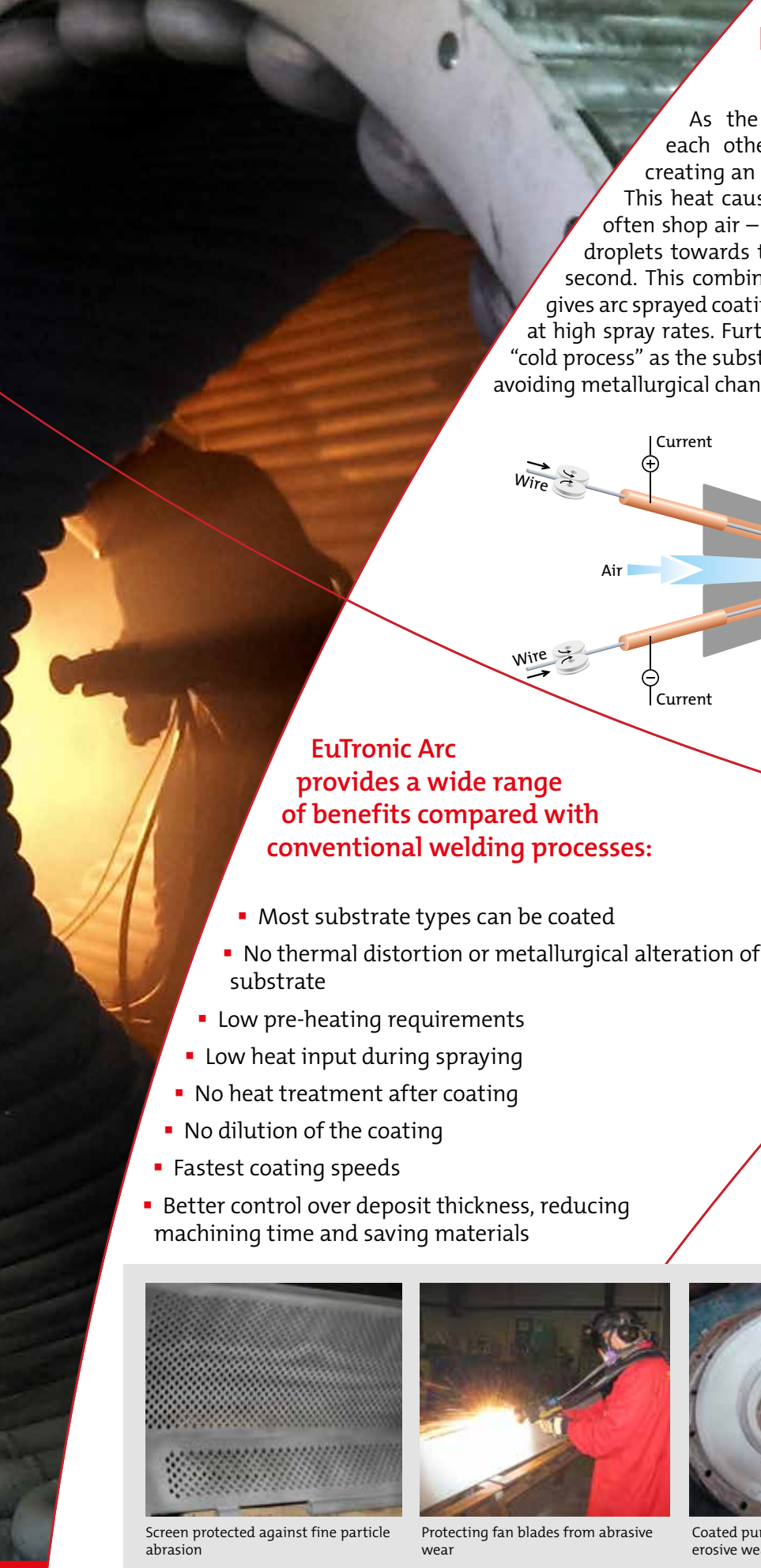
Castolin Eutectic®
Eutectic Castolin

Twin Wire Arc Spray Technology

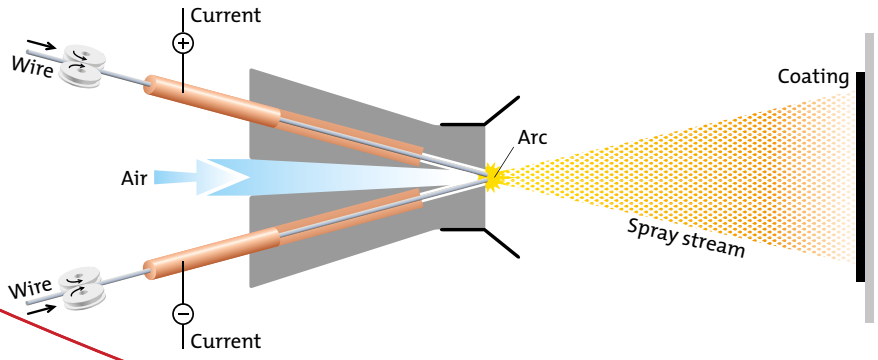
EuTronic®
Arc Spray Wires

- Protects parts from wear by friction, abrasion, erosion
- Increases resistance to corrosion, heat and oxidation
- Maintains original mechanical strength of substrate
- One-step, self bonding characteristics
- Minimum shrinkage stresses in coating
- Controlled density and oxide dispersion



EuTronic Arc Process

As the electrically conductive wires are fed towards each other, a short circuit is established between the wires creating an arc with a temperature of around 9032°F (5000°C). This heat causes the wire tips to melt. Compressed gas – most often shop air – is used to atomize the molten tips and propel the droplets towards the substrate at velocities exceeding 300 feet per second. This combination of high temperature and particle velocities gives arc sprayed coatings superior bond strengths and low porosity levels at high spray rates. Furthermore, this Twin Wire Arc Spray technology is a "cold process" as the substrate temperature can be kept low during spraying avoiding metallurgical changes and distortion within the workpiece.



EuTronic Arc provides a wide range of benefits compared with conventional welding processes:

- Most substrate types can be coated
- No thermal distortion or metallurgical alteration of the substrate
- Low pre-heating requirements
- Low heat input during spraying
- No heat treatment after coating
- No dilution of the coating
- Fastest coating speeds
- Better control over deposit thickness, reducing machining time and saving materials

Screen protected against fine particle abrasion

Protecting fan blades from abrasive wear

Coated pump housing to resist erosive wear and cavitation

Protecting boiler tubes for the Power Generation Industry

Exclusive EuTronic Arc Spray Wire Range

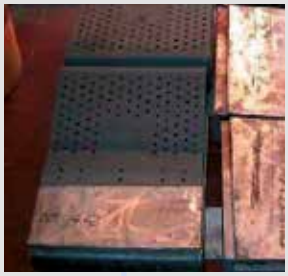
The complete range of EuTronic Arc spray wires has been developed by Eutectic Castolin using its extensive, practical research experience in advanced, metallurgical alloy formulations. These proprietary, arc spray wire alloys are custom designed and batch manufactured according to rigorous quality standards needed for demanding, industrial surface engineering applications. The strict use of refined purity raw materials and alloying elements guarantees, after precision drawing and winding, a versatile range of composite and solid high alloy wires optimized to boost arc spraying performance.

Wire	ALLOY COMPOSITION	BOND STRENGTH (psi)	TYPICAL HARDNESS	APPLICATIONS	USAGE
500 AS	Ni-Al	9000	75 HRB	Bond Coat	Bond layer and as a one-step build-up material for dimensional restoration.
514 AS	Fe-Cr-Al	6300	85-90 HRB	Dimensional Restoration	Its low shrink characteristic allows increased coating thickness. Coating thickness greater than 0.150" can be achieved.
520 AS	Zinc	1224	60-73 HRB	Anti-corrosion resistance in atmospheric and marine environments	Coatings are used in environments where pH is greater than 6.0. Also used for EMI/RFI shielding and capacitor end spraying.
521 AS	Zn 85-Al 15	3680	73 HRB	Better corrosion resistance than zinc or aluminum wire alone	For marine and freshwater applications where the coating will be immersed, the coating must be used with a sealer to allow long term corrosion protection.
525 AS	Al: 99.5	4375	90 HRH	This 525AS aluminum wire meets the standard specification AA 1350	The as-sprayed coating provides resistance to atmospheric, chemical and high temperature corrosion as well as excellent electrical and heat conductivity.
530 AS	C-Si-Mn-Fe	5800	95-100 HRB	Part Restoration	Suitable for re-build applications where hardness is not critical, but where low costs are a factor.
538 AS	C-Si-Mn-Fe	4800	23 HRC	Thick Coatings	Dense coatings have excellent resistance to mild abrasion and exhibit low shrinkage.
546 AS	Ni-Cr-Mo-Fe-W	7000	35 HRC	Corrosion resistance	Corrosion cracking resistance in various alkaline, acidic and chloride environments. Its hardness makes it resistant to abrasion and resists metal to metal wear.
547 AS	Ni-Cr-Mo-Fe-Nb-Ta	7000	92 HRB	Erosion, oxidation and corrosion resistance at temperatures	It produces dense, well-bonded coatings with good erosion, corrosion and oxidation resistance at temperatures up to 1600°F (870°C). Coatings have good resistance to stress corrosion cracking in various caustic, acidic and chloride environments.
552 AS	Cu-Al-Mn	7000	67 HRB	Sleeves Bearings	Aluminum-bronze coating exhibits excellent bond strength and good machinability.
560 AS	C-Si-Mn-Fe-Cr	4700	40-43 HRC	Dimensional Restoration	Excellent resistance to mild abrasion and corrosion for dimensional restoration.
563 AS	Fe-Ni-Al-Mo	5500	90 HRB	Diesel Fire Decks, Cylinder Heads	Machinable, self-bonding coating suitable to re-build worn diesel engine components.
564 AS	18/5 SS	4350	90-95 HRB	Low shrinkage coating	It produces dense, well-bonded low shrink coatings with excellent machineability and wear and corrosion resistance.
566L AS	316L SS	6735	95-100 HRB	Excellent machinability and corrosion resistance	Used for machine element repair and dimensional restoration applications. It has relatively high shrinkage characteristics and should not be used for coatings over 0.075" in thickness. If greater thicknesses are required, first apply EAS 560 and finish with 566L.
585 AS	Tin-Based Wire	3000	Negligible	Babbit bearing rebuilds	The coatings produced are dense, well bonded and suitable for use in applications requiring a high speed and heavy duty bearing surface.
595 AS	Fe-Cr-B-Si-Mn-C	4500	60 HRC	Exhaust Fans Coal-Fire Boilers	One-step protective coating against wet or dry erosion.

Protected boiler tubes against hot gas erosion and corrosion in the thermal power industry

Restoration of cutter drum worn by scoring in the mining industry

Rebuilt bearing seat surface of railway brake trunnion to resist wer by friction and fretting



Coated clinker cooler plates resist hot abrasion in cement industry

Protecting a ventilator against erosive wear

EuTronic Arc Spray 4 HFH

The Castolin Eutectic Power Source 4 HFH is an ergonomically designed Electric Arc Spraying Supply and Control System.

It has been designed specifically for metal spraying and its benefits will be felt when used in conjunction with the full range of Castolin Eutectic EuTronic Arc Spray wires.

This single unit houses the electric and pneumatic controls for the system and can carry a removable wire feeding system for all systems (optional) which is covered to protect against dust and can use welding wire spools.

Low running costs, high spray rates and efficiency make it a good tool for spraying extensive areas or a large number of parts.

The Gun design has been upgraded with screw in tips for ease replacement and redesigned air concentrator, together with front wire guide give signicant efficiency gains.

The added rear handles provide:
- Additional portection of rear pannels
- Easy manoeuvrability
- Easy transportation of power cable

YOUR RESOURCE FOR PROTECTION, REPAIR AND JOINING SOLUTIONS

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