

《 DepoSeries Line-up 》



《 MicroDepo 》

《 SparkDepo 》

《 DepoTech 》

Specification of DepoSeries

Item	Model No.	MicroDepo			SparkDepo			DepoTech	
		50	100	150	200	300	500	D100	D300
Input : Alternating Current, Phase, Frequency		100VAC, 110VAC, 200VAC, 220VAC, Single Phase, 50 / 60 Hz							
Capacity (KVA)		0.2	0.3	0.5	1.6	2.0	2.5	0.5	2.0
Dimension : (W x D x H, in mm)		255 x 320 x 290			323 x 420 x 410			820 x 500 x 740	
Weight (Kg)		11.5	12.5	14.0	31.4	31.8	32.6	54.0	71.6
Output Voltage : 3 Positions, V		Low : 50, Medium : 100 High : 150							
Maximum Capacitance, μ F		52.2	102.2	152.2	202.2	302.2	502.2	102.2	302.2
Variable Range of Frequency (sparking / freq / sec.), Hz		60~1,400			60~2,000			60~1,400	60~2,000
Coating	Surface R, μ m, (Rmax) *1	3~20	3~30	3~50	3~100	3~150	3~200	3~30	3~150
	Relative Coating Speed *2	1.0	1.4	1.7	2.0	2.4	3.2	1.4	2.4
Overlay	Electrode diameter, mm	3.2	4.0	5.0	6.0	8.0	10.0	4.0	8.0
	Relative Overlay Speed *2	1.0	1.4	1.7	2.0	2.4	3.2	1.4	2.4
Number of Applicator Attachable		1			2			2	
Special Features		Small, light weight, low cost			High power output, wide usage			Bench-top, all-in-one type	

* 1. Electrode : WC-Co ϕ 3mm, * 2. Compared with Model 50. A large electrode used.

Offering Environment Friendly and Energy Saving Maintenance and Repair for Machine Components, Dies, Molds and Toolings.



TechnoCoat®

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TechnoCoat®

series
Depo
Coating & Overlay

ELECTRO-SPARK DEPOSITION DEVICE DepoSeries

Innovative Technology of Coating & Overlay for Maintenance and Repair.

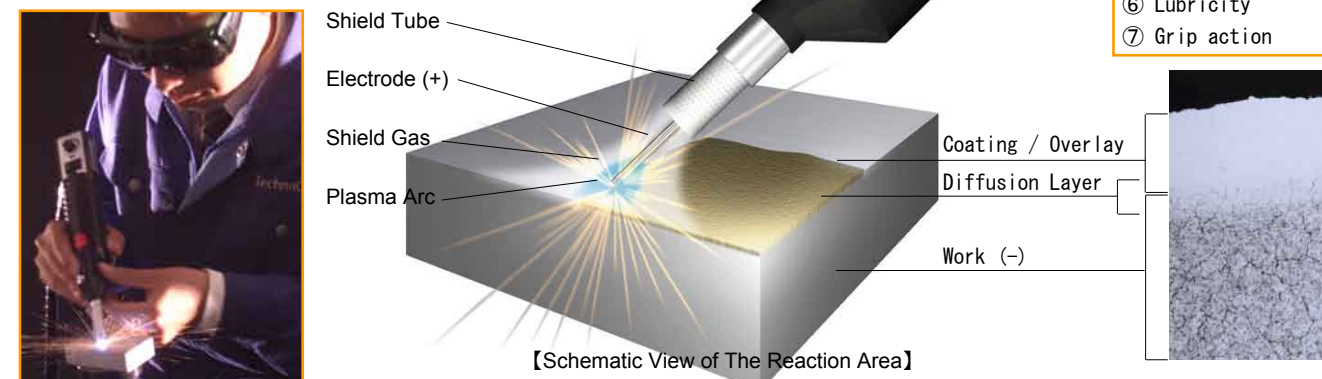


series
Depo
Coating & Overlay

DepoSeries are a new coating and overlay system that takes advantage of Electrical Discharge Machining (EDM) and apply hard carbide coatings and metal and alloy overlays.

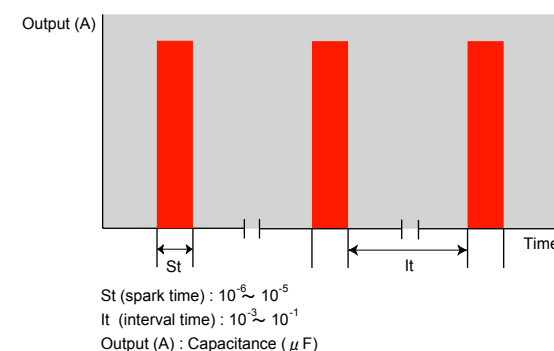
《 Principles of DepoSeries 》

DepoSeries are used for depositing consumable electrode made of alloys and intermetallic compounds on the work piece by means of electric spark at frequency of 10^{-3} to 10^{-1} second for 10^{-6} to 10^{-5} second spark. Direct current from the power supply will heat the electrode to 8,000 to 25,000° only at the contact areas and transfers a small quantity of the electrode to the work piece under an ionized state and produces a strong metallurgical bond.



《 Reason for Low Heat Input 》

The Spark time is extremely short compared with the interval time so that no heat accumulation occurs during diffusion and deposition periods.



《 Advantages of DepoSeries 》

High quality & performance procedure

1. Extremely low heat input eliminates distortion, shrinkages, under-cut and internal stress.
2. Provides excellent bonding by the formation of diffusion layer.
3. Reatable coating thickness and surface roughness can be obtained by adjusting the level of power output and frequency.
4. High power output allows thick coating and retains its property for extended period.
5. Rotating consumable electrode gives high deposition efficiency and produces excellent coating.
6. Very smooth as-coated surface is obtained with a vibrating or an ultra sonic applicator.

Safety

1. Easy to operate after a very short training period.
2. Environmentally safe. Produces no toxic gas, liquid or unpleasant odor and noise.
3. Only required safety gear is safety glasses because of weak UV light generated by the process.
4. The machine has a built-in safety mechanism against electrocution.

《 Why Strong Bonding is Possible 》

A strong bonding of the transferred electrode material occurs due to instantaneous melting of the electrode upon each spark and generation of plasma atmosphere.

※ Refer to Schematic View of The Reaction Area

《 Applicable Substrates 》

Low and medium carbon steels, Tool steels, Die and Mold steels, Cast steels, Stainless steels, Aluminum alloys, Copper alloys and the majority of alloys and composites having sufficient electrical conductivity.

《 DepoSeries Replaceable Processes 》

Chrome plating, Thermal spray coating of plasma, arc and HVOF, CVD, PVD, TD, Nitriding, Carburizing, Quenching, Welding of plasma, arc, argon, Carbides, Diamond, Lining etc...

Wide range of application

1. Portable and usable with 100 to 220 volt outlet.
2. On-site repair work which requires no dismantling of large machines.
3. Requires no pre and post heat treatment.
4. Repeated overlays possible over worn out coating.
5. Finishing stock of the overlay can be kept to the minimum, reducing finishing time.



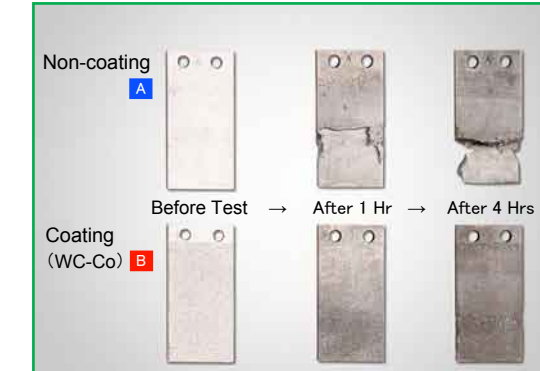
The installation of DepoSeries minimize downtime for repair as well as parts inventory. Resulting in lower cost yet in higher productivity.

《 Application example & Usage 》

《 Coating for Preventive Maintenance 》

Longer service life by applying a thin layer of WC, TiC, TiB₂, Cr₃C₂, VC etc. that resists wear, heat, scuffing and oxidation.

Erosion test of coating in molten aluminum



Test method / Sample : SKD61

Molten Al : ADC12 (680°C) rotated at 30rpm

The weight loss of the coated sample was less than 10% of the non-coated piece.

Application on Aluminum Die Casting Die

Coating on aluminum die casting die for preventive maintenance.



Application on Casting Die

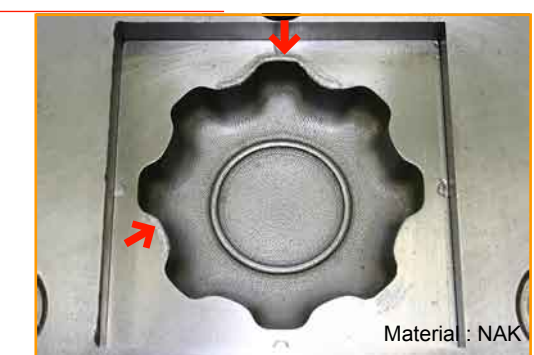
Preventing erosion, scuffing & heat-checks.



Coating on casting die by coating robot.

《 Overlay for Repair 》

Repairs wear, scuffing, corrosion, pinholes, cracks as well as corrects machining error with metal and alloy overlay.



Repair work on mold with crepe-treated surface.

Overlay Repair on Injection Mold

Restoration of parting lines on injection molds for preventing burr-formation on molded products.



Repairing of a 90 degrees corner without dismantling. Finishing is done afterward with micro grinder, files and oil stones.

Reducing Defective Products by Overlay Repair

Filling pin holes in a cast Al wheel.



The minor casting defects found on casting aluminum products after finishing can be filled by overlay repairing.

series
Depo
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