PVDF POWDER COATING'S vs. PVDF LIQUID COATINGS

Economic Considerations

POWDER COATING	LIQUID PAINTING
Average material efficiency up to 95% of material sprayed.	Average material efficiency is only 35%.
Overspray may be reclaimed.	Overspray can not be recovered and becomes hazardous waste
No loss of powder materiel due to evaporation of solvents	Evaporation of solvents or VOC's emitted can cause materiel loss and dry film loss of 58% to 68% when spray applied
Solids by Volume ASTM D 2697 100%	Solids by Volume ASTM D 2697 can range from 32% to 42%
One coat application typically. Coastal areas require primer.	Three and four coat systems are typical.
Curing temperatures in oven are lower and less passes through oven required	Higher Temperatures and more passes through oven
Lower Applied costs per square foot or linear foot	Higher applied cost per square foot or linear foot
Processing and Handling Time Faster than liquid	Processing and Handling Time Slower than powder

Environmental Considerations

POWDER COATING	LIQUID PAINTING
Powder Coatings are solvent-free.	All liquid coatings contain solvents including 100% solids liquid coatings.
No hazardous waste according to 'Resources Conservation and Recovery Act (RCRA)'.	Contain VOC's of (Theoretical) ASTM D 3960 4.4 to 4.8 pounds per gallon
Overspray may be reclaimed.	Overspray can not be reclaimed
No Hazardous waste generated	Overspray that comes in contact with paint filters, PPE, etc. has to be disposed of accordingly to local laws as Hazardous Waste
No Volatile Organic Compounds	VOC (Theoretical) ASTM D 3960 4.4 to 4.8 pounds per gallon and higher.
Environmentally Friendly	Not Environmentally Friendly
Non-hazardous to spray operator	Hazardous to spray operator

(4)Mechanical Considerations

POWDER COATING	LIQUID PAINTING
Application of a single coat can produce a thickness of 2-4 mils (50-100 µm).	Application of a single coat can only produce film thickness of 1.2 mils (30 µm) or less
Dry Film Thickness above 2.5 mils has excellent mechanical properties	Dry Film Thickness above 2.5 mils the mechanical properties will decline
Optimum results after application of single coat.	Multiple coats are required to achieve required firm thickness.
Excellent mechanical properties because of "Crosslinking process / polymerization."	"Inferior" mechanical properties.
Excellent edge coverage – less touch-up cost.	Poor edge coverage.

Typical Powder Coating Applications

Architectural Applications	Construction Industry	Lighting Fixtures	Park Furniture
Playground Equipment	Garage Doors	Stadium Seating	Fencing/Railing
Defense Industry	Automotive Equipment	Marine Industry	Agriculture Equipment
Sports Equipment	Recreational Equipment	Lawn/Garden Equipment	Window/Door Frames

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