MEC

THERMAL SPRAY FACILITIES

AUTOMATIC SYSTEMS for HVOF, PALSMA, FLAME SPRAY, ARC SPRAY & ROD SPRAY

NEW

PATENTED

HIJET®-9610 is a New Generation High Velocity Combustion Wire Spray System, which provides supersonic spray velocities, combined with improved heating and melting of the wire particles. The HVOF Wire technique has great opportunities where a porous free, very dense, high performance wear resistance coating at most economical cost is the requirement. Unique design of the gun fulfills this gap and opens the scope for the users to use the metallic wires in HVOF rather than using the expensive powders and thus makes it a promising solution to achieve best coating properties for many industrial applications. HVOF Wire is more cost effective than HVOF (Powder).

HIJET® 9610

HIGH VELOCITY OXY-FUEL WIRE SPRAY SYSTEM

HIJET® 9610 System

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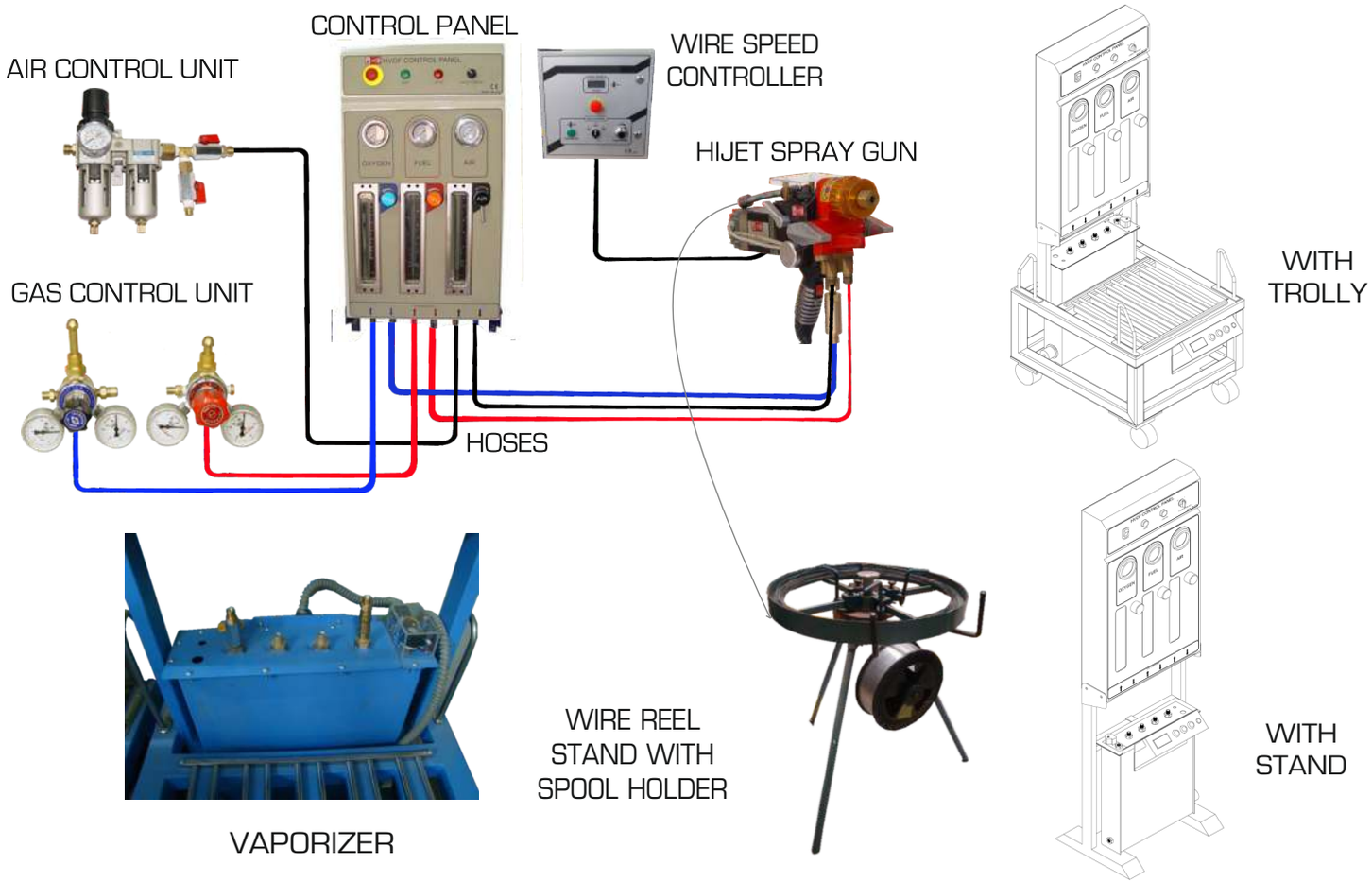
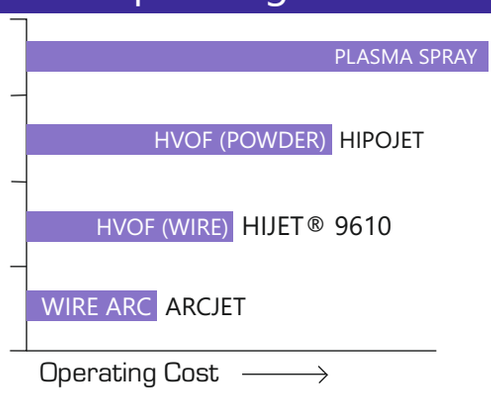


HIJET® 9610 System Consists of

- HIJET® 9610 Oxygen-Propane/LPG High velocity
- Spray Gun With Motorized Wire Feed System
- User friendly Control console model MP-2100
- Air Control Unit
- Gas Control Unit
- Vaporizer
- Interconnecting Cables and High Pressure Hoses/Hose Unit
- Wire Reel Stand and Spool holder

Operating cost



Coating Characterizations*

Coating Characteristics	Mo	High Carbon Steel	SS 420	Cu	Al	Al-Bronze
Hardness (ASTM-E384)	950 HV	550 HV	519 HV	145 HV	48 HV	236 HV
Adhesion strength (ASTM-C633)	55 MPa	60 Mpa	45 Mpa	20 Mpa	18 Mpa	19 Mpa
Porosity (ASTM-2109)	<0.70 %	< 1 %	2-3 %	3-5 %	4-5 %	3-5 %
Thickness	237 µm	260 µm	250 µm	425 µm	283 µm	400 µm
As Sprayed Ra (ASTM-D7127)	2.83 µm	11 µm	8 µm	10 µm	6 µm	10 µm
Deposition Efficiency (DIN EN 17836)	60%	70%	70%	80%	56%	71%
Wire feed rates	125 cm/min	95 cm/min	95 cm/min	190 cm/min	390 cm/min	170 cm/min
Coverage	1.95 kg/m²/100µm	0.700 kg/m²/100µm	0.681 kg/m²/100µm	1.41 kg/m²/100µm	0.472 kg/m²/100µm	1.07 kg/m²/100µm

* Tested in MEC Testing Laboratory (ISO 17025:2005 Certified Lab.)

Wires & Applications

Wire	Applications
Al	Corrosion / Galvanic Protection, Oxidation Resistance, Dimensional Restoration / Repair, Chemically Strippable, Decorative/Cosmetic Marketing, Electrical / Thermal Conductance, RFI / EMI Shielding, Solderable etc.
Mo	Erosion / Wear /Cavitation Control and scuff resistance, low friction and excellent sliding resistance, etc.
Fe, SS (420, 304,316)	Erosion / Wear /Cavitation Control, Corrosion / Galvanic Protection, Oxidation Resistance, Dimensional Restoration / Repair, Net Shapes / Dimensional Build up etc.
Cu	Corrosion / Galvanic Protection, Decorative/Cosmetic Marketing, Dimensional Restoration / Repair, Bio-Fouling Control, Chemically Strippable, Electrical / Thermal Conductance, Solderable
Brass	Corrosion / Galvanic Protection, Decorative/Cosmetic Marketing, Solderable, Electrical / Thermal Conductance etc.
Bronze	Surface Profiles and Textures, Corrosion / Galvanic Protection, Dimensional Restoration / Repair, Decorative/Cosmetic Marketing, Low Friction, Erosion / Wear /Cavitation Control, Chemically Strippable, Electrical / Thermal Conductance, Solderable etc
Ni	Corrosion / Galvanic Protection, Erosion / Wear /Cavitation Control, Oxidation Resistance, Bond Coat, Dimensional Restoration / Repair, Gripper/Anti-Skid
Ag	Electrical / Thermal Conductance, Solderable
Sn	Corrosion / Galvanic Protection, Electrical / Thermal Conductance, Low Friction, Solderable etc

Spraywatch & Microstructural results of HIJET® 9610

For Mo Wire:

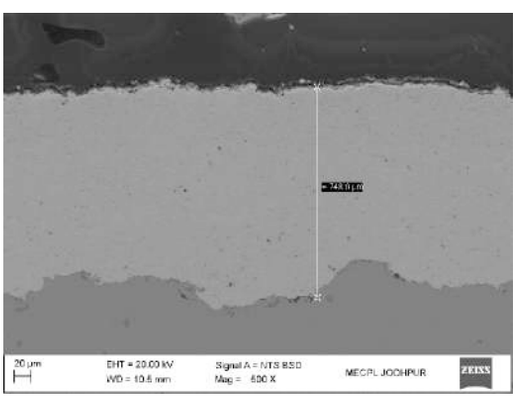
Particle Temperature - 2210°C;

Particle Velocity - 534 m/s

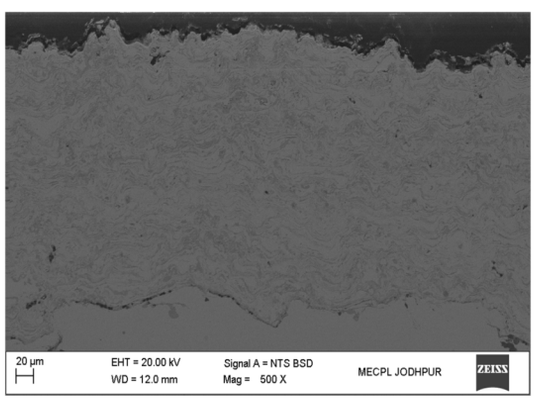
For SS304 Wire:

Particle Temperature - 2252°C;

Particle Velocity - 534 m/s



Microstructure of as-sprayed Mo wire



Microstructure of as sprayed SS304 wire

Potential Applications of HIJET® 9610 in Industry

Industry	Component / Structure		
Power Generation	Boiler Walls	Fans	Wind Turbine Blade Hubs, Bearings and Towers
Waste Incineration	Boiler Walls	Super heater Tubes	
Electronics	Capacitors and Varistors	High Voltage PCB	Plastic Cases and Covers
Automotive	Heat Exchanger Tubes	Weld Seams	Prototype Textured Mold Linings
	Brake Test Equipment	T-Frame Joints	
Aerospace	Turbine Engine Components, gas turbine transition tube	Airframe Composites	Airframe Metallic Components, aircraft landing gear, gear shifting components
Oil / Gas / Petrochemical	Pipes, Valves, Pump Housings, Tanks	CUI (Corrosion Under Insulation)	
Pulp / Paper / Printing	Black Liquor Recovery Boilers	Yankee Drier Rolls	Impression Cylinders
	Paper Transport Clamps		
Steel / Metal Production	Roller Bearing Housings	Cold Work Roll Bearing Seats	Slab / Billet / Pipe
	Carbon Electrodes	Tube Weld Seams	heavy blocks of cylinders
Marine	Steel Components / Structures	Propellers	
General Industry	Various Components	Plastic Production	Prototype Textured Mold Linings
Glass / Optics	Sputter Targets	Glass Components	
Infrastructure	Bridges and Structures	Sacrificial Anodes	Impressed Current Electrodes
	Road Markers	Water Mains, pump housing and many others	Ozone Arc Tubes
Commercial	Statuary and Building Ornamentation		

Our other products

MJP-6000

9MBM Plasma Gun

Arcjet-99ED Gun

Sprayjet-88 Gun

METALLIZING EQUIPMENT CO. PVT. LTD.

E-101, MIA, Phase-II, Basni, Jodhpur - 342005 (India)
Ph.: +91 291 2747601 Fax: 2746359
sales@mecpl.com, marketing@mecpl.com, trade@mecpl.com
Web: www.mecpl.com