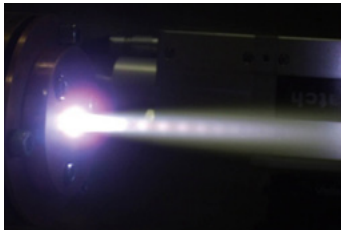


www.durmat.com

DURMAT® AS Flux-Cored Wires

High Performance Materials for Arc Spraying



DIN EN ISO 9001:2008
Cert. No.: 01 100 040463

WEAR SOLUTIONS

With Creative Ideas for Practical Solutions

DURUM VERSCHLEISS-SCHUTZ GMBH was established in 1984 as a manufacturer of advanced hard-facing products. Today DURUM has production and service centres in Brazil, France and the USA and exports to more than 80 countries all over the world!

DURUM provides high performance products for Welding and Thermal Spraying. DURUM is a global market leader in the supply of specialized overlaying consumables that can be applied by a range of processes including: Flux-Cored Wire Welding, Plasma Transferred Arc (PTA) Welding, Oxy-acetylene Welding, Thermal Spraying.

Besides Willich (Germany) DURUM Group maintains production and workshop facilities in Brazil (São Paulo), France (Saint Victor) and the USA (Houston TX). We also support a network of independent agencies throughout the world. We meet demanding requirements of today's industry with a wide array of Welding and Thermal Spray technologies.

The company employs national and international PhD's; welding engineers and independent experts from well known and respected universities, which ensures that constant material and process development is achieved to the highest standards.

DURUM focuses on "continuous development" and sets a significant annual budget aside for research and development including new product development, product enhancement and the development of highly specialised solutions to the most challenging applications in the industry.



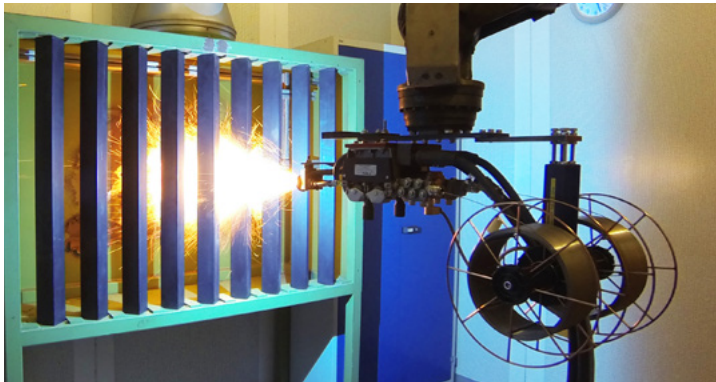
Our wide range of specialized surface hard-facing materials includes:

- Tungsten Carbide Rods for Oxy-acetylene Welding
- Nickel-, Cobalt- and Iron-based Flux-Cored Wire
- FCAW wires with Tungsten Carbide and complex carbides to provide extremely hard and tough coatings, used principally for extreme wear applications
- Tungsten Carbides, Complex Carbides and Chromium Carbides for manual Arc Welding
- PTA Welding Powders
- PTA machines, torches and powder feeders
- Powders for Oxy-acetylene Welding and Spraying
- Fused Crushed and Spherical Fused Tungsten Carbides
- Pre-manufactured replacement wear parts
- Thermal Spray Powders (conforming to DIN EN 1274)
- Thermal Spray Wires (conforming to DIN EN 14919)

We understand wear protection

Technology Partner

DURUM stands for the promise that we function as a technology partner in wear protection for our customers. We understand the complete range from the raw material to the perfect customer solution. As a material producer we have direct control over our production processes and can ensure optimal material quality due to our high internal quality and production process standards.



Bundled Competence

Our headquarter bundles material production, customer service, technical department, research & development and sales. This enables us to have a reliable communication structure and short reaction times while maintaining a high level process knowledge.

Our bundled company structure provides a direct benefit for all our customers.

R & D Capabilities

Additionally we can realize individual customer solutions as our technical department has access to a fully equipped metallography lab. A R&D-Welding lab and a thermal spray booth. We develop new materials and work on continuous improvement of existing products.

Together with our customers we are able to find the perfect material or technical solution for most types of wear problem in the field.



Metallography Laboratory:

- Cold and warm embedding
- Grind- and polishing machine
- Digital microscope (+DIC contrast)
- Rockwell and Vickers hardness measurement
- SPECTROMAXx metal analyzer
- ROTAP sieve analysis
- MicroTrac Laser particle size measurement
- ASTM G65 Dry rubber wheel test
- ASTM G75 Miller-Test

R&D-Spray Booth:

- Arc Spraying System DURSPRAY 450
- Flame Spraying Torch UniSprayJet
- Spray&Fuse-Torch UniSprayJet
- DC-Plasma-Torch F6
- 6-Axis-Robot
- Digitally controlled turning unit

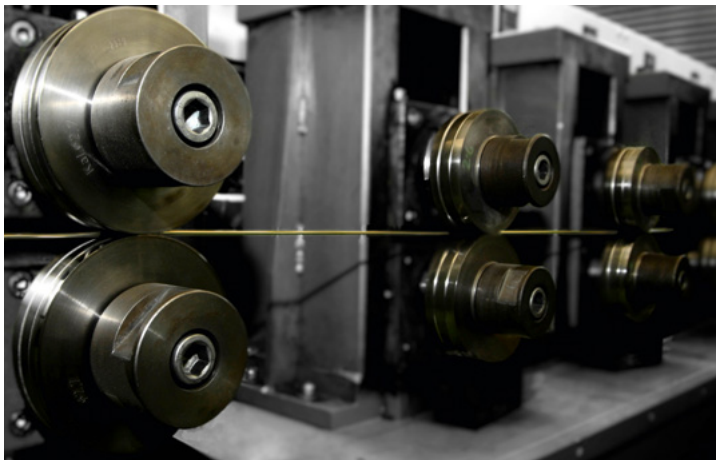
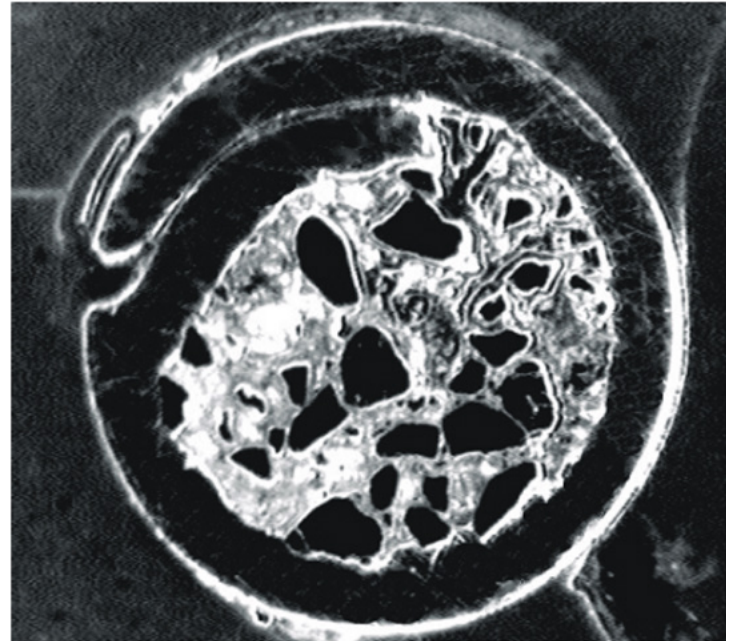
Advantages of Flux-Cored Wires

Material selection

Adapted materials

Flux-Cored Wires largely increase the available material range. Flux-Cored Wires can be highly alloyed due to the variable powder filling. Flux-Cored Wires are not limited to alloys that can be homogeneously molten. Unique material and property combinations are possible by the use of different strip materials such as Fe-, Co-, Ni-strips and pre-alloyed strips. This includes combinations with normal metal powder filling, carbide filling or even oxide powder filling.

The flexibility of Flux-Cored Wires is nearly unlimited.



High performance

Productivity advantage

Flux-Cored Wires provide an inherent productivity advantage over solid wires. A higher deposition rate per hour can be achieved due to the combination of the current-carrying metal strip and the powder filling. Spraying behaviour and coating structure can additionally be varied by addition of special fluxes.

This results in very unique spraying and coating characteristics.

Product Development

Be one step ahead

Flux-Cored Wires have been adapted to suit applications in nearly every industrial branch. Coating properties are largely dependent on critical feed stock properties like strip-material, strip dimension, powder quality, powder type, powder particle size and flux-combinations.

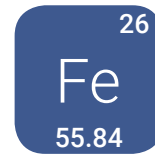
Together with us you can work out tailored material solutions to be ahead of the competition.



Iron-based Flux-Cored Wires

Iron-based Flux-Cored Wires are the "work horse" of thermal spray materials. While combining very good functional properties with high productivity they provide an excellent price-performance ratio. Combined with arc-spraying they often offer the best solution for a variety of applications.

Coatings can provide superior erosion/abrasion resistance even up to high temperatures and are readily used in several different industrial sectors.



Advantages¹⁾:

- High alloyed materials
- Outstanding wear resistance
- Good high-temperature resistance
- Excellent cost-benefit ratio

Nickel-based Flux-Cored Wires

Nickel-based Flux-Cored Wires are available for a broad range of applications. Coatings show a dense structural integrity and can provide very good resistance against corrosive attack. Most coatings tolerate elevated temperatures and are able to withstand oxidizing conditions.

Applications vary from bond-coats for following top coatings, over self-fluxing coatings for combined abrasion and corrosion resistance to highly corrosion resistant alloys for the chemical or energy industry.



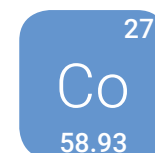
Advantages¹⁾:

- High alloyed materials
- Outstanding wear and/or corrosion resistance
- Good high-temperature resistance

Cobalt-based Flux-Cored Wires

Cobalt-based Flux-Cored Wires provide unique properties for selected applications where abrasion resistance, temperature resistance and structural integrity are of utmost importance. They are used for abrasion/erosion protection and can also be applied on parts exposed to sliding wear.

Coatings can provide very good performance under high-temperature conditions.



Advantages¹⁾:

- Outstanding wear and sliding wear resistance
- Good high-temperature resistance

¹⁾ Exemplary properties of selected materials

Iron-based Flux-Cored Wires

DURMAT® AS 812

General characteristics*:

DURMAT® AS 812 is an advanced chrome and boride rich iron-based Flux-Cored Wire for abrasion and erosion protection which is specifically designed for arc-spraying. It contains hard, amorphous boride phases, which precipitate significantly finer than in conventionally used coatings. Protective layers have an improved resistance to abrasive wear and increased resistance to erosion as the hard phases are finely dispersed. Coatings can be used at elevated service conditions up to 920 °C. Wear resistance even increases in high temperature conditions due to the transformation from amorphous phases to nano-crystalline phases. DURMAT® AS 812 offers excellent wear protection in several different industrial sectors where structural components need superior wear resistance against fine abrasives like additives in the pulp and paper production or fly ash in coal fired power plants. Ease of application is provided by low residual stress levels. Surfaces can be polished.

Typical chemical composition (in wt-%)*:

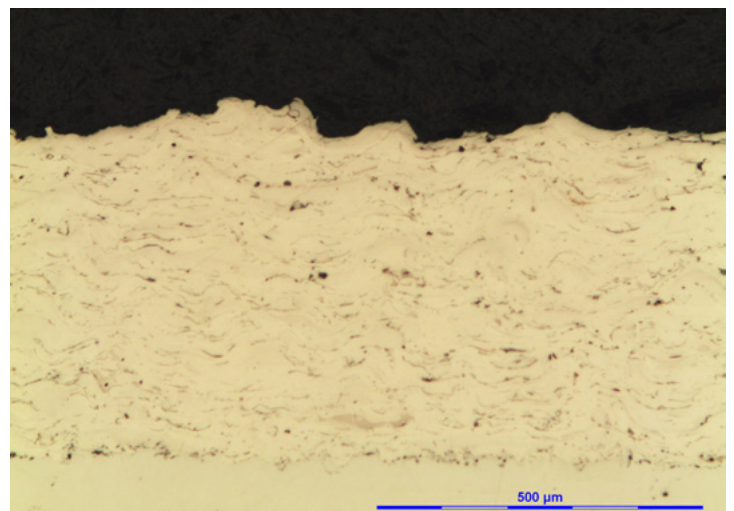
C	Si	Mn	Cr	B	Fe
< 0.1	1.6	1.0	29	3.7	bal.

Typical applications*:

- Paper rolls / Yankee Dryers
- Boiler walls
- Economizer tubes
- Industrial fans

Typical physical characteristics*:

Specific wire weight: 11.6 g/m
Micro-Hardness: 1,000 - 1,150 HV_{0.3}
Deposition efficiency: 60 - 75 %
Spray rate: 3.7 kg / h / 100 A
Residual stress level: very low



DURMAT® AS 871

General characteristics*:

DURMAT® AS 871 is an advanced chrome and boride rich iron-based Flux-Cored Wire for abrasion and erosion protection. It contains hard, amorphous boride phases, combined with complex molybdenum and tungsten carbides. Protective layers have an improved resistance to abrasive wear and increased resistance to erosion as the hard phases are finely dispersed. Coatings can be used in elevated service conditions. High amounts of chromium and molybdenum increase the high temperature corrosion resistance. DURMAT® AS 871 offers excellent wear protection in several different industrial sectors. Primary use is the erosion protection of boiler walls and economizer tubes in conventional coal-fired power plants where fine particle erosion is predominant. The superior wear resistance against fine particle erosion can also be used to prolong the service life time of low-impact agricultural parts and parts exposed to particle loaded high-velocity air streams.

Typical chemical composition (in wt-%)*:

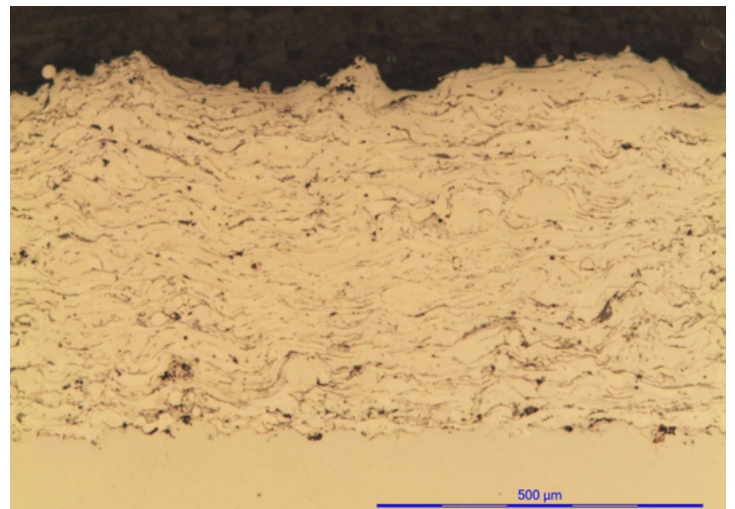
C	Si	Mn	Cr	Mo	W	B	Fe
1	1.4	0.9	22.5	1.4	1.4	4.2	bal.

Typical applications*:

- Boiler walls
- Economizer tubes
- Agricultural parts
- Air baffles

Typical physical characteristics*:

Specific wire weight:	11.4 g/m
Micro-Hardness:	900 - 1,050 HV _{0,3}
Deposition efficiency:	60 - 75 %
Spray rate:	4.0 kg / h / 100 A
Residual stress level:	low



* Please observe all appropriate safety regulations. The technical information provided in this data sheet reflects the present state of knowledge. They do not form part of any sales contract as guaranteed properties of the delivered materials. Our standard terms and conditions apply to all contracts included.
Rev. 1.2 (04.2018)

Iron-based Flux-cored Wires

Wear Resistant Alloys*

DURMAT® AS 802

DURMAT® AS 802 is a chrome and boride rich iron-based Flux-Cored Wire for abrasion and erosion protection. While having similar properties compared to AS 812 it is slightly higher alloyed and provides improved wear resistance. Coatings are heat resistant up to 920 °C.

DURMAT® AS 850

DURMAT® AS 850 is an iron-based Flux-Cored Wire with a very high content of Fused Tungsten Carbide (FTC) and was developed exclusively for arc-spraying. It provides excellent abrasion and erosion resistance up to 540 °C.

DURMAT® AS 888

DURMAT® AS 888 is a chrome and boride rich iron-based Flux-Cored Wire for abrasion and erosion protection. While having similar properties compared to AS 812 it is slightly lower alloyed and provides improved ductility and impact resistance. Coatings are heat resistant up to 920 °C.

DURMAT® AS 839

DURMAT® AS 839 is an iron-based Flux-Cored Wire for abrasion and erosion protection. The high amount of complex carbide- and boride-phases increase the hardness and wear resistance in comparison to conventional arc spray alloys.

DURMAT® AS 868

DURMAT AS 868 is an iron-based Flux-Cored Wire for abrasion and erosion protection. High amounts of chromium and chromium carbides provide good wear and oxidation protection.

DURMAT® AS 897

DURMAT® AS 897 is an iron-based Flux-Cored Wire for abrasion and erosion protection. Coatings have a very high content of tungsten- and titanium-carbides with additional iron- and chromium-borides. Applications are thin erosion protection coatings and anti-sliding surfaces.

Corrosion Resistant Alloys*

DURMAT® AS 813

DURMAT® AS 813 is an austenitic CrNiMo-stainless steel grade similar to Type 316. Coatings offer good resistance against organic and non-oxidizing acids and can be used for marine environments. Coatings have good machining properties.

DURMAT® AS 820

DURMAT® AS 820 provides oxidation stability up to 870 °C due to a combination of high chromium and aluminum content and is resistant to high temperature atmospheres containing Vanadium and Sulphur gases. Coatings are dense and have a good bond strength.

DURMAT® AS 814

DURMAT® AS 814 is a low-shrinkage austenitic CrMn-Ni-stainless steel. Coatings offer good resistance against general corrosion and can be used for functional coatings and repairs. Coatings have good machining properties.

DURMAT® AS 852

DURMAT® AS 852 is a martensitic Cr-steel. Coatings offer good wear resistance and protection against mild corrosion with no chloride attack. Coatings have good machining properties and can be used for repairs.

Special Alloys*

DURMAT® AS 836

DURMAT® AS 836 is iron-based Flux-Cored Wire with a defined Ni-content of 36 %. Coatings are easily machined and offer a very low thermal expansion coefficient.

DURMAT® AS 895

DURMAT® AS 895 is an austenitic manganese-, chrome- and cobalt-alloyed iron-based Flux-Cored Wire for cavitation protection in turbines or pumps. This alloy has good energy absorption properties due to a low stacking fault energy.

Typical Chemical Composition^{*,1} (Wt.-%)

DURMAT®	C	Si	Mn	Cr	B	Ni	Mo	Co	V	W	Fe	+ ²
AS 802	-	1.6	1	30	4.5	-	-	-	-	-	bal.	-
AS 805	2.6	-	-	7	-	-	1.3	-	-	-	bal.	-
AS 810	-	0.5	-	26	-	-	-	-	-	-	bal.	Al: 6
AS 811	0.2	0.3	1.3	-	-	-	-	-	-	-	bal.	-
AS 812	-	1.6	1	30	3.7	-	-	-	-	-	bal.	-
AS 813	0.15	1	1.8	17	-	12	2.5	-	-	-	bal.	-
AS 814	0.15	1	8	18	-	5	-	-	-	-	bal.	-
AS 815	4.8	1.4	-	28	-	-	-	-	-	-	bal.	-
AS 816	5.1	1.7	-	22	-	-	-	-	-	-	bal.	Nb: 4
AS 820	-	0.8	-	22	-	-	-	-	-	-	bal.	Al: 4.5
AS 821	0.3	1.1	1	13	-	1	-	-	-	-	bal.	-
AS 827	0.5	0.4	16	14	-	1.2	0.5	-	0.2	-	bal.	-
AS 829	0.5	-	-	9	-	-	1.3	-	-	-	bal.	SC: 16
AS 836	<0.1	0.6	1	-	-	36	-	-	-	-	bal.	-
AS 839	1	-	-	<25	<6	-	<5	-	-	<10	bal.	Nb: <5
AS 842	0.02	0.5	1.5	23	-	8.5	3	-	-	-	bal.	N: 0.15
AS 850	2	-	0.4	-	-	-	-	-	-	-	bal.	FTC: 50
AS 852	0.3	0.5	0.3	13	-	0.5	-	-	-	-	bal.	P: 0.02, S: 0.02
AS 864	4.5	1	1.6	24	1	-	-	-	0.8	0.8	bal.	-
AS 865	5.2	1	0.4	21	-	-	7	-	1	2	bal.	Nb: 7
AS 868	5	0.8	0.4	38	2	-	-	-	-	-	bal.	-
AS 871	1	1.4	0.9	22.5	4.2	-	1.4	-	-	1.4	bal.	-
AS 880	0.6	1.5	1	20	1	-	-	-	-	-	bal.	Ti: 3.5
AS 888	0.1	1.3	1	30	3	-	-	-	-	-	bal.	-
AS 890	-	-	-	25	2	10	4	-	-	-	bal.	Cu: 2
AS 895	0.3	2.8	10	19	-	-	-	10	-	-	bal.	-
AS 896	0.2	1.1	1.2	21	2.2	8	3.2	-	-	-	bal.	Cu: 1.9
AS 897	-	1.3	0.6	14	2	4.5	-	-	-	-	bal.	WC: 26; Ti ₂ C ₃ : 6
AS 898	1.7	1.6	1.6	26	-	3	0.8	-	-	-	bal.	-

¹⁾ Datasheets are available on request. ²⁾ FTC - Fused Tungsten Carbide / SC - Special Carbide

Nickel-based Flux-Cored Wires

DURMAT® AS 726

General characteristics*:

DURMAT® AS 726 is a highly alloyed NiCrMoW nickel-based Flux-Cored Wire made exclusively for arc spraying. Coatings feature a dense and well-bonded structure and provide excellent corrosion resistance in oxidizing and reducing conditions. High amounts of chromium and molybdenum increase the pitting and crevice corrosion resistance. Coatings provide good resistance against chloride attack and sulfuric acids. Typical applications are functional coatings on parts in the offshore and oil & gas industry. Coatings of DURMAT® AS 726 provide only limited abrasion and erosion protection, but can be used as a corrosion resistant bond coat for more wear resistant top layer coatings.

Typical chemical composition (in wt-%)*:

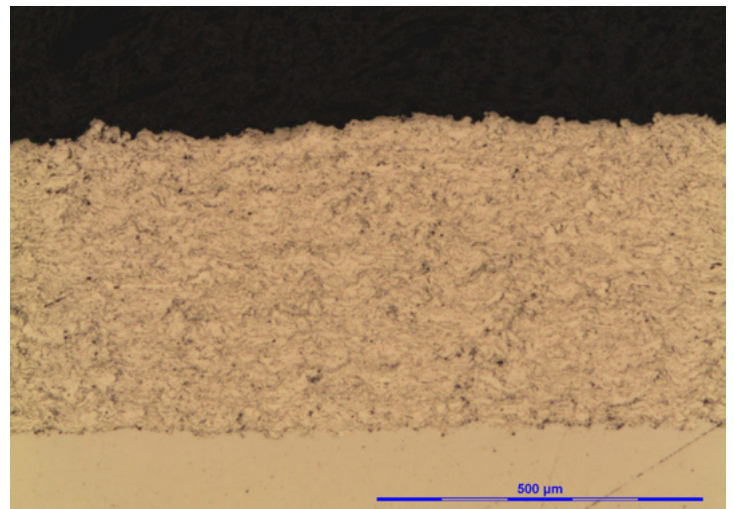
C	Si	Mn	Cr	Mo	W	Ti	Ni
< 0.1	< 1	< 0.5	22	16.5	4	0.15	bal.

Typical applications*:

- Offshore industry
- Oil & Gas industry
- Chemical industry

Typical physical characteristics*:

Specific wire weight:	14.0 g/m
Micro-Hardness:	250 - 400 HV _{0.3}
Deposition efficiency:	60 - 75 %
Spray rate:	4.5 kg / h / 100 A
Residual stress level:	medium



DURMAT® AS 778

General characteristics*:

DURMAT® AS 778 is an advanced nickel-based Flux-Cored Wire with high levels of chromium and molybdenum and is made exclusively for arc spraying. Coatings are corrosion resistant at elevated temperature conditions up to 980 °C. High amounts of chromium provide excellent resistance in oxidizing and in sulfur and vanadium-rich hot gas conditions. Additional corrosion resistance in reducing environments is added by a fine distribution of molybdenum-rich phases. Coatings are dense and finely structured and have a good bonding behavior. Primary use is the high-temperature corrosion resistance in mixed-fired incineration power plants. Coatings offer basic erosion protection, but are mainly used for their corrosion protection properties.

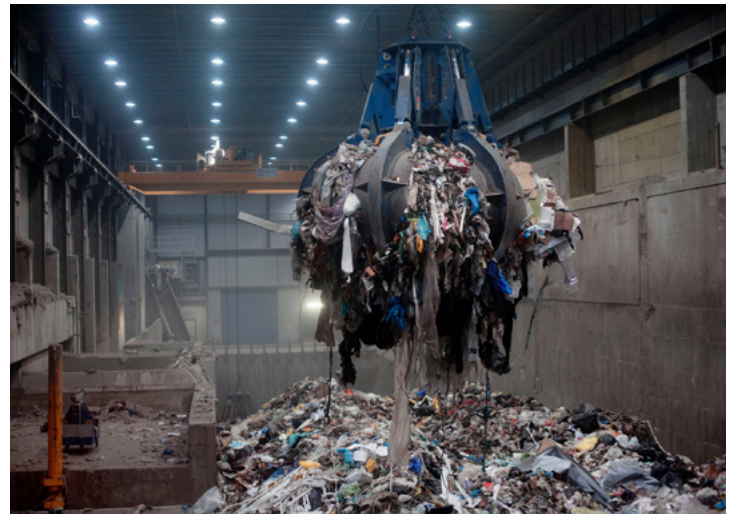


Typical chemical composition (in wt-%)*:

C	Si	Mn	Cr	Mo	Ti	Ni
< 0.1	< 1	< 0.5	44	3.0	< 3	bal.

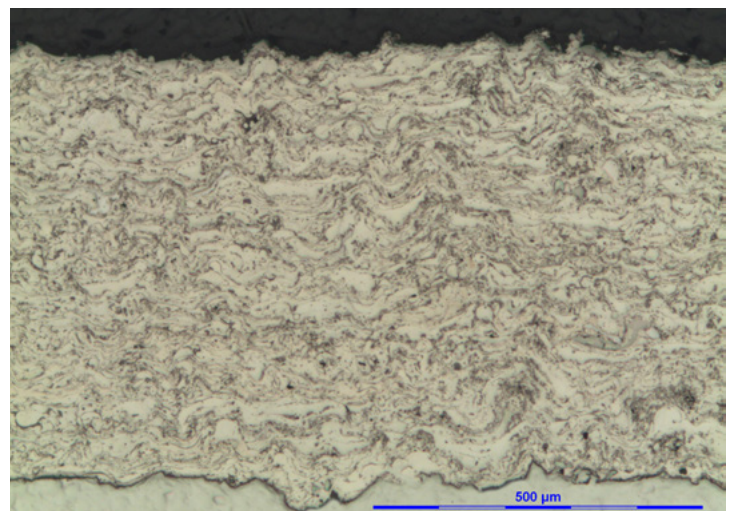
Typical applications*:

- Waste-to-Energy power plants
- Biomass power plants
- Boiler walls
- Economizer tubes



Typical physical characteristics*:

Specific wire weight:	12.6 g/m
Micro-Hardness:	300 - 450 HV _{0.3}
Deposition efficiency:	60 - 75 %
Spray rate:	4.2 kg / h / 100 A
Residual stress level:	medium-high



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Nickel-based Flux-Cored Wires

Wear Resistant Alloys*

DURMAT® AS 751

DURMAT® AS 751 is a nickel-based Flux-Cored Wire with a very high content of Fused Tungsten Carbide (FTC) and was developed exclusively for arc-spraying. It provides excellent abrasion and erosion resistance up to 540 °C.

(Patent No.: DE 40 08 091)

DURMAT® AS 760

DURMAT® AS 760 is a nickel-based Flux-Cored Wire with a high content of special carbides which are embedded in a NiCrBSi matrix which offers good abrasion resistance. Coatings can be fused in a two-step process.

(Patent No.: DE 40 08 091)

Corrosion Resistant Alloys*

DURMAT® AS 755

DURMAT® AS 755 is a nickel-based flux-cored with high chromium, molybdenum and niobium content and is similar to alloy 625. Coatings offer good corrosion protection while also providing basic abrasion and erosion protection.

DURMAT® AS 777

DURMAT® AS 777 is a nickel-based NiCrAlY flux-cored with very good resistance against oxidation and corrosive gases at high temperatures up to 980 °C. Coatings can be used as an oxygen-barrier under ceramic coatings.

Wear and Corrosion Resistant Alloys*

DURMAT® AS 711

DURMAT® AS 711 is a nickel-based flux-cored with high chromium, molybdenum, niobium and boron content. Coatings offer a high hardness and a combination of good abrasion/erosion and corrosion protection up to 450 °C.

DURMAT® AS 752

DURMAT® AS 752 is a NiCrBSi Flux-Cored Wire. Coatings offer a high hardness and a combination of good abrasion/erosion and corrosion protection. Coatings can be fused in a two-step process to further densify the coating structure.

DURMAT® AS 761

DURMAT® AS 761 is a nickel-based Flux-Cored Wire with a very high content of Fused Tungsten Carbide (FTC), a high chromium content and is similar to DURMAT® AS 751. It provides excellent abrasion and erosion resistance up to 540 °C and moderate corrosion protection.

(Patent No.: DE 40 08 091)

DURMAT® AS 762

DURMAT® AS 762 is a NiCrMoAl Flux-Cored Wire. Coatings offer a high corrosion resistance and protection against particle erosion. Coatings are dense, have excellent machining characteristics and can be used for repairs.

Special Alloys*

DURMAT AS 757

DURMAT® AS 757 is a nickel-based Flux-Cored Wire for bond coats and high temperature oxidation protection. Coatings have a high bond strength, are machinable and resistant to chloride attack.

DURMAT® AS 765

DURMAT® AS 765 is a nickel-based Flux-Cored Wire for bond coats and high temperature oxidation protection. Coatings have a very high bond strength.

Typical Chemical Composition^{*,1} (Wt.-%)

DURMAT®	C	Si	Mn	Cr	B	Ni	Mo	Co	V	W	Fe	+ ²
AS 711	-	4	-	20	4	bal.	6	-	-	-	< 2	Nb: 3.5
AS 726	< 0.1	< 0.1	0.7	22	-	bal.	16.5	-	-	4	-	Ti: 0.15
AS 741	-	-	-	16	-	bal.	-	-	-	-	3	Al: 4.5
AS 745	< 0.1	-	< 1	< 1	-	bal.	28	< 1	-	-	0.5	-
AS 746	-	-	-	30	-	bal.	-	-	-	-	-	-
AS 748	< 0.1	-	0.5	22	-	bal.	13	< 2.5	0.35	3	3	-
AS 751	0.4	-	-	-	1	bal.	-	-	-	-	-	FTC: 50
AS 752	0.7	4.8	-	21	3	bal.	-	-	-	-	-	-
AS 753	0.4	5	-	22	2.7	bal.	-	-	-	-	-	-
AS 754	< 0.1	-	-	16	-	bal.	17	2	-	-	< 3	Ti: < 0.7
AS 755	0.05	-	-	22	-	bal.	9	-	-	-	-	Nb: 3.5
AS 756	-	-	-	-	-	bal.	-	-	-	-	-	Al: 5
AS 757	-	-	-	20	-	bal.	-	-	-	-	-	-
AS 758	< 0.1	< 0.1	< 0.1	16	-	bal.	16	1.5	< 0.3	3.5	4	-
AS 760	0.4	3.7	-	21	3	bal.	-	-	-	-	-	SC: 10
AS 761	0.4	-	-	10	2	bal.	-	-	-	-	-	FTC: 50
AS 762	-	-	-	9	-	bal.	5	-	-	-	< 1	Al: 7
AS 763	-	-	-	50	-	bal.	-	-	-	-	-	-
AS 765	-	-	-	-	-	bal.	-	-	-	-	-	Al: 20
AS 767	-	-	-	-	-	bal.	6	-	-	-	-	Al: 5
AS 768	-	-	-	50	-	bal.	-	-	-	-	-	Ti: 1
AS 775	-	-	-	-	-	bal.	-	-	-	-	-	Al: 10
AS 776	-	-	-	-	-	bal.	-	-	-	-	-	Al: 15
AS 777	-	-	-	22	-	bal.	-	-	-	-	-	Al: 10, Y: 1 other: < 3
AS 778	< 0.1	< 1	< 0.5	44	-	bal.	3.0	-	-	-	< 3	Ti: < 3
AS 780	0.4	-	-	-	1	bal.	-	-	-	-	-	WC-Co 88/12: 50
AS 781	0.4	-	-	-	2	bal.	-	-	-	-	-	WC-Co 88/12: 30
AS 786	0.4	1	< 1	-	1	bal.	-	-	-	-	-	CrC: 35

¹⁾ Datasheets are available on request. ²⁾ FTC - Fused Tungsten Carbide / SC - Special Carbide

Cobalt-based Flux-Cored Wires

DURMAT® AS 906

General characteristics*:

DURMAT® AS 906 is a high-performance cobalt-based Flux-Cored Wire. Coatings are resistant to wear and corrosion and retain these properties at high temperatures. A beneficial combination of wear resistance against abrasion, erosion, cavitation, impact or sliding wear in combination with mechanical and chemical stability makes this alloy an industry standard for general wear problems. The structure is dense and exhibits dispersed hard chromium and tungsten carbides within a CoCr-Matrix. Coatings remain their properties over a wide temperature range and can be used up to 750 °C. Coatings can be machined and grinded.



Typical chemical composition (in wt-%)*:

C	Si	Mn	Cr	W	Fe	Co
1.1	1.0	0.6	28	4.5	< 4.5	bal.

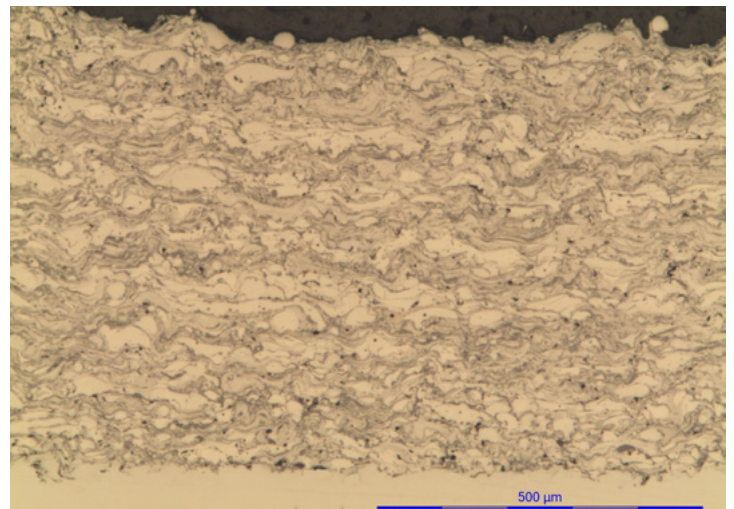
Typical applications*:

- Abrasion protection
- Erosion protection
- Corrosive environments
- High temperature conditions



Typical physical characteristics*:

Specific wire weight: 11.5 g/m
Micro-Hardness: 400 - 750 HV_{0.3}
Deposition efficiency: 60 - 75 %
Spray rate: 3.8 kg / h / 100 A
Residual stress level: medium-high



Typical Chemical Composition^{*,1} (Wt.-%)

DURMAT®	C	Si	Mn	Cr	B	Ni	Mo	Co	V	W	Fe	+
AS 901	2.4	0.7	0.4	29	-	-	-	bal.	-	11	< 4.5	-
AS 906	1.1	1	0.6	28	-	-	-	bal.	-	4.5	< 4.5	-
AS 912	1.4	0.8	0.6	29	-	-	-	bal.	-	8	< 4.5	-
AS 921	0.25	0.8	0.8	27	-	2.5	5.5	bal.	-	-	< 4.5	-
AS 931	0.5	1	1	26	-	-	-	bal.	-	7.5	< 4.5	-
AS 936	1	-	-	25	-	10	-	bal.	-	8	< 4.5	-
AS 951	-	1.25	-	14	1	-	-	bal.	-	-	< 4.5	WC-12Co: 50

¹⁾ Datasheets are available on request.

Abrasion and Heat Resistant Alloys*

DURMAT® AS 901

DURMAT® AS 901 is a cobalt-based Flux-Cored Wire for abrasion and erosion protection. While having similar properties compared to DURMAT® AS 906 it is higher alloyed and provides improved wear resistance. Coatings are heat resistant up to 760 °C.

DURMAT® AS 951

DURMAT® AS 951 is a cobalt-based Flux-Cored Wire for abrasion and erosion protection with a very high content of WC-Co tungsten carbide particles. Coatings are heat resistant up to 500 °C.

DURMAT® AS 912

DURMAT® AS 912 is a cobalt-based Flux-Cored Wire for abrasion and erosion protection. While having similar properties compared to DURMAT® AS 906 it is higher alloyed and provides improved wear resistance. Coatings are heat resistant up to 700 °C.

DURMAT® AS 936

DURMAT® AS 936 is a cobalt-based Flux-Cored Wire for abrasion and erosion protection. While having similar properties compared to DURMAT® AS 906 it provides higher ductility and impact resistance.

Abrasion and Impact Resistant Alloys*

DURMAT® AS 921

DURMAT® AS 921 is a cobalt-based Flux-Cored Wire for cavitation, galling and metal-to-metal sliding wear protection. Coatings are work-hardening and provide resistance to thermal and mechanical shock.

DURSPRAY 450 Arc Spray System for Flux-Cored Wires*

Developed and manufactured by DURUM in Germany, the mobile electric wire arc spray system DURSPRAY 450 belongs to the latest generation of fully automatable spray systems. It features state of the art power source-, valve- and PLC-technology. The system can be used manually or in combination with industrial manipulators or robots in automated production cells.



Current range:	50 - 450 A	Degree of protection:	IP 23
Voltage range:	20 - 38 V	Atomizing gas:	Compressed air, Nitrogen, Argon
Duty cycle:	100 %	Pressure range:	2 - 8 bar**
Open circuit voltage Inverter:	90 V	Pressure max.:	10 bar**
Voltage supply:	3x 400 V+N	Cooling:	air cooled
Supply frequency:	50/60 Hz	Dimensions:	100 x 60 x 120 cm
Supply fuse:	63 A	Weight:	146 kg

** High pressure version is available on request



Typical program design

PLC-controlled

The use of a modern PLC system provides reliable operation and allows the easy integration of bus systems in automatic production lines or robot cells.

HMI-Interface

The intuitive menu structure and the combination of a touch screen with haptic controls provides easy operation. The HMI-interface is also available as a mobile version which is ideal for remote operation and monitoring tasks.

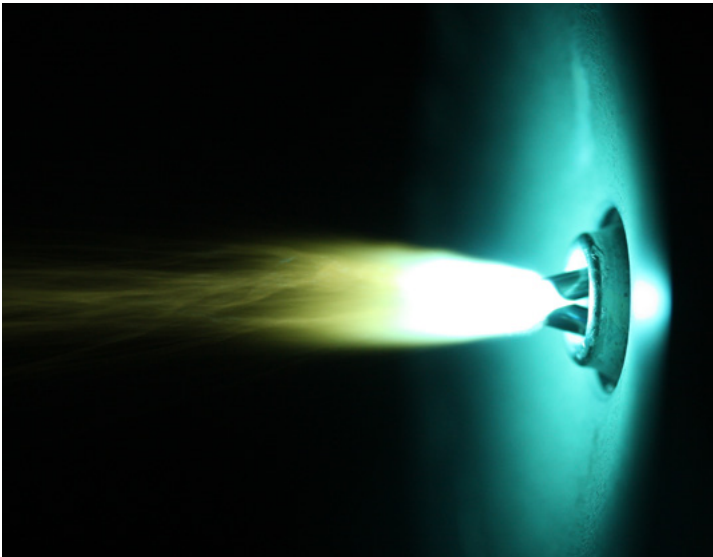
* Please observe all appropriate safety regulations. The technical information provided in this data sheet reflects the present state of knowledge. They do not form part of any sales contract as guaranteed properties of the delivered materials. Our standard terms and conditions apply to all contracts included. The illustrations may show accessories, optional equipment or other features which are not part of the standard specification.
Rev. 1.0 (05/2018)

T-Spray ArcJetOne

The spray gun ArcJetOne was optimized by computational fluid dynamics (CFD) and features a small design. The gun has a narrow spray pattern and allows the usage of wires up to 2.5 mm diameter. Additionally it is available as a machine mounted- or handheld-version and has easily replaceable contact tips.

Inverter Technology

The inverter power source is primary-switched and enerates a very stable arc that ensures consistent and repeatable coatings



Job Control

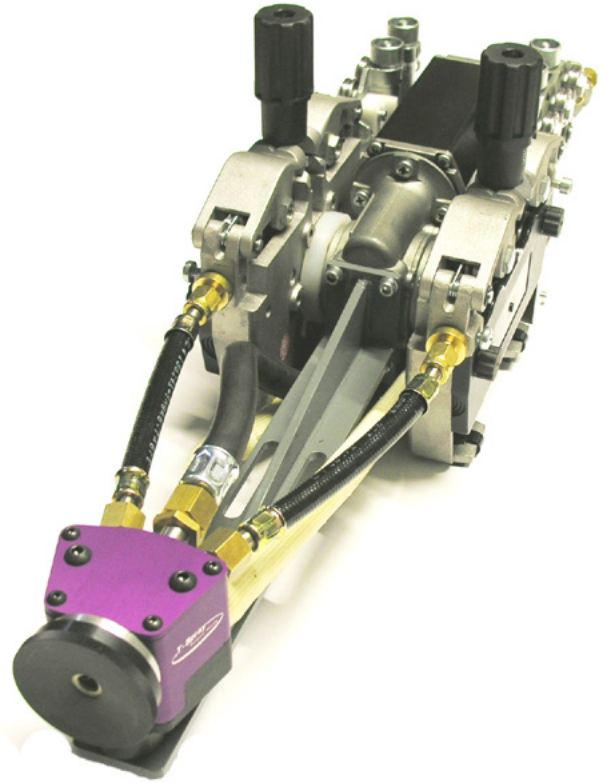
The integrated job management provides, apart from recipe storage, the possibility to fix all critical parameters in the jobs. This way you can create your specific recipes tailored to your spray jobs.

Closed-loop Pressure Control

The atomizing air is controlled by a closed-loop proportional valve which constantly provides a consistent air output and monitors the pressure level. Additionally only components with minimal pressure drop were used to ensure an economical process.

Modular Design

The module technology used allows easy upgrade or replacement of critical components and makes the system very low maintenance.



High-end Drive Solution

The wire feed unit is powered by a brushless DC motor with built-in electronic speed control. In combination with four driven wheels, Flux-Cored Wires can be sprayed reliably.



Optimized for Flux-cored Wires

The entire system DURSPRAY 450 was especially designed for the use of Flux-Cored Wires. Key components such as power source, wire feeder and arc spray gun have been precisely optimized for this application.

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Sales Units



DURUM supplies products according to customers requirements:

	Wire Coil		Plastic Coil		Drum	
Mass net:	15 kg	25 kg	15 kg	25 kg	100/150 kg	200/250 kg
Outer diameter:	300 mm	435 mm	300 mm	435 mm	550 mm	
Inner diameter:	51.5 mm	300 mm	51.5 mm	300 mm	-	
Width:	103 mm	105 mm	103 mm	105 mm	-	-
Height:	-	-	-	-	400 mm	800 mm
Norm:	EN ISO 14919 (S 300)	-	EN ISO 14919 (BS 300)	EN ISO 14919 (R 435)	-	-

Other sales units and packaging are available on request.

A large grid of graph paper for taking notes, consisting of 20 columns and 40 rows of small squares.



We understand Wear Protection

- Tungsten carbide rods for oxy-acetylene welding
- Nickel, cobalt and iron based flux cored wire
- FCAW wires with tungsten carbide and complex carbides to provide extremely hard and tough coatings, used principally for extreme wear applications
- Tungsten carbides, complex carbides and chromium carbides for manual arc welding
- PTA welding powders
- PTA machines, torches and powder feeders
- Powders for oxy-acetylene welding and spraying
- Fused crushed and spherical tungsten carbides
- Pre-manufactured replacement wear parts
- Thermal spray powders (conforming to DIN EN 1274)
- Thermal spray wires (conforming to DIN EN 14919)



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