, for low-temperature steels with impact requirements down to -60 °C. Particulary designed for stress relieved conditions. Excellent weldability and very high productivity in positional welding. Alloyed with <1 % Ni to meet NACE offshore requirement. CTOD tested at -10 °C.Main field of applications are off-shore, upstream, oil and gas exploration.	TÜV (19046), ABS, DNV, LR, CE
	25 (≥18) 27 29	-40 -60 -20 -40 -60 -20 -40 -60	100 90 (≥47) 120 100 80 110 90 70			CO_2	Seamless rutile cored wire for use with pure CO_2 shielding gas. Excellent weldability and very high productiv- ity in positional welding. Good CVN impact toughness down to -60 °C as well as the low content of diffusible hydrogen make the wire especially suited for offshore applications.	ABS, BV, DNV, LR, RS
	25 (≥18)	-60	80 (≥47)			M21	Seamless rutile cored wire with Argon-CO_2 shielding gas, for low-temperature steels with impact requirements down to -60 °C. Excellent weldability and very high productivity in positional welding. Alloyed with 2 % Ni for superior CVN impact properties. CTOD tested at -50 °C.Main field of applications are off-shore, upstream, oil and gas exploration.	ABS, DNV, LR, RS, CE
	24 (≥20) 26 (≥20)	-40 -60 -60	100 80 (≥47) 60 (≥47)			M21	Seamless basic cored wire with Argon-CO_2 shielding gas, alloyed with <1 % Ni, for the welding of fine grain constructional steel with impact requirements down to -60 °C – as well as for joining wear resistant steels. Very tough weld metal with high resistance to cracking.	CE
	27 (≥18) 26 33	-60 -60 -60	90 (≥47) 90 100			M21	Seamless metal-cored wire with Argon-CO_2 shielding gas, for low-temperature steels with impact requirements down to -60 °C, both as welded and stress relieved. Alloyed with <1 % Ni to meet NACE offshore requirement. This wire is especially suitable for rootpass welding in offshore and pipeline applications. CTOD tested at -40 °C.	TÜV (06205), DB (42.052.15), ABS, CWB, DNV, LR, CE
	27 (≥20) 28 30 (≥22)	-50 -60 -80 -60 -80 -50 -60	150 90 (≥47) 80 145 100 140 (≥47) 130			M21	Seamless metalcored wire for the welding of Nickel steels alloyed up to 3.5% with Ar-CO_2 shielding gas. Main features: excellent mechanical properties at low temperature (-80 °C), excellent efficiency, good bead appearance and no spatter. Wire with very low presence of diffusible hydrogen (<3 ml / 100 g weld metal). This wire can be used for applications where PWHT and normalized heat treatment conditions are required.	CE

SEAMLESS COPPER-COATED CORED WIRES FOR HIGH STRENGTH STEELS

TYPE	Product name	Classification		Gas	Typical analyses all weld metal		Mechanical properties* Typical values			
		EN ISO	AWS / SFA	Flux	[%]		Condition	Re Mpa	Rm Mpa	
Rutile FCAW	**diamondspark 550 RC**	EN ISO 18276-A: T 55 6 Z P M21 1 H5	A5.29 / SFA-5.29: E91T1-GM-JH4	M21	C Si Mn Ni Mo	0.05 0.35 1.6 0.85 0.2	as welded	610 (≥550)	680 (640-760)	
		EN ISO 18276-B: T 62 6 T1-1M21A-N2M1-UH5					annealed 620°C/2h	565 (≥500)	650 (640-760)	
	diamondspark 620 RC	EN ISO 18276-A: T 62 4 Mn1,5Ni P M21 1 H5	A5.29 / SFA-5.29: E101T1-K2M-JH4	M21	C Si Mn Ni Mo	0.05 0.30 1.30 1.50 0.30	as welded	670 (≥620)	730 (700-760)	
		EN ISO 18276-B: T 69 4 T1-1M21A-N3M1-UH5								
	diamondspark 700 RC	EN ISO 18276-A: T 69 6 Z P M21 1 H5	A5.29 / SFA-5.29: E111T1-GM-JH4	M21	C Si Mn Ni Mo	0.07 0.40 1.70 2.00 0.15	as welded	770 (≥690)	800 (770-900)	
		EN ISO 18276-B: T 76 6 T1-1M21A-G-UH5								
	diamondspark 700 RC-SR	EN ISO 18276-A: T 69 6 Mn2NiMo P M21 1 H5	A5.29 / SFA-5.29: E111T1-K3-JH4	M21	C Si Mn Ni Mo	0.04 0.25 1.80 2.30 0.40	as welded	740 (≥690)	800 (770-900)	
		EN ISO 18276-B: T 76 6 T1-1M21A-N4M2-UH5					annealed 570°C/3h	730 (≥690)	790 (770-900)	
							annealed 510°C/3h	730 (≥690)	780 (770-900)	
Basic FCAW	**diamondspark 550 BC**	EN ISO 18276-A: T 55 4 1NiMo B M21 3 H5	A5.29 / SFA-5.29: E90T5-GM-H4	M21	C Si Mn Ni Mo	0.05 0.35 1.40 1.20 0.40	as welded	590 (≥550)	670 (640-760)	
		EN ISO 18276-B: T 62 4 T5-0M21A-N2M2-UH5								
	diamondspark 700 BC	EN ISO 18276-A: T 69 6 Mn2NiCrMo B M21 3 H5	A5.29 / SFA-5.29: E110T5-K4M-JH4	M21	C Si Mn Ni Cr Mo	0.07 0.35 1.40 2.10 0.40 0.50	as welded	740 (≥690)	800 (770-900)	
		EN ISO 18276-B: T 76 6 T5-0M21A-N4C1M2-H5								
	diamondspark 900 BC	EN ISO 18276-A: T 89 4 Mn2Ni1CrMo B M21 3 H5	A5.29 / SFA-5.29: E120T5-GM-H4	M21	C Si Mn Ni Mo	0.06 0.45 1.3 1.00 0.50	as welded	960 (≥890)	1010 (940-1180)	
		EN ISO 18276-B: T 83 4 T5-0M21A-N4C2M2-UH5								

			Operational Data			Characteristics and applications	Approvals
	A5 [%]	CVN [°C]	[J]	Welding Position	Polarity	Shielding gas EN ISO 14175 Flux		
	22 (≥18)	-40 -60	100 80(≥47)			M21	Seamless rutile, Ni-Mn alloyed flux-cored wire for single- or multilayer welding of carbon, carbon-manganese steels and high strength steels with Ar-CO_2 shielding gas in as welded and post welded conditions. Especially suitable for pressure vessels application which have to meet the NACE requirements. This product can be used in sour gas applications. (HIC tested acc. to NACE TM-0284). Test values for SSC are available upon request.	CE
	23 (≥17)	-40 -60	60 55 (≥27)					
	20 (≥18)	-40	90 (≥47)			M21	Seamless rutile cored, Ni-Mo-alloyed wire for high strength steels up to 620 MPa YS. Excellent weldability and very high productivity in positional welding. Excellent CVN impact toughness down to -40 °C. The exceptional mechanical properties of this wire and the low content of diffusible hydrogen make it especially suitable for offshore applications.	CE
	19 (≥17)	-40 -60	75 60 (≥47)			M21	Seamless rutile cored wire, Ni-Mo-alloyed wire for high strength steels up to 690 MPa YS. Excellent weldability and very high productivity in positional welding. Excellent CVN impact toughness down to -60 °C and the low diffusible hydrogen content make it especially suitable for offshore, crane and lifting applications.	TÜV (19045), ABS, BV, DNV, LR, CE
	18 (≥17)	-40 -46 -60	70 65 55 (≥47)			M21	Seamless rutile cored wire, Ni-Mo alloyed, for high strength steels up to 690 MPa YS with Argon-CO_2 shielding gas. This core wire with its easy to remove and fast freezing slag shows excellent weldability in all positions, excellent bead appearance and very low spatter losses. This product is dedicated to be performed after PWHT for Q&T and also for TMCP steels thanks to his particular formulation that reduce the embrittlement of the weld metal after such treatments with good toughness till -40 °C.	CE
	19 (≥17)	-40 -46	47 35 (≥27)					
	19 (≥17)	-40 -46	55 40 (≥27)					
	22 (≥18)	-40	100 (≥47)			M21	Seamless basic cored wire Ni-Mo-alloyed wire for high strength steels up to 550 MPa YS. Excellent weldability in flat and horizontal positions. Excellent CVN impact toughness down to -40 °C.	CE
	20 (≥17)	-60	80 (≥47)			M21	Seamless basic cored wire with excellent weldability in flat and horizontal positions. Ni-Mo-alloyed wire for high strength steels up to 690 MPa YS. Excellent CVN impact toughness down to -60 °C.	TÜV (07416), ABS, BV, DNV, LR, CE
	18 (≥17)	-40	75 (≥47)			M21	Seamless basic cored wire, with excellent weldability in flat and horizontal positions. Ni-Mo-alloyed wire for very high strength steels such as S890QL, S960QL and SQL1100. Excellent CVN impact toughness down to -40 °C.	CE

SEAMLESS COPPER-COATED CORED WIRES FOR HIGH STRENGTH STEELS

TYPE	Product name	Classification		Gas	Typical analyses all weld metal		Mechanical properties* Typical values			
		EN ISO	AWS / SFA	Flux	[%]		Condition	Re Mpa	Rm Mpa	
Metalcored Wires	**diamondspark 550 MC**	EN ISO 18276-A: T 55 6 1NiMo M M21 1 H5 EN ISO 18276-B: T 62 6 T15-1M21A-N2M2-UH5	A5.28 / SFA-5.28: E90C-K3 H4	M21	C Si Mn Ni Mo	0.06 0.45 1.3 1.00 0.50	as welded	690 (≥550)	750 (640-820)	
	diamondspark 620 MC	EN ISO 18276-A: T 62 4 Z M M21 1 H5 EN ISO 18276-B: T 69 4 T15-1M21AP-G-UH5	A5.28 / SFA-5.28: E100C-G H4	M21	C Si Mn Ni Mo	0.10 0.50 1.80 0.90 0.55	as welded annealed 650°C/4h annealed 650°C/4h (shielding gas I1)	780 (≥620) 670 (≥620) 720 (≥620)	820 (700-830) 750 (700-830) 800 (700-830)	
	diamondspark 700 MC	EN ISO 18276-A: T 69 6 Mn2NiCrMo M M21 1 H5 EN ISO 18276-B: T 76 6 T15-1M21A-N4C1M2-UH5	A5.28 / SFA-5.28: E110C-K4H4	M21	C Si Mn Cr Ni Mo	0.07 0.7 1.6 0.35 2.0 0.3	as welded	770 (≥690)	830 (770-900)	
	diamondspark 900 MC	EN ISO 18276-A: T 89 5 ZMn2NiCrMo M M21 1 H5 EN ISO 18276-B: T Z 83 5 T15-1M21A-N4C2M2-UH5	A5.28 / SFA-5.28: E120C-GH4	M21	C Si Mn Cr Ni Mo	0.06 0.7 1.9 0.5 2.1 0.4	as welded	920 (≥890)	980 (940-1040)	
	diamondspark 960 MC	EN ISO 18276-A: T 89 4 ZMn2NiCrMo M M21 1 H5 EN ISO 18276-B: T Z 83 4 T15-1M21A-N4C2M2-UH5		M21	C Si Mn Cr Ni Mo	0.06 0.7 1.9 0.6 2.2 0.5	as welded	980 (≥960)	1020 (980-1180)	
	diamondspark 1100 MC	EN ISO 18276-B: T Z 2 T15-1M21A-N4C1M2-UH5		M21	C Si Mn Cr Ni Mo	0.09 0.4 1.4 0.7 2.7 0.5	as welded	1120 (≥1100)	1160	

			Operational Data			Characteristics and applications	Approvals
	A5 [%]	CVN [°C]	[J]	Welding Position	Polarity	Shielding gas EN ISO 14175 Flux	
	22 (≥18)	-60	60 (≥47)			M21	Seamless metal-cored wire, Ni-Mo-alloyed wire for high strength steels up to 550 MPa YS. Excellent CVN impact toughness down to -50 °C. Especially suited for root pass welding in offshore and pipelines.	CE
	20 (≥17)	-40	70 (≥47)			M21-I1	Seamless metal-cored wire, Ni-Mo- alloyed wire for single or multilayer welding of high strength steels. This wire is especially suitable for the pipe welding of special base material like ASTM A519 Gr. 4130. It meets the NACE offshore requirements. Excellent CVN impact toughness down to -40 °C.	ABS, DNV
	22 (≥17)	-40	60 (≥47)					
	20 (≥17)	-29	55 (≥35)					
	19 (≥17)	-40 -60	130 85 (≥47)			M21-M20	Seamless metal-cored wire, with excellent characteristics for high duty cycle mechanized and robotic welding of thermo-mechanically or quenched & tempered high strength steel up to a yield strength of 690 MPa. Ultra-low weld metal hydrogen content – at the level of solid wires – for best possible protection against hydrogen assisted / induced cracking. Used for the welding of high strength steel in crane-lifting equipments, vehicle manufacturing, shipbuilding and offshore fabrication.	TÜV (12822), DB (42.052.28), ABS, CWB, DNV, LR, CE
	17 (≥15)	+20 -50	80 70 (≥47)			M21	Seamless metal-cored wire with excellent characteristics for high duty cycle mechanized and robotic welding of thermo-mechanically produced or quenched & tempered high strength steel up to a yield strength of 900 MPa. Ultra-low weld metal hydrogen content – at the level of solid wires – for best possible protection against hydrogen assisted / induced cracking. Used for the welding of high strength steel in crane-lifting equipments, vehicle manufacturing, shipbuilding and offshore fabrication.	TÜV (12828), DB (42.052.30/01), CE
	16 (≥15)	+20 -40	80 60 (≥47)			M21	Seamless metal-cored wire, with excellent characteristics for high duty cycle mechanized and robotic welding of thermo-mechanically produced or quenched & tempered high strength steel up to a yield strength of 960 MPa. Ultra-low weld metal hydrogen content – at the level of solid wires – for best possible protection against hydrogen assisted / induced cracking. Used for the welding of high strength steel in crane-lifting equipments, vehicle manufacturing, shipbuilding and offshore fabrication.	TÜV, DB, CE
	12 (≥10)	-20 -40	45 (≥27) 40 (≥27)			M21	Seamless metal-cored wire, developed for shielded arc welding of fine grained structural steels of yield strength above 1100 MPa. A balanced metallurgy combined with a very precise production technology results in high strength combined with good toughness behaviour and excellent welding behaviour. Due to the manufacturing technology, metalcored wire ensures lowest diffusible hydrogen content of <2 ml / 100 g. This filler material is used for high strength steel constructions and for crane and vehicle manufacturing.	

SEAMLESS COPPER-COATED CORED WIRES FOR HIGH STRENGTH STEELS

TYPE	Product name	Classification		Gas	Typical analyses all weld metal		Mechanical properties* Typical values			
		EN ISO	AWS / SFA	Flux	[%]		Condition	Re Mpa	Rm Mpa	
SAW FCAW	**diamondspark S 550 HP**	EN ISO 14171-A: S 50 6 AB TZ3Ni1Mo H5	A5.23 / SFA-5.23: F9A8-ECNi5-Ni5	UV 400	C Si Mn Ni Mo	0.06 0.4 1.7 0.9 0.3	as welded	605 (≥560)	680 (620-770)	
		EN ISO 14171-A: S 50 6 FB TZ3Ni1Mo H4	A5.23 / SFA-5.23: F9A8-ECNi5-Ni5-H4 F8P8-ECNI5-Ni5-H4	UV 420 TTR-C	C Si Mn Ni Mo	0.09 0.3 1.55 0.9 0.3	as welded	600 (≥560)	675 (620-770)	
	diamondspark S 700 HP	EN ISO 26304-A: S 69 6 FB TZ H4	A5.23 / SFA-5.23: F11A10-ECF5-F5H4 F11P6-ECF5-F5H4	UV 422 TT-LH	C Si Mn Cr Ni Mo	0.05 0.3 1.6 0.3 2.7 0.5	as welded	730 (≥690)	790 (770-900)	
	diamondspark S 770	EN ISO 26304-A: S 69 6 FB TZ H5	A5.23 / SFA-5.23: F11A10-ECF5-F5 F11P6-ECF5-F5	UV 418 TT	C Si Mn Cr Ni Mo	0.06 0.3 1.7 0.5 2.5 0.5	as welded	770 (≥690)	840 (830-900)	
							as welded	790 (≥770)	850 (830-900)	
		EN ISO 26304-A: S 69 5 FB TZ H4	A5.23 / SFA-5.23: F12A6-ECF5-F5H4	UV 422 TT-LH						
	diamondspark S 900 HP	EN ISO 26304-A: S 69 5 FB TZ H4	A5.23 / SFA-5.23: F12A6-ECF5-F5H4	UV 422 TT-LH	C Si Mn Cr Ni Mo	0.08 0.4 1.9 0.5 2.6 0.6	as welded	920 (≥890)	1000 (940-1035)	
	diamondspark S 960 HP	EN ISO 26304-A: S 89 5 FB TZ3Ni2.5CrMoMn H4	AWS A5.23 / SFA-5.23: F13A8-ECG-GH4	UV 422 TT-LH	C Si Mn Cr Ni Mo	0.10 0.3 1.85 0.6 2.6 0.6	as welded	970 (≥960)	1050 (1000-1150)	

			Operational Data			Characteristics and applications	Approvals
	A5 [%]	CVN [°C]	[J]	Welding Position	Polarity	Shielding gas EN ISO 14175 Flux		
	22 (≥18)	-20 -40 -60	160 (≥47) 135 (≥47) 55 (≥47)			UV 400	Seamless wire- flux combination for joint welding of pipe steels API-5L X70 and other high-strength, quenched and tempered fine grained structural steels up to 550 MPa YS. The weld metal demonstrates very good toughness at low temperatures and good strength properties, which allows to weld with relative high heat-input at high welding speed resulting in high productivity with a good bead appearance, nice fusion and good slag detachability. The seamless cored wire has a high deposit rate (~13 kg/hr for single wire 3.2 mm, 750 Amp, DC+).	
	22 (≥18)	-20 -40 -60	150 (≥47) 120 (≥47) 70 (≥47)			UV 420 TTR-C	Seamless wire-flux combination for joint welding of pipe steels API-5L X70 and other highstrength, quenched and tempered fine grained structural steels up to 550 MPa YS. The weld metal could be normalised and tempered (N+A condition), for pressure vessel and pipe-work appliation. The wire has a high deposit rate (~13 kg/ hr for single wire 3.2 mm, 750 Amp, DC+). Low level of diffusible hydrogen (max 4 ml/100 gr according to ISO 3690).	TÜV, CE
	20 (≥17)	-51 -60 -73	100 (≥69) 80 (≥69) 50 (≥27)			UV 422 TT-LH	Seamless wire-flux combination for joint welding of high-strength, quenched and tempered fine grained structural steels up to 690 MPa YS. The weld metal demonstrates very good toughness at low temperatures and good strength properties, which allows to weld with relative high heat-input at high welding speed resulting in high productivity with a good bead appearance, nice fusion and good slag detachability. Low level of diffusible hydrogen (max 4 ml/100 gr according to ISO 3690).	ABS, BV, DNV, LR, CE
	19 (≥17)	-51 -60	90 75 (≥69)			UV 418 TT	Seamless wire-flux combination for joint welding of high-strength, quenched and tempered fine grained structural steels up to 690 MPa YS. The combination is designed to be applied in applications with requirements concerning overmatching YS and TS. The weld metal demonstrates good toughness properties at low temperatures (-60 °C), a fine bead appearance and good wetting properties, together with good slag detachability characterize this wire/flux combination.	ABS, BV, DNV, LR, CE
	18 (≥17)	-40 -50 -60	85 (≥47) 70 (≥47) 65			UV 422 TT-LH	Seamless wire-flux combination for joint welding of high-strength, quenched and tempered fine grained structural steels up to 690 MPa YS. The combination is targeted for applications with overmatching strength requirements. Superior bead appearance and good wetting properties, together with good slag detachability characterize this wire/flux combination. Very low level of diffusible hydrogen (max 4 ml/100 gr according to ISO 3690).	
	17 (≥15)	-40 -51 -60	80 (≥47) 75 (≥47) 70 (≥47)			UV 422 TT-LH	Seamless wire-flux combination for joint welding of high-strength, quenched and tempered fine grained structural steels up to 890 MPa YS. The special design of the wire gives the special benefit to weld with relative high deposit rate at a relative low welding current. The weld metal composition has been optimised to achieve maximum charpy toughness level until -60 °C. Very good welding characteristics with nice bead appearance, fusion and good slag detachability. Very low level of diffusible hydrogen (max 4 ml/100 gr according to ISO 3690).	
	15 (≥12)	-40 -51 -60	65 (≥47) 60 (≥47) 55 (≥27)			UV 422 TT-LH	Seamless wire-flux combination for joint welding of high-strength, quenched and tempered fine grained structural steels up to 960 MPa YS. The special design of the wire gives the special benefit to weld with relative high deposit rate at a relative low welding current. The weld metal composition has been optimised to achieve maximum charpy toughness level until -50 °C. Very good welding characteristics with nice bead appearance, fusion and good slag detachability. Very low level of diffusible hydrogen (max 4 ml/100 gr according to ISO 3690).	

SEAMLESS COPPER-COATED CORED WIRES FOR PIPELINE STEELS

TYPE	Product name	Classification		Gas	Typical analyses all weld metal		Mechanical properties* Typical values			
		EN ISO	AWS / SFA	Flux	[%]		Condition	Re Mpa	Rm Mpa	
Rutile FCAW	**diamondspark X60 RC-Pipe**	EN ISO 17632-A: T 50 6 1Ni P M21 1 H5 EN ISO 17632-B: T 55 6 T1-1M21A-N2-UH5	A5.29 / SFA-5.29: E81T1-Ni1M-JH4	M21	C Si Mn Ni	0.05 0.40 1.3 0.85	as welded	550 (≥500)	610 (560-690)	
	diamondspark X70 RC-Pipe	EN ISO 18276-A: T 55 5 Mn1.5Ni P M21 1 H5 EN ISO 18276-B: T 62 5 T1-1M21A-N3M1-UH5	A5.29 / SFA-5.29: E91T1-K2M-JH4	M21	C Si Mn Ni	0.06 0.40 1.45 1.45	as welded	630 (≥550)	700 (640-760)	
	diamondspark X70 RC-Pipe (N)	EN ISO 18276-A: T 55 6 Z P M21 1 H5 EN ISO 18276-B: T 62 6 T1-1M21A-N2M1-UH5	A5.29 / SFA-5.29: E91T1-GM-JH4	M21	C Si Mn Ni Mo	0.05 0.35 1.6 0.85 0.25	as welded annealed 620°C/2h	620 (≥550) 560	690 (640-760) 620	
	diamondspark X80 RC-Pipe	EN ISO 18276-A: T 62 4 Mn1.5Ni P M21 1 H5 EN ISO 18276-B: T 69 4 T1-1M21A-N3M1-UH5	A5.29 / SFA-5.29: E101T1-K2M-JH4	M21	C Si Mn Ni Mo	0.04 0.45 1.45 1.60 0.15	as welded	680 (≥620)	720 (700-760)	

			Operational Data			Characteristics and applications	Approvals
	A5 [%]	CVN [°C]	[J]	Welding Position	Polarity	Shielding gas EN ISO 14175 Flux		
	25 (≥18)	-40 -60	100 75 (≥47)			M21	Seamless rutile, Ni-alloyed, flux cored wire, especially developed for pipeline applications with automatic or semiautomatic welding equipment for pipeline welding of API 5L grades from X60 up to X70 with Argon-CO_2 shielding gas. Main features: excellent weldability in all positions, excellent bead appearance, very low spatter losses, fast freezing and easy to remove slag. This product can be used in sour gas applications. (HIC tested acc. to NACE TM-0284). Test values for SSC are available upon request.	TÜV (19491), CE
	22 (≥18)	-40 -50	70 60 (≥47)			M21	Seamless rutile cored wire, developed for pipeline welding of API 5L grades from X70 up to X80. Excellent weldability and very high productivity in positional welding. Well suited for mechanized-orbital welding. Good CVN impact toughness down to -50 °C. Very low-hydrogen weld metal.	TÜV (19765), CE
	22 (≥18) 24	-40 -60 -46	100 80 (≥47) 55 (≥27)			M21	Seamless rutile cored wire, especially developed for productive all-positional pipeline welding of API 5L grades from X70 up to X80, alloyed with Mn and with <1.0% Ni to meet NACE require- ments. Exceptional CVN impact toughness down to –60 °C and CTOD tested at –10 °C. Very low-hydrogen weld metal.	CE
	22 (≥18)	-40	80 (≥47)			M21	Seamless rutile Ni-Mo alloyed flux cored wire especially designed for semi- and fully automatic welding in pipeline applications for high strength steels X80-X90 base materials. Main features: excellent weldability in all positions, in particular in overhead with very stable arc at lower welding parameters, excellent bead appearance, low spatter losses, fast freezing and easy to remove slag.	CE

SEAMLESS COPPER-COATED CORED WIRES FOR CREEP RESISTANT STEELS

TYPE	Product name	Classification		Gas	Typical analyses all weld metal		Mechanical properties* Typical values			
		EN ISO	AWS / SFA	Flux	[%]		Condition	Re Mpa	Rm Mpa	
Rutile FCAW	**diamondspark DMO RC**	EN ISO 17632-A: T 46 0 Mo P M21 1 H5 EN ISO 17634-A: T MoL P M21 1 H5	A5.29 / SFA-5.29: E81T1-A1M-H4	M21	C Si Mn Mo	0.06 0.2 0.75 0.4	annealed 620°C/1h	550 (≥470)	630 (550-680)	
	diamondspark DCMS RC	EN ISO 17634-A: T CrMo1 P M21 1 H5 EN ISO 17634-B: T 55 T1-1M21-1CM-H5	A5.29 / SFA-5.29: E81T1-B2M-H4	M21	C Si Mn Cr Mo	0.07 0.3 0.7 1.1 0.4	annealed 690°C/1h	570 (≥460)	630 (550-740)	
	diamondspark CM 2 RC	EN ISO 17634-A: T CrMo2 P M21 1 H5 EN ISO 17634-B: T 62 T1-1M21-2C1M-H5	A5.29 / SFA-5.29: E91T1-B3M-H4	M21	C Si Mn Cr Mo	0.06 0.40 0.80 2.20 1.00	annealed 690°C/1h	570 (≥540)	640 (620-760)	
	diamondspark DCMV RC	EN ISO 17634-A: T Z P M21 1 H5 EN ISO 17634-B: T 69 T1-1M21-G-H5		M21	C Si Mn Cr Mo Ni V	0.10 0.50 1.10 1.20 0.90 0.45 0.20	annealed 690°C/6h	760 (≥565)	800 (690-890)	
Basic FCAW	**diamondspark DMO BC**	EN ISO 17632-A: T46 6 Mo B M21 3 H5 EN ISO 17634-A: T Mo B M21 3 H5	A5.29 / SFA-5.29: E80T5-GM-H4	M21	C Si Mn Mo	0.08 0.35 1.00 0.50	as welded as welded	520 (≥470) 520 (≥470)	600 (550-680) 600 (550-680)	
	diamondspark DCMS BC	EN ISO 17634-A: T CrMo1 B M21 3 H5 EN ISO 17634-B: T 55 T5-0M21-1CM-H5	A5.29 / SFA-5.29: E80T5-B2M-H4	M21	C Si Mn Cr Mo	0.06 0.45 1.10 1.20 0.50	annealed 690°C/1h	490 (≥470)	590 (550-690)	
	diamondspark CM 2 BC	EN ISO 17634-A: T CrMo2 B M21 4 H5 EN ISO 17634-B: T 62 T5-0M21-2C1M-H5	A5.29 / SFA-5.29: E90T5-B3M-H4	M21	C Si Mn Cr Mo	0.07 0.45 1.10 2.20 1.00	annealed 710°C/1h	550 (≥540)	650 (620-760)	
	diamondspark CM 5 BC	EN ISO 17634-A: T CrMo5 B M21 3 H5 EN ISO 17634-B: T 55 T5-0M21-5CM-H5	A5.29 / SFA-5.29: E80T5-B6M-H4	M21	C Si Mn Cr Mo	0.07 0.45 1.10 5.00 0.50	annealed 745°C/1h	490 (≥470)	600 (550-690)	
	diamondspark DCMV BC	EN ISO 17634-A: T Z B M21 3 H5 EN ISO 17634-B: T 62 T5-0M21-G-H5	A5.29 / SFA-5.29: E90T5-GM-H4	M21	C Si Mn Cr Mo Ni V	0.10 0.50 1.10 1.20 0.90 0.40 0.20	annealed 690°C/6h	680 (≥540)	750 (620-760)	

				Operational Data			Characteristics and applications	Approvals
	A5 [%]	CVN [°C]	[J]	Welding Position	Polarity	Shielding gas EN ISO 14175 Flux		
	24 (≥22)	0-20	100 (≥47) 60 (≥47)			M21	Seamless rutile cored wire, specially developed for the productive welding of 0.5 % Mo alloyed creep resistant base materials. Excellent weldability and very high productivity in positional welding. Very low-hydrogen weld metal. Applied in the fabrication of tanks, high-pressure vessels, pipe systems as well as for structural steel applications.	TÜV (12205), CE
	24 (≥20)	+20	65 (≥47)			CO_2	Seamless rutile cored wire, specially developed for the productive welding of 1 %Cr-0.5 % Mo alloyed creep resistant base materials. Excellent weldability and very high productivity in positional welding. Very low-hydrogen weld metal. Applied in the fabrication of high-pressure vessels and pipe systems.	
	19 (≥18)	+20	60 (≥47)			M21	Seamless rutile cored wire for 2.25 % Cr-1 % Mo type creep resistant steels. Main features: good weldability in all welding positions, fast freezing and easy to remove slag, no spatter at low parameters, good mechanical properties after heat treatment and low content of diffusible hydrogen.	
	17 (≥15)	+20	50 (≥27)			CO_2	Seamless rutile cored wire for the welding of creep resistant steels up to 550 °C, Cr-Mo-V alloyed with Ar/CO_2 shielding gas. This wire is especially suitable for welding steel G17CrMoV5-10, with post-welding heat treatment. Main features: good weldability in all welding positions, fast freezing and easy to remove slag, no spatter at low parameters, good mechanical properties after heat treatment and low content of diffusible hydrogen.	
	24 (≥22) 24 (≥22)	+20 -40 -60 +20 -40 -60	210 150 130 (≥47) 210 150 130 (≥47)			M21	Seamless basic cored wire for 0.5 % Mo type creep resistant steels up to 500°C with Ar-CO_2 shielding gas.Features include: excellent impact values at low temperatures (-60 °C) in as welded conditions and after long post weld heat treatments (620 °C / 15 h) with low spatter losses. Wire with very low amount of diffusible hydrogen in weld metal (<1.5 ml / 100 g) that reduces the risk of cracks.	TÜV (12254), CE
	24 (≥20)	+20	100 (≥47)			M21	Seamless basic cored wire or 1 % Cr-0.5 % Mo type creep resistant steels up to 500 °C with Ar-CO_2 shielding gas. Features include: excellent weldability in flat and horizontal positions, smooth and bright bead, low spatter losses, easy to remove slag, good mechanical properties and high deposition rates with very low contents of diffusible hydrogen in the weld metal (<3 ml / 100 g).	CE
	25 (≥18)	+20	100 (≥47)			M21	Seamless basic cored wire for 2.25 % Cr-1 % Mo type creep resistant steels up to 600 °C with Ar-CO_2 shielding gas. Features include: excellent weldability in flat and horizontal positions, smooth and bright bead, low spatter losses, easy removable slag, good mechanical properties and high deposition rates with very low contents of diffusible hydrogen in weld metal (<3 ml / 100 g).	CE
	19 (≥17)	+20	100 (≥47)			M21	Seamless basic cored wire for 5 % Cr-0.5 % Mo type creep resistant steels.Features include: excellent weldability in flat and horizontal positions, smooth and bright bead, low spatter, easy to remove slag, good mechanical properties and depositions with very low contents of diffusible hydrogen (<3 ml / 100 g).	CE
	19 (≥17)	+20	100 (≥47)			M21	Seamless basic cored wire for Cr-Mo-V- alloyed steels resistant to creep. Excellent weldability in flat and horizontal positions. Very low-hydrogen weld metal. This wire is especially suitable for welding steel G17CrMoV5-10 with post weld heat treatment.	TÜV (09601), CE

SEAMLESS COPPER-COATED CORED WIRES FOR CREEP RESISTANT STEELS

TYPE	Product name	Classification		Gas	Typical analyses all weld metal		Mechanical properties* Typical values			
		EN ISO	AWS / SFA	Flux	[%]		Condition	Re Mpa	Rm Mpa	
Metalcored Wires	**diamondspark DMO MC**	EN ISO 17632-A: T46 2 Mo M M21 1 H5 EN ISO 17634-A: T Mo M M21 1 H5	A5.28 / SFA-5.28: E80C-GH4	M21	C Si Mn Mo	0.09 0.35 1.10 0.5	annealed 620°C/1h	550 (≥470)	630 (550-680)	
	diamondspark DCMS MC	EN ISO 17634-A: T CrMo1 M M21 1 H5 EN ISO 17634-B: T 55 T15-1M21-1CM-H5	A5.28 / SFA-5.28: E80C-B2 H4	M21	C Si Mn Cr Mo	0.06 0.40 1.10 1.20 0.50	annealed 690°C/1h	520 (≥470)	620 (550-690)	
	diamondspark CM 2 MC	EN ISO 17634-A: T CrMo2 M M21 1 H5 EN ISO 17634-B: T 62 T15-1M21-2C1M-H5	A5.28 / SFA-5.28: E90C-B3H4	M21	C Si Mn Cr Mo	0.06 0.35 1.10 2.20 1.00	annealed 710°C/1h	550 (≥540)	740 (620-760)	

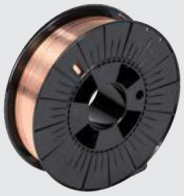
			Operational Data			Characteristics and applications	Approvals
	A5 [%]	CVN [°C]	[J]	Welding Position	Polarity	Shielding gas EN ISO 14175 Flux		
	25 (≥22)	-20	90 (≥47)			M21	Seamless metal-cored wire for 0.5 % Mo type creep resistant steelssteels up to 450°C with Ar-CO_2 shielding gas. Features include: high yield, good weldability, excellent bead appearance and low spatter losses. Wire with very low amount of diffusible hydrogen (<3 ml / 100 g) that reduces the risk of cracks.	TÜV (07157), DB (42.052.09), CE
	22 (≥20)	+20 -10 -20	110 (≥47) 90 80			M21	Seamless metal-cored wire for 1 % Cr-0.5 % Mo type creep resistant steels up to 500°C with Ar-CO_2 shielding gas. Features include: high yield, good weldability, excellent bead appearance, very low spatter losses. Wire with very low amount of diffusible hydrogen (<3 ml / 100 g) that reduces the risk of cracks.	TÜV (07158), DB (42.052.16), CE
	23 (≥18)	+20 -10	110 (≥47) 90			M21	Seamless metal-cored wire for 2.25 % Cr-1 % Mo type creep resistant steels up to 600 °C with Ar-CO_2 shielding gas. Features include: high yield, good weldability, excellent bead appearance, very low spatter losses. Wire with very low amount of diffusible hydrogen (<3 ml / 100 g) that reduces the risk of cracks.	TÜV (07158), DB (42.052.16), CE

PACKAGING

Our diamondspark products are available in various packaging systems.

Overview spool types

Plastic spool S200



Precision layer wound

Dimensions:
Ø external 200 mm
Ø internal 52 mm
Width 47 mm

Available spool weight:
5 kg

Available diameters:
1.0 mm 1.2 mm

Wire basket spool BS300

Precision layer wound

Dimensions:
Ø external 300 mm
Ø internal 52 mm
Width 100 mm

Available spool weight:
16 kg

Available diameters:
1.0 mm 1.2 mm
1.4 mm 1.6 mm

Plastic spool S300

Precision layer wound

Dimensions:
Ø external 300 mm
Ø internal 52 mm
Width 100 mm

Available spool weight:
15 kg

Available diameters:
1.0 mm 1.2 mm
1.4 mm 1.6 mm

Wire basket spool B415

Precision layer wound

Dimensions:
Ø external 415 mm
Ø internal 300 mm
Width 100 mm

Available spool weight:
25 kg

Available diameters:
2.4 mm 3.2 mm
4.0 mm

Overview drum types

BASEdrum™ 250 kg

Round drum
Weight: 250 kg

Dimensions:
Hight 780 mm
Ø external 520 mm

Available diameters:
1.0 mm 1.2 mm
1.4 mm 1.6 mm

SAWdrum

Round drum
Weight: 250 kg

Dimensions:
Hight 930 mm
Ø external 580 mm

Available diameters:
2.4 mm 3.2 mm
4.0 mm

ECOdrum 250

Octagonal drum
Weight: 250 kg

Dimensions:
Hight 860 mm
Ø external 520 mm

Available diameters:
1.0 mm 1.2 mm
1.4 mm 1.6 mm

ECOdrum 400

Octagonal drum
Weight: 400 kg

Dimensions:
Hight 980 mm
Ø external 600 mm

Available diameters:
1.2 mm 1.4 mm
1.6 mm

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For the best welding performance with our diamondspark seamless cored wires, we recommend our dedicated synergic lines.

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With the Terra & Uranos ranges, we are setting new standards in all standard and special welding processes. The combination of welding filler metal and power source, which is unique in the industry and based on our application know-how, takes precision to a new dimension. This allows you to obtain TOP CLASS welded joints that you will be proud of.

What URANOS welding equipment are all about:

- Large (3.5") digital user-friendly interface
- greenWave® technology guarantees high energy-efficiency
- MultiProcess inverters welding MMA, MIG/MAG and TIG DC HF
- Ready for automatic and robot welding application
- The power sources could be networked thanks to Weld@NET® Böhler Welding software

What TERRA welding equipment are all about:

- Simple operation for the welder
- Low weight
- Ideal for steel and stainless steel
- Flexibly deployable
- Suitable for use on construction sites and fabrication shops

diamondspark

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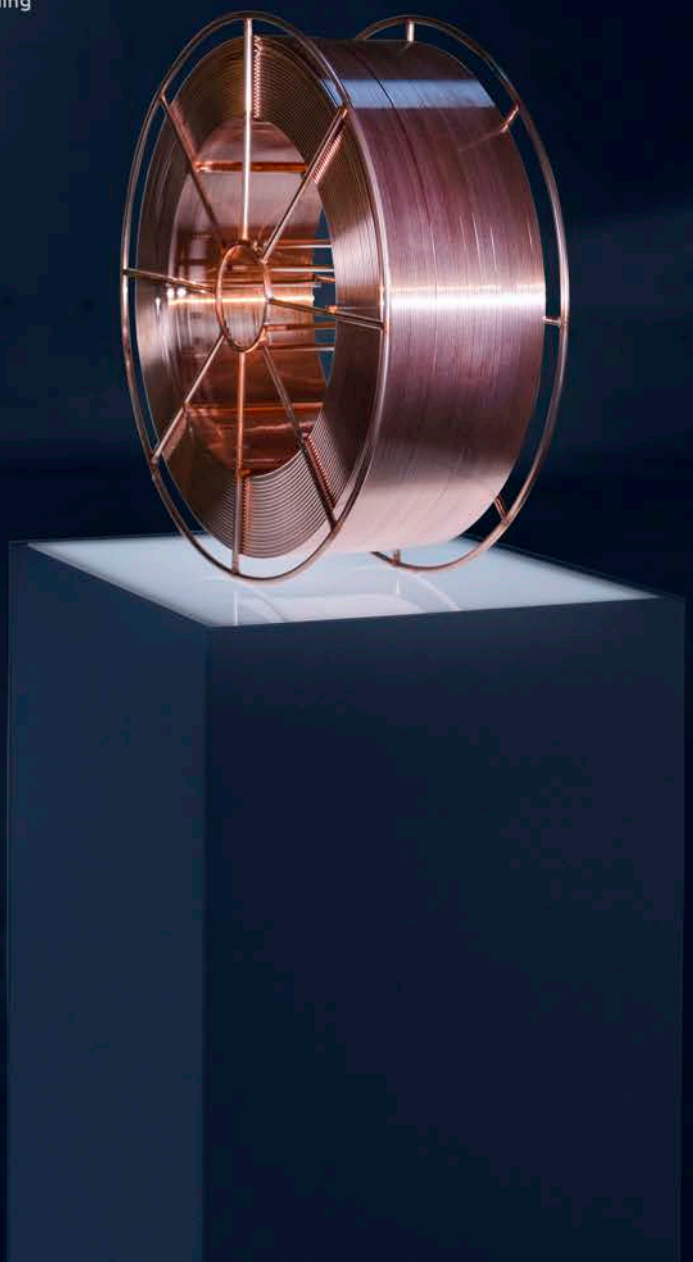

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