

RESEARCH PRODUCTS

PAINT ARRESTORS



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furniture



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customized to your needs

RESEARCH PRODUCTS

PAINT ARRESTORS

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HISTORY OF RESEARCH PRODUCTS CORPORATION

Founded in 1938, Research Products is dedicated to quality manufacturing via research, testing, engineering, and continuous improvement. Going back over 70 years, Research Products has been committed to helping our stakeholders solve the challenges related to air filtration. The result of this philosophy has been a reassurance that we will help our customers with their filtration needs by providing superior products. Specifically, we have spent decades providing products to tackle paint overspray applications. Although we pioneered slit and expanded paper for liquid overspray applications, we continue to reinvent ways to pull particles from the airstream by mating modern synthetics with tried and true paper. As environmental and local codes evolve, our engineering and applications expertise continues to provide solutions for these changes. From the first paper filters that were hung at a local auto body shop in Madison, Wisconsin to some of the most sophisticated coating systems in Detroit, Michigan, Research Products continues to innovate based on customer needs.

CUSTOMIZED TO YOUR NEEDS

One tenet that will always be true in the liquid coatings industry is that no two applications are exactly the same. At Research Products, we understand this and are ready to help you solve your overspray challenges. Our Engineering Department has a state-of-the-art testing facility that includes ASHRAE 52.1 and 52.2 ducts. These resources, along with our expertise in air and liquid filtration, are available to address a variety of applications. Additionally, we have access to some of the best third party testing facilities in the world. The next time you need help picking the right product for the job, please give us a call at 888.742.2402.



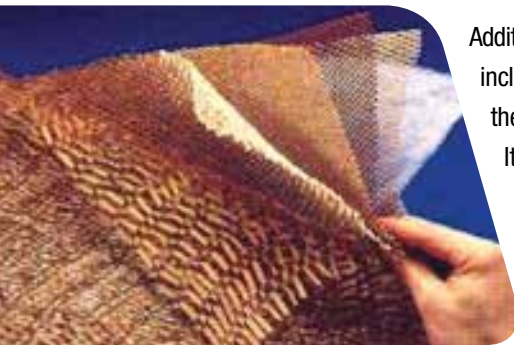
OVERVIEW

OVERSPRAY COLLECTION

The industries that are spraying paint are as diverse as the overspray collection products offered by Research Products (RP). Whether dealing with Automotive, Furniture, Aerospace, or HVAC industries, there is sure to be a product that will fit your needs. RP is dedicated to helping our customers find solutions to its diverse problems by using our versatile line of dry overspray collectors. Our knowledgeable sales staff is eager to help you find the proper match for your specific overspray collection needs.

ARRESTING PRINCIPLES

Our product line has been designed to provide customers with optimum performance and extended service life. Our filtering media is fabricated from slit and expanded paper or slit and expanded paper with polyester. The Paint Arrestors (PA) are assembled so the intake side has larger openings than the exhaust side. This baffled configuration allows for depth loading for maximum service life.



Additionally, every RP Paint Arrestor, including the prefilter series, has the patented face sheet design. It produces unique airflow patterns that better capture and retain overspray by using less material. You save by:

- Reducing the volume of stored material
- Reducing the number of change-outs
- Reducing down time
- Reducing the amount of material to dispose

RP Paint Arrestors derive their performance from the filtration principles of straining and impingement. Straining occurs when the paint particle

is too big to fit between the openings in the filter media. This occurs with particles that are 20 microns or larger. Impingement occurs when a particle is moving along the airstream and its inertia causes the particle to collide with the media fiber. This occurs with particle sizes of about 2 microns. Our product lines that utilize a polyester layer are able to strain out almost all of the remaining paint particles that make it through the paper filter media. Because every application is unique, RP has designed different paper and polyester combinations to accommodate the specific needs of its customers.

MEASUREMENTS OF PERFORMANCE

When examining the different aspects of an overspray collection system, there are five primary characteristics that are used to rate the effectiveness.

- **Efficiency:** expressed in percent (%), is a measure of how effective the PA is at removing a particular paint from the airstream.
- **Penetration:** is the inverse of efficiency and describes the amount of paint that gets through the PA.
- **Clean resistance:** expressed as inch water gauge (in. wg) at a particular airflow, describes how much of a restriction the PA itself contributes to the collection and exhaust system.
- **Holding Capacity:** is the amount of paint that the PA can accumulate before the resistance reaches a level that adversely affects airflow. Holding capacity is general expressed in total grams or grams per square foot (g/sq. ft.) at a particular resistance, usually 0.5 in. wg.
- **Paint Arrestor Life:** is the amount of time that a PA can be in service before it accumulates an amount of paint that raises its resistance to a level that cannot be tolerated by the exhaust blower in the booth.

APPLICATION

SELECTING THE PROPER PA FOR YOUR APPLICATION

Factors influencing the choice of Paint Arrestor for your application include the type of paint being sprayed and the expected life of the PA. Use Paint Arrestor Selection chart to the right as a guideline for selecting the PA Series that is suitable for the type of paint you are spraying. Life of the PA depends on the amount of paint being sprayed, volume of paint being sprayed, holding capacity of the PA, and the airflow characteristics of your booth.

As paint collects on the PA, resistance to airflow increases. Once the resistance reaches a level that significantly reduces the airflow through the booth, the PA must be changed.

PAs that are more efficient may load up more quickly, and as such have a shorter life than less efficient PAs but they also allow less paint to enter the exhaust air system.

PAs described as “High Capacity” are made with stiffer baffles which are designed to hold a greater amount of paint before reaching a critical resistance.

The ability of the blower in your exhaust booth to withstand an increase in resistance affects the life of the PAs. A booth that can withstand more resistance before reaching a critical point will increase the life of PAs because they will be able to hold more paint than PAs in a booth that has a more sensitive blower. Consult your booth manufacturers “blower curves” for an indication of how much resistance they can tolerate. Blower curves with steep slopes are less sensitive to increases in resistance than blower curves with shallower slopes.

PAINT ARRESTOR EFFICIENCY AND OVERSPRAY

Example is based on booth with 80 sq. ft. of Paint Arrestors, spraying paint at 1 lb./hour for 40 hours.

PAINT ARRESTOR EFFICIENCY	PENETRATION	AMOUNT OF PAINT REACHING PAINT ARRESTOR	AMOUNT OF PAINT COLLECTED BY PAINT ARRESTOR	AMOUNT OF PAINT PENETRATING PAINT ARRESTOR	TOTAL AMOUNT OF PAINT COLLECTED (8' X 10' BOOTH)	TOTAL AMOUNT OF PAINT PENETRATING INTO EXHAUST SYSTEM
98.0%	2.0%	0.50 lb./sq. ft. 226.8 grams/sq. ft.	0.49 lb./sq. ft. 222.3 grams/sq. ft.	0.01 lb./sq. ft. 4.5 grams/sq. ft.	39.2 lb.	0.8 lb. 363 grams
99%	1.0%	0.50 lb./sq. ft. 226.8 grams/sq. ft.	0.50 lb./sq. ft. 224.5 grams/sq. ft.	0.005 lb./sq. ft. 2.3 grams/sq. ft.	39.6 lb.	0.4 lb. 181 grams
99.5%	0.5%	0.50 lb./sq. ft. 226.8 grams/sq. ft.	0.50 lb./sq. ft. 225.7 grams/sq. ft.	0.0025 lb./sq. ft. 1.1 grams/sq. ft.	39.8 lb.	0.2 lb. 91 grams
99.9%	0.1%	0.50 lb./sq. ft. 226.8 grams/sq. ft.	0.50 lb./sq. ft. 226.6 g/sq. ft.	.0005 lb./sq. ft. 0.2 grams/sq. ft.	36.96 lb.	0.04 lb. 18 grams

The example in the above table illustrates the effect efficiency can have on the amount of paint collected on the PA and the amount that penetrates the PA.

PAINT ARRESTOR SELECTION

Use this chart as a guideline for selecting the PA Series for the type of paint you are spraying.

PA Series		3000	3100	3200	3300	3400	3600	3700
Resistance to Airflow		Lower		Average		Higher	Average	Higher
Efficiency		Average	Higher					
Holding Capacity		Lower	Average		Higher			
High Viscosity Coatings <small>(Wet & Sticky)</small>	Adhesive	Good	Good	Better	Best	Best	Best	Best
	Air-Dry Enamels	Good	Better	Better	Best	Best	Better	Best
	Bake-Dry Enamels	Good	Better	Better	Best	Best	Better	Best
	Clear Coat	Good	Better	Better	Best	Better	Best	Better
	Epoxies	Good	Better	Best	Best	Best	Best	Best
	Fiberglass	Good	Better	Best	Best	Best	Best	Best
	Gel Coats	Good	Better	Best	Best	Best	Best	Best
	Hi-Solids Enamels	Good	Better	Best	Best	Best	Best	Best
	Primers - Air Dry	Good	Better	Best	Best	Best	Best	Best
	Teflon	Good	Better	Better	Best	Best	Better	Best
	Urethanes	Good	Better	Best	Best	Best	Best	Best
Low Viscosity Coatings <small>(Wet & Runny)</small>	Stains	Good	Good	Better	Best	Best	Better	Best
	Waterbornes	Good	Good	Better	Best	Best	Better	Best
Dry, Dusty Coatings	Laquers	Good	Good	Better	Best	Good	Good	Good
	Sealers	Good	Good	Better	Best	Good	Good	Good

APPLICATION

RESEARCH PRODUCTS PAINT ARRESTOR PRODUCTS

PRODUCT	VELOCITY (FPM)	RESISTANCE (in. wg)	AVERAGE EFFICIENCY RANGE
SPRA-CUBE SE Series SE Medium Efficiency	100	0.01	98.8% high solids bake enamel
	200	0.04	
	300	0.07	
SPRA-CUBE HE Series HE High Efficiency	100	0.03	99.1% high solids bake enamel
	200	0.08	
	300	0.15	
SPRA-CUBE UE Series UE Ultra High Efficiency	100	0.03	99.5% high solids bake enamel
	200	0.08	
	300	0.15	
SERIES S Standard High Efficiency RP Paint Arrestors	100	0.10	Up to 99.9% high solids bake enamel Tested using single pad
	200	0.24	
	300	0.36	
3700 SERIES Spr-Gard High Capacity High Efficiency RP Paint Arrestors	100	0.04	99.5 to 99.9% high solids bake enamel Tested using single pad
	200	0.11	
	300	0.20	
3600 SERIES Spr-Gard High Capacity High Efficiency RP Paint Arrestors	100	0.02	99.0 to 99.4% high solids bake enamel Tested using single pad
	200	0.05	
	300	0.10	
3400 SERIES Spr-Gard High Capacity High Efficiency RP Paint Arrestors	100	0.07	99.5 to 99.9% high solids bake enamel Tested using single pad
	200	0.15	
	300	0.28	

PRODUCT	VELOCITY (FPM)	RESISTANCE (in. wg)	AVERAGE EFFICIENCY RANGE
3300 SERIES Spra-Gard High Efficiency RP Paint Arrestors	100	0.06	99.5 to 99.9% high solids bake enamel
	200	0.14	98.5 to 99.2% waterborne bake enamel
	300	0.26	95.0 to 96.0% lacquer Tested using single pad
3200 SERIES Spra-Gard High Efficiency RP Paint Arrestors	100	0.06	98.5 to 99.5% high solids bake enamel
	200	0.13	97.0 to 98.0% waterborne bake enamel
	300	0.23	94.0 to 95.0% lacquer Tested using two pads in tandem
3100 SERIES Standard High Capacity RP Paint Arrestors	100	0.02	94.0 to 96.0% high solids bake enamel
	200	0.05	91.5 to 92.5% waterborne bake enamel
	300	0.10	Tested using two pads in tandem
3000 SERIES Standard RP Paint Arrestors	100	0.02	97.5 to 99.2% high solids bake enamel
	200	0.06	93.0 to 94.0% waterborne bake enamel
	300	0.12	Tested using two pads in tandem

3500 SERIES

The 3500 Series was designed as a life extending prefilter. The main application of this product is for use in conjunction with any primary stage overspray filter. Utilizing the 3500 Series Paint Arrestor will save on the costs associated with replacing the more expensive primary filter by prolonging its service life. Additionally, it can be used in any spray coating application, plus it increases the flexibility of your operation.

FR SERIES (Flame Retardant)

All Research Products Paint Arrestors are available in flame retardant paper. Contact your representative for additional information and pricing.

Performance information shown was obtained using equipment similar to that incorporated by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) in evaluating performance of air cleaning media. Details regarding equipment testing procedure and test results are available by writing for Reprint No. 4259.

40 CFR PART 63 NESHAP

This filter series (3000, 3200, 3300, 3400, 3600) meets GACT for sources subject to SUBPART HHHHHH (Paint Stripping and Miscellaneous Surface Coatings at Area Sources) and SUBPART XXXXXX (Area Source Standards for Nine Metal Fabrication and Finishing Source Categories) (>=98% Efficient when tested by ASHRAE Method 52.1 in accordance with NESHAP)



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SPRA-CUBE SE™

PAINT OVERSPRAY FILTERS



OVERVIEW: The RP Spra-Cube extended surface cubes are the latest in RP's storied line of high-efficiency spray booth filters. Each cube is designed to provide high holding capacity and an economical solution for a range of finishing applications. All Spra-Cube filters are constructed of multiple layers of RP's proprietary paper Paint Arrestor media and synthetic backings to provide you the right product, every time.

PAINT ARRESTOR IDENTIFICATION

PA Model: Series SE Medium Efficiency High Holding Capacity
RP Part #: 2 Pockets RP Cube (v.1) (20"x20"x15")

TEST INFORMATION

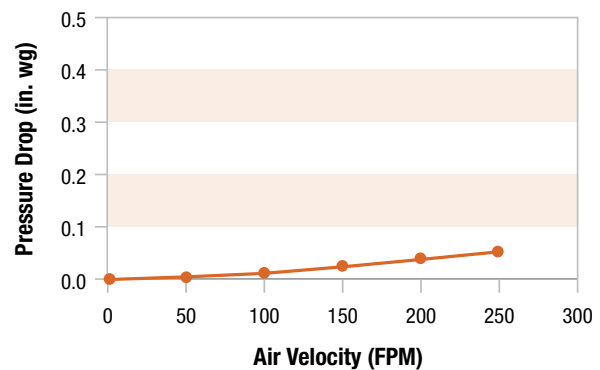
Paint Description: High Solids Baking Enamel
(S.W. #1 Permaclad 2400, red)
Paint Spray Method: Conventional Air Gun at 40 PSI
Spray Feed Rate: 143 grains/min. 135 cc./min.
Air Velocity: 150 FPM

TEST RESULTS

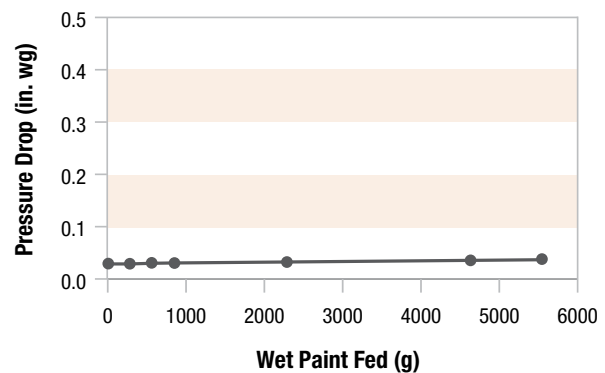
Initial Pressure Drop of Clean Test Filter: 0.02 in. wg
Final Pressure Drop of Loaded Test Filter: 0.03 in. wg
Paint Holding Capacity of Test Filter: 3941 grams = 8.7 lb.
Average Removal Efficiency of Test Filter: 98.81%

TEST SUMMARY

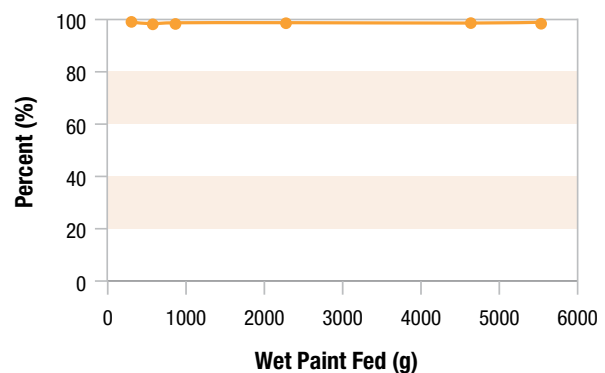
CLEAN FILTER

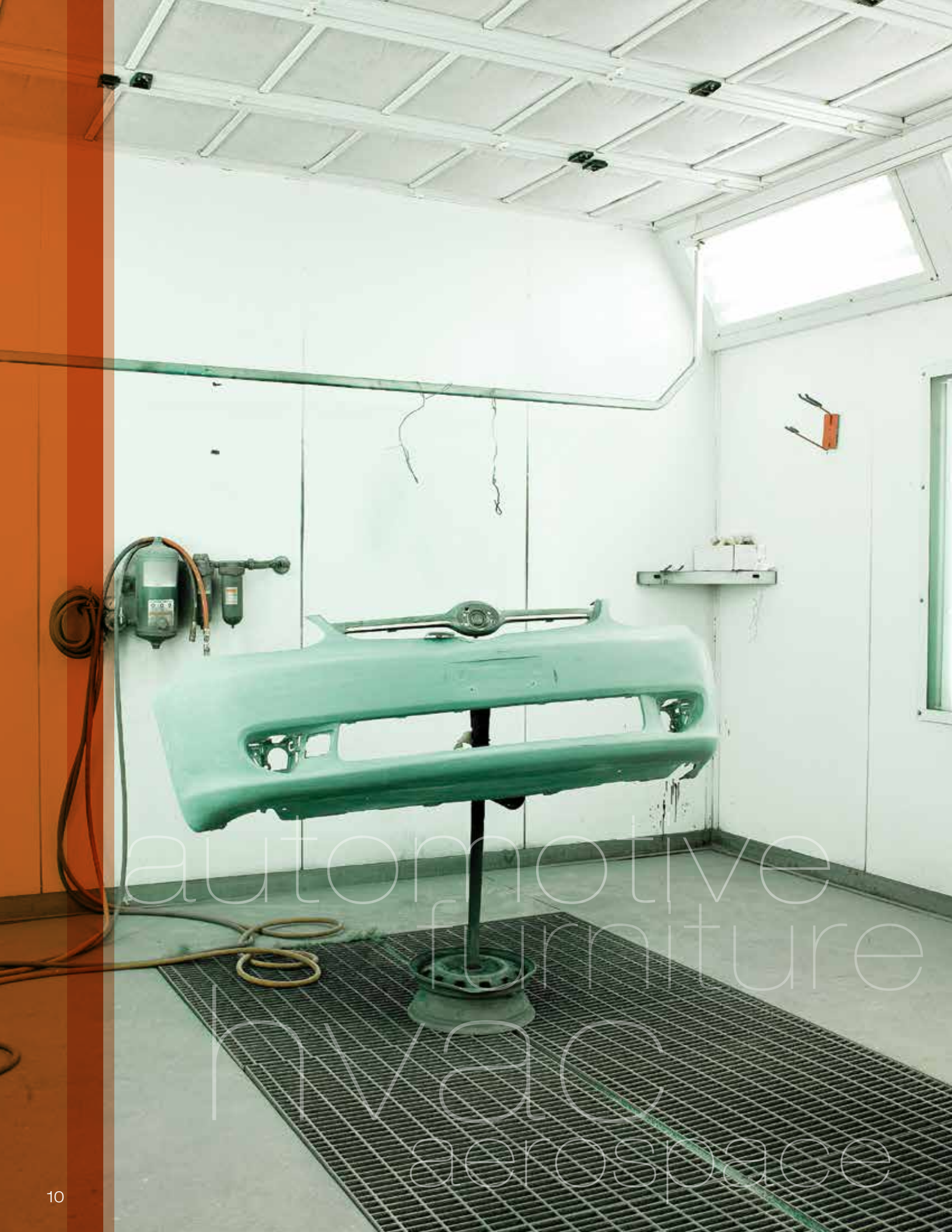


PRESSURE DROP



% REMOVAL EFFICIENCY





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SPRA-CUBE HE™

PAINT OVERSPRAY FILTERS



OVERVIEW: The RP Spra-Cube extended surface cubes are the latest in RP's storied line of high-efficiency spray booth filters. Each cube is designed to provide high holding capacity and an economical solution for a range of finishing applications. All Spra-Cube filters are constructed of multiple layers of RP's proprietary paper Paint Arrestor media and synthetic backings to provide you the right product, every time.

PAINT ARRESTOR IDENTIFICATION

PA Model: Series HE High Efficiency High Holding Capacity
RP Part #: 2 Pockets RP Cube (v.2) (20"x20"x15")

TEST INFORMATION

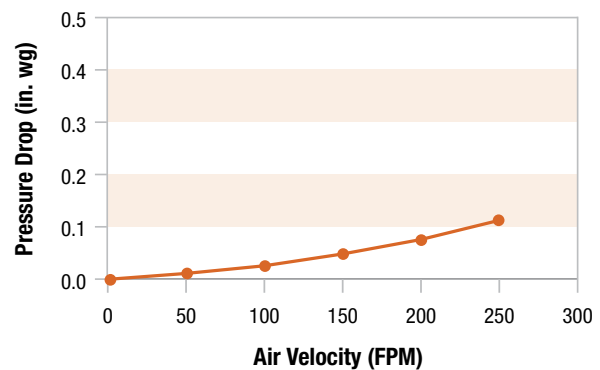
Paint Description: High Solids Baking Enamel
 (S.W. #1 Permaclad 2400, red)
Paint Spray Method: Conventional Air Gun at 40 PSI
Spray Feed Rate: 143 grains/min. 135 cc./min.
Air Velocity: 150 FPM

TEST RESULTS

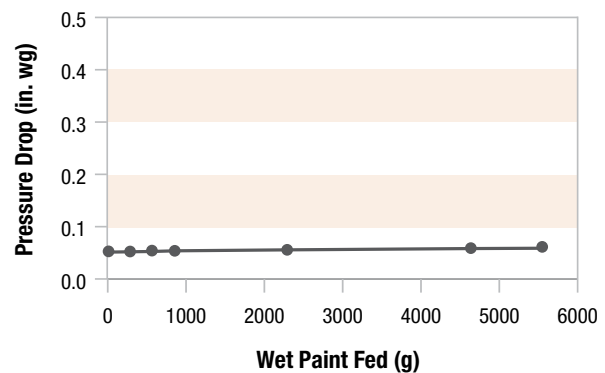
Initial Pressure Drop of Clean Test Filter: 0.05 in. wg
Final Pressure Drop of Loaded Test Filter: 0.06 in. wg
Paint Holding Capacity of Test Filter: 3619 grams = 8.0 lb.
Average Removal Efficiency of Test Filter: 99.14%

TEST SUMMARY

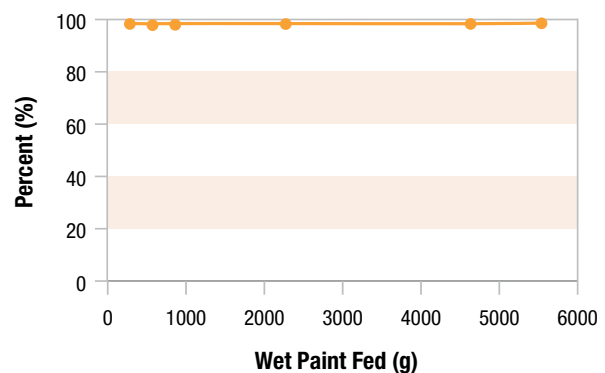
CLEAN FILTER



PRESSURE DROP



% REMOVAL EFFICIENCY





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SPRA-CUBE UE™

PAINT OVERSPRAY FILTERS



OVERVIEW: The RP Spra-Cube extended surface cubes are the latest in RP's storied line of high-efficiency spray booth filters. Each cube is designed to provide high holding capacity and an economical solution for a range of finishing applications. All Spra-Cube filters are constructed of multiple layers of RP's proprietary paper Paint Arrestor media and synthetic backings to provide you the right product, every time.

PAINT ARRESTOR IDENTIFICATION

PA Model: Series UE Ultra Efficiency High Holding Capacity
RP Part #: 2 Pockets RP Cube (v.3) (20"x20"x15")

TEST INFORMATION

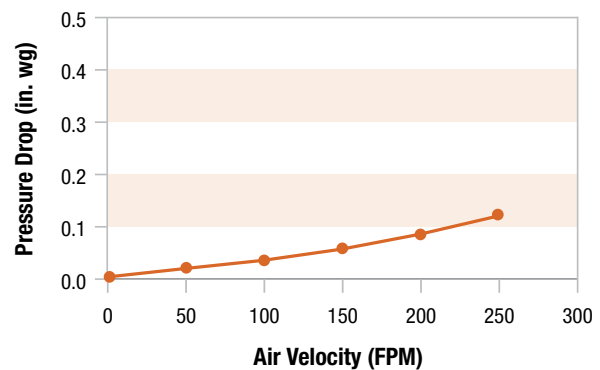
Paint Description: High Solids Baking Enamel
 (S.W. #1 Permaclad 2400, red)
Paint Spray Method: Conventional Air Gun at 40 PSI
Spray Feed Rate: 143 grains/min. 135 cc./min.
Air Velocity: 150 FPM

TEST RESULTS

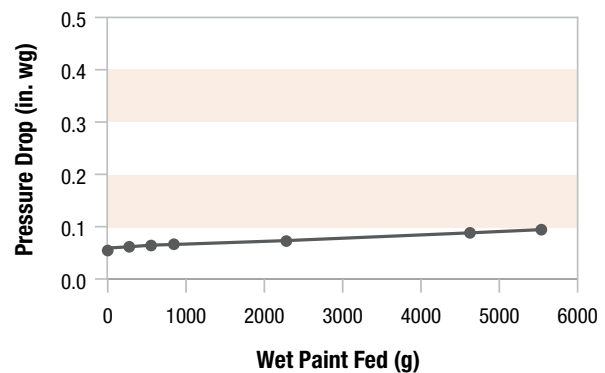
Initial Pressure Drop of Clean Test Filter: 0.05 in. wg
Final Pressure Drop of Loaded Test Filter: 0.09 in. wg
Paint Holding Capacity of Test Filter: 3798 grams = 8.4 lb.
Average Removal Efficiency of Test Filter: 99.48%

TEST SUMMARY

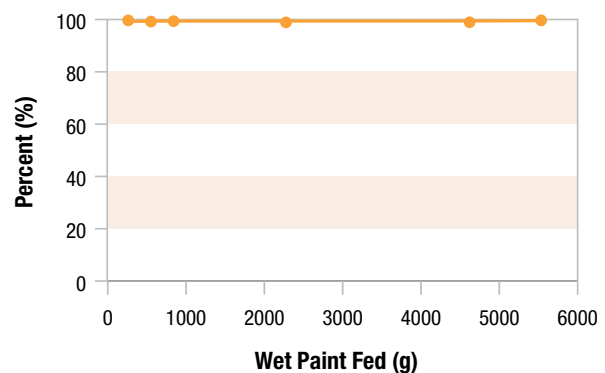
CLEAN FILTER



PRESSURE DROP



% REMOVAL EFFICIENCY

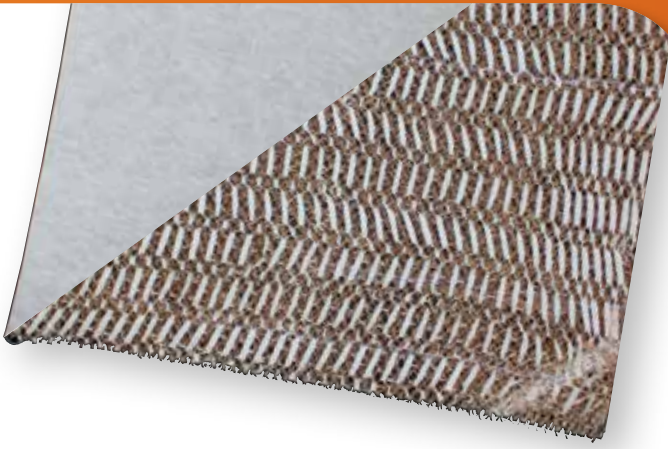




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SERIES S

STANDARD HIGH EFFICIENCY RP PAINT ARRESTORS



OVERVIEW: Series S was developed as a solution to the higher efficiency challenges that coating sprayers deal with on a regular basis. This product combines the proven effectiveness of RP Paint Arrestors with a proprietary media to achieve over 99.95% efficiency. Additionally, Series S boasts an initial pressure drop of only 0.17 inches of water gauge.

(Available in Series 3000S, 3100S, 3200S, 3300S, 3400S, 3600S, 3700S)

PAINT ARRESTOR IDENTIFICATION

PA Model: Series S Standard High Efficiency RP Paint Arrestor

RP Part #: RP Pad (v.3) (20"x20"x 3/4")

Number of pads in series: 1

TEST INFORMATION

Paint Description: High Solids Baking Enamel
(S.W. #1 Permaclad 2400, red)

Paint Spray Method: Conventional Air Gun at 40 PSI

Spray Feed Rate: 143 grains/min. 135 cc./min.

Air Velocity: 150 FPM

TEST RESULTS

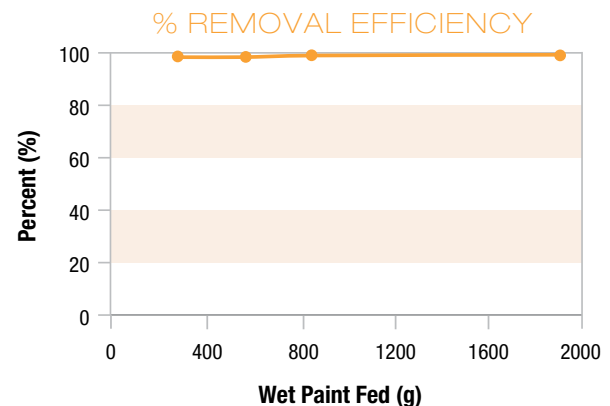
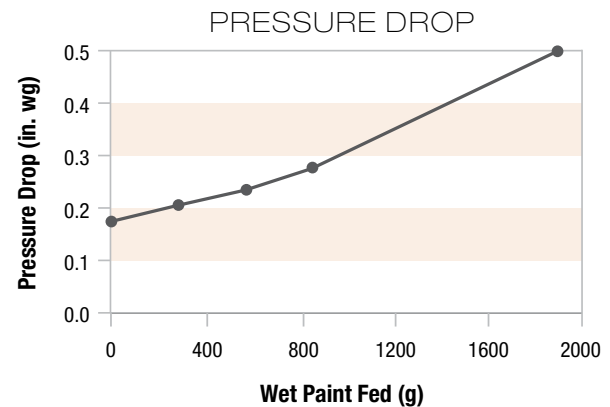
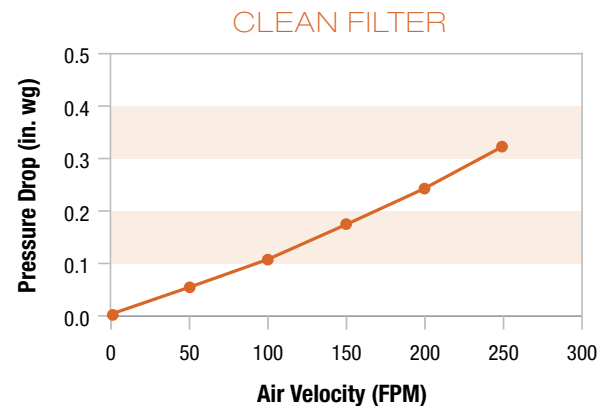
Initial Pressure Drop of Clean Test Filter: 0.17 in. wg

Final Pressure Drop of Loaded Test Filter: 0.50 in. wg

Paint Holding Capacity of Test Filter: 929 grams = 1.7 lb.

Average Removal Efficiency of Test Filter: 99.92%

TEST SUMMARY





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3700 SERIES

SPRA-GARD HIGH EFFICIENCY RP PAINT ARRESTORS



OVERVIEW: The 3700 Series offers both longevity and efficiency. This series has the holding capacity of the 3100 Series but also offers the superior efficiency of two layers of polyester. The final layer of high density polyester is ideal for applications that require maximum particle capture. Cleaner paint exhaust stacks and fewer changes of product make the 3700 Series a preferred total cost solution for many overspray applications.

PAINT ARRESTOR IDENTIFICATION

PA Model: 3700 Series Sprra-Gard High Efficiency RP Paint Arrestor

RP Part #: 3700 Series (20"x20")

Number of pads in series: 1

TEST INFORMATION

Paint Description: High Solids Baking Enamel
(S.W. #1 Permaclad 2400, red)

Paint Spray Method: Conventional Air Gun at 40 PSI

Spray Feed Rate: 143 grains/min. 135 cc./min.

Air Velocity: 150 FPM

TEST RESULTS

Initial Pressure Drop of Clean Test Filter: 0.08 in. wg

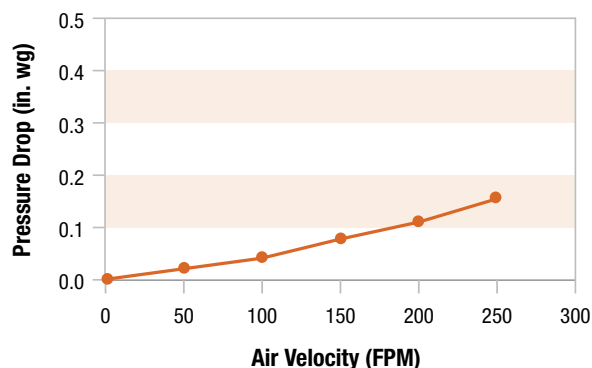
Final Pressure Drop of Loaded Test Filter: 0.50 in. wg

Paint Holding Capacity of Test Filter: 2913 grams = 6.4 lb.

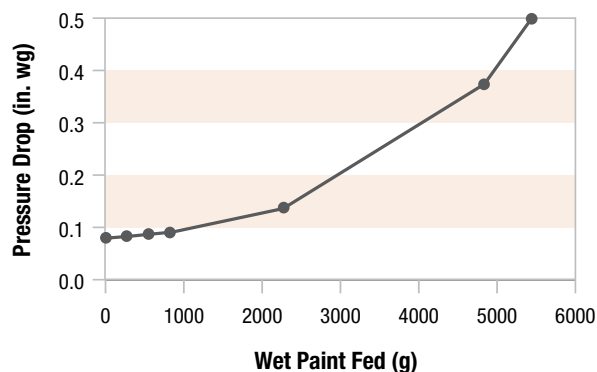
Average Removal Efficiency of Test Filter: 99.89%

TEST SUMMARY

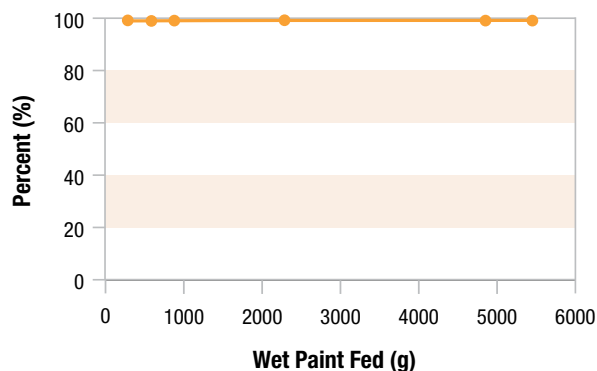
CLEAN FILTER



PRESSURE DROP



% REMOVAL EFFICIENCY



A close-up photograph showing a person's hand holding a spray gun, applying paint to a black, curved automotive component. The component is partially covered with crumpled yellow paper. A circular, metallic-looking object is visible on the surface of the part. The background is blurred, showing more of the work area.

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3600 SERIES

SPRA-GARD HIGH EFFICIENCY RP PAINT ARRESTORS



OVERVIEW: The 3600 Series offers both longevity and efficiency. This series has all of the advantages of the 3200 Series plus a longer service life. This product works well in high volume spray applications because the high capacity paper provides service life and the polyester provides high efficiency for small particles. Cleaner paint exhaust stacks and fewer changes of product make the 3600 a preferred total cost solution for many overspray applications.

PAINT ARRESTOR IDENTIFICATION

PA Model: 3600 Series Spragard High Efficiency RP Paint Arrestor

RP Part #: 3632 Single Layer (20"x20")

Number of pads in series: 1

TEST INFORMATION

Paint Description: High Solids Baking Enamel
(S.W. #1 Permaclad 2400, red)

Paint Spray Method: Conventional Air Gun at 40 PSI

Spray Feed Rate: 143 grains/min. 135 cc./min.

Air Velocity: 150 FPM

TEST RESULTS

Initial Pressure Drop of Clean Test Filter: 0.04 in. wg

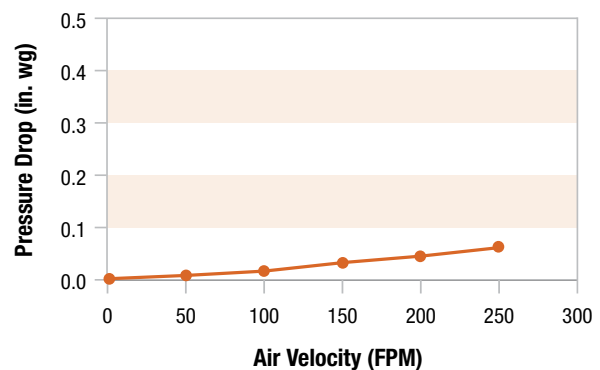
Final Pressure Drop of Loaded Test Filter: 0.50 in. wg

Paint Holding Capacity of Test Filter: 2794 grams = 6.2 lb.

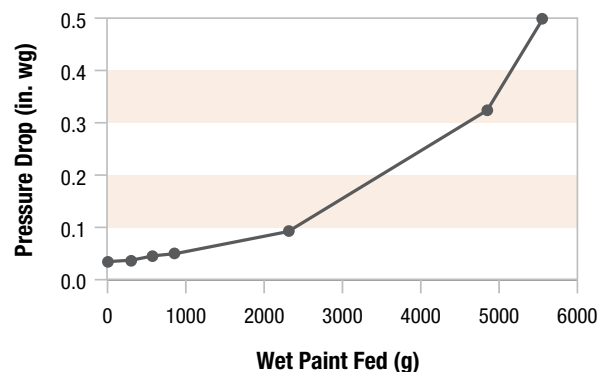
Average Removal Efficiency of Test Filter: 99.47%

TEST SUMMARY

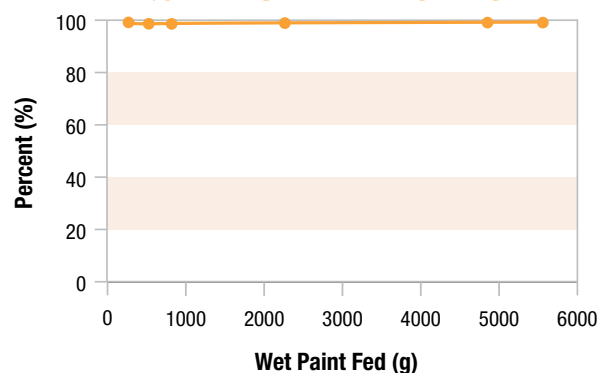
CLEAN FILTER



PRESSURE DROP



% REMOVAL EFFICIENCY





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3400 SERIES

SPRA-GARD HIGH CAPACITY HIGH EFFICIENCY RP PAINT ARRESTORS



OVERVIEW: This series has all the features and advantages of the 3300 Series, plus a longer service life. It is ideal for extremely high production applications because both peak efficiency and service life can be achieved, thereby reducing down time and increasing the time interval between changes.

PAINT ARRESTOR IDENTIFICATION

PA Model: 3400 Series Spragard High Capacity High Efficiency RP Paint Arrestor

RP Part #: 3432 Single Layer (20"x20")

Number of pads in series: 1

TEST INFORMATION

Paint Description: High Solids Baking Enamel (S.W. #1 Permaclad 2400, red)

Paint Spray Method: Conventional Air Gun at 40 PSI

Spray Feed Rate: 143 grains/min. 135 cc./min.

Air Velocity: 150 FPM

TEST RESULTS

Initial Pressure Drop of Clean Test Filter: 0.08 in. wg

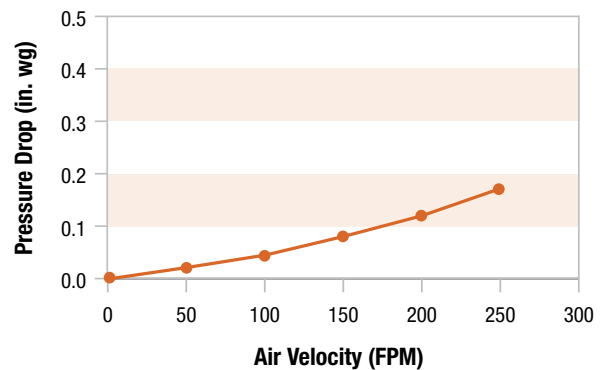
Final Pressure Drop of Loaded Test Filter: 0.50 in. wg

Paint Holding Capacity of Test Filter: 2505 grams = 5.5 lb.

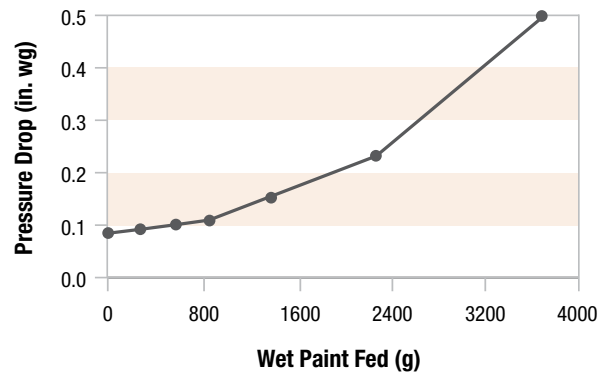
Average Removal Efficiency of Test Filter: 99.77%

TEST SUMMARY

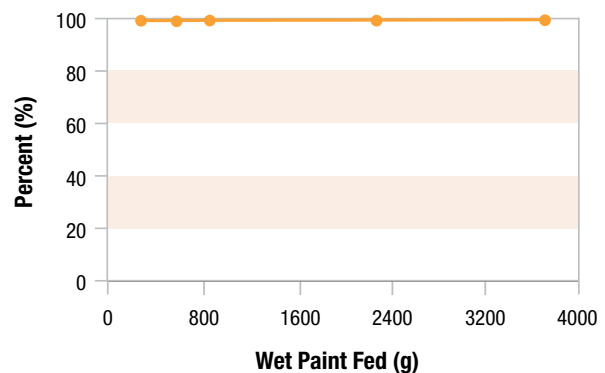
CLEAN FILTER



PRESSURE DROP



% REMOVAL EFFICIENCY





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3300 SERIES

SPRA-GARD HIGH EFFICIENCY RP PAINT ARRESTORS

OVERVIEW: The finest efficiencies possible can be achieved with this series of Paint Arrestors. This performance is achieved through the use of a high-density polyester backing which is structurally very strong. Due to the high efficiency, only one roll or pad layer is necessary.

PAINT ARRESTOR IDENTIFICATION

PA Model: 3300 Series Spr-Gard High Efficiency RP Paint Arrestor
RP Part #: 3332 Single Layer (20"x20")
Number of pads in series: 1

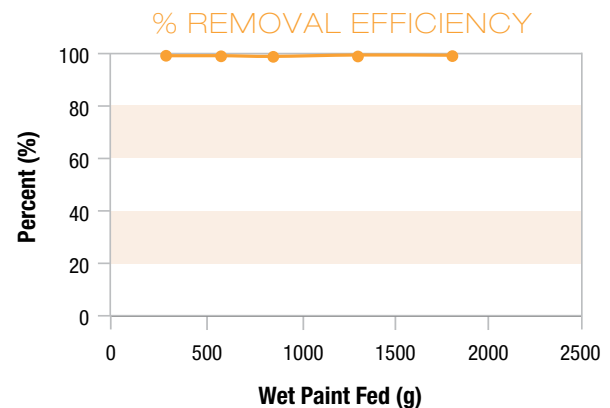
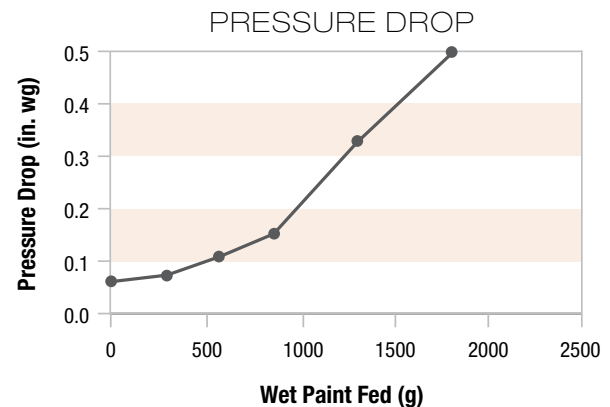
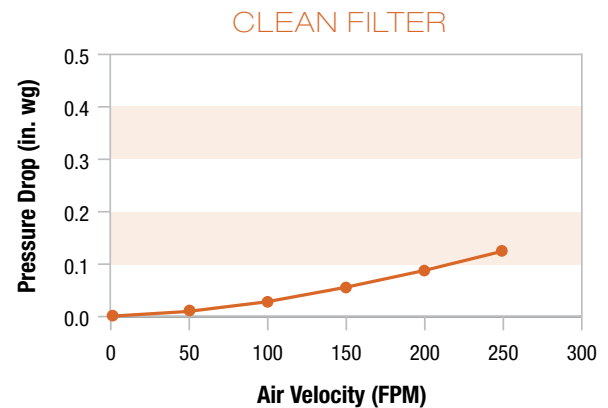
TEST INFORMATION

Paint Description: High Solids Baking Enamel
(S.W. #1 Permaclad 2400, red)
Paint Spray Method: Conventional Air Gun at 40 PSI
Spray Feed Rate: 143 grains/min. 135 cc./min.
Air Velocity: 150 FPM

TEST RESULTS

Initial Pressure Drop of Clean Test Filter: 0.06 in. wg
Final Pressure Drop of Loaded Test Filter: 0.50 in. wg
Paint Holding Capacity of Test Filter: 2575 grams = 3.3 lb.
Average Removal Efficiency of Test Filter: 99.65%

TEST SUMMARY





automotive
furniture
hvac
aerospace



3200 SERIES

SPRA-GARD HIGH EFFICIENCY RP PAINT ARRESTORS

OVERVIEW: This overspray product is also similar to the 3000 Series, but has an added polyester backing which increases the overall efficiency needed for very finely atomized overspray particles. Producing excellent efficiencies, the 3200 Series results in a 50% reduction of overspray up the stack, and the poly backing makes it ideal for coating at any rate of production. It is available in pad or roll form.

PAINT ARRESTOR IDENTIFICATION

PA Model: 3200 Series Spr-Gard High Efficiency RP Paint Arrestor
RP Part #: 3232 Single Layer (20"x20")
Number of pads in series: 2

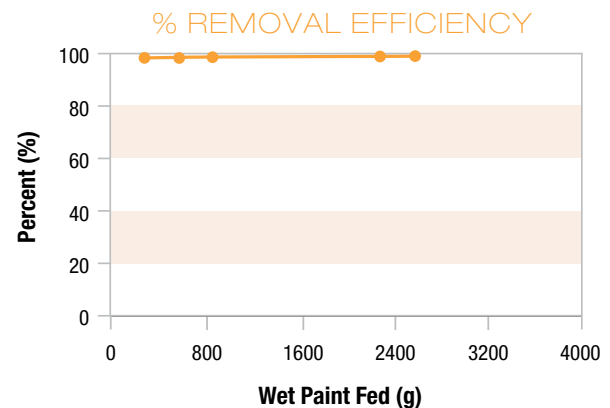
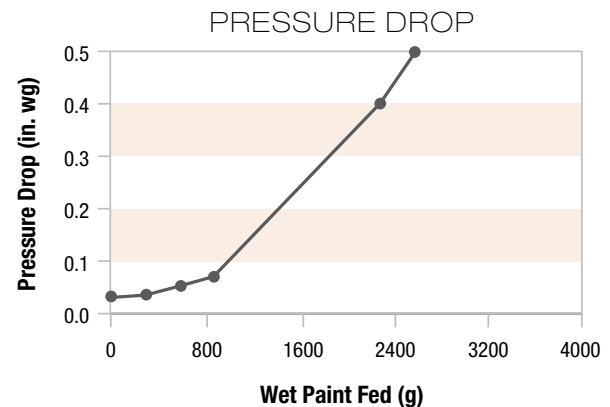
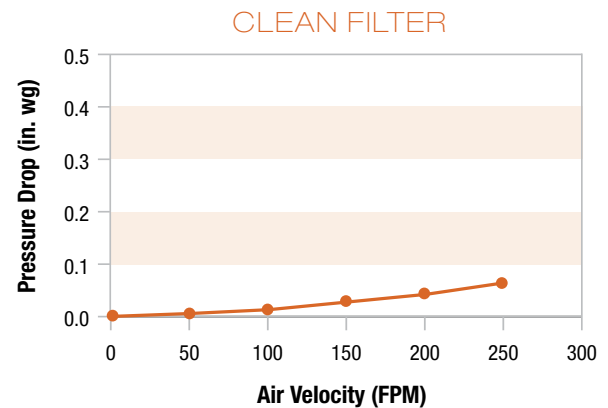
TEST INFORMATION

Paint Description: High Solids Baking Enamel
 (S.W. #1 Permaclad 2400, red)
Paint Spray Method: Conventional Air Gun at 40 PSI
Spray Feed Rate: 143 grains/min. 135 cc./min.
Air Velocity: 150 FPM

TEST RESULTS

Initial Pressure Drop of Clean Test Filter: 0.03 in. wg
Final Pressure Drop of Loaded Test Filter: 0.50 in. wg
Paint Holding Capacity of Test Filter: 1630 grams = 3.6 lb.
Average Removal Efficiency of Test Filter: 99.37%

TEST SUMMARY



A full-page background image showing a person in profile, wearing a red hard hat and a white respirator mask with a circular filter. They are wearing a dark jacket and a work glove. The scene is filled with a bright, hazy orange light, suggesting a welding or industrial setting. The text is overlaid in the lower half of the image.

automotive
furniture
hvac
aerospace



3100 SERIES

STANDARD HIGH EFFICIENCY RP PAINT ARRESTORS

OVERVIEW: This product has all the characteristics of the 3000 Series, but is designed to hold up to twice the overspray before changing is required. This double service life makes this series ideal for high production applications and wherever a large volume of coating is applied in a relatively small booth space. This longer service life results in less down time, fewer changeovers and greater economy. Rolls or pads are used in tandem. The product is ideal for heavy, tacky coatings or slower drying finishes, but it is not recommended for quick dry lacquer type coatings.

PAINT ARRESTOR IDENTIFICATION

PA Model: 3100 Series Standard High Efficiency RP Paint Arrestor
RP Part #: 3132 Single Pad (20"x20")
Number of pads in series: 2

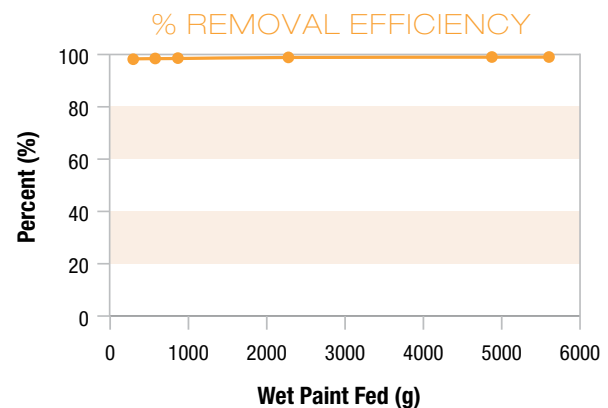
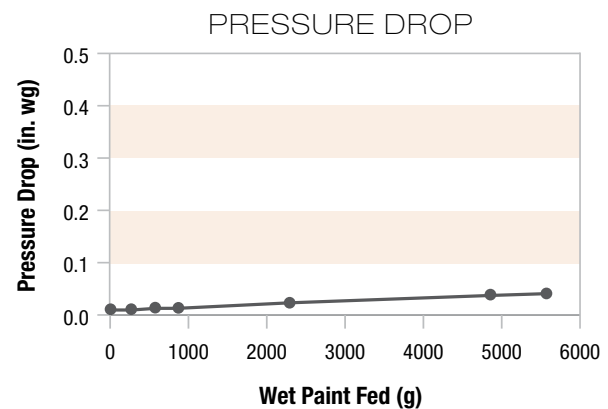
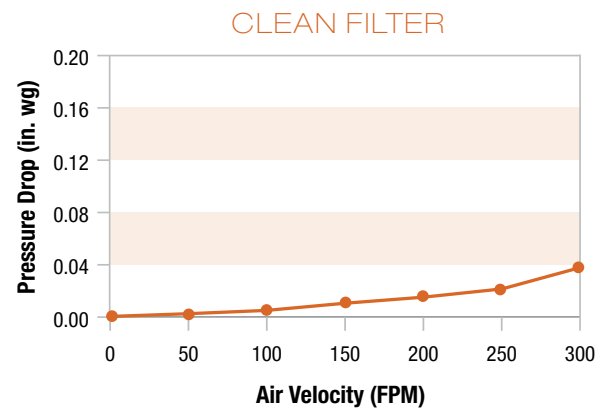
TEST INFORMATION

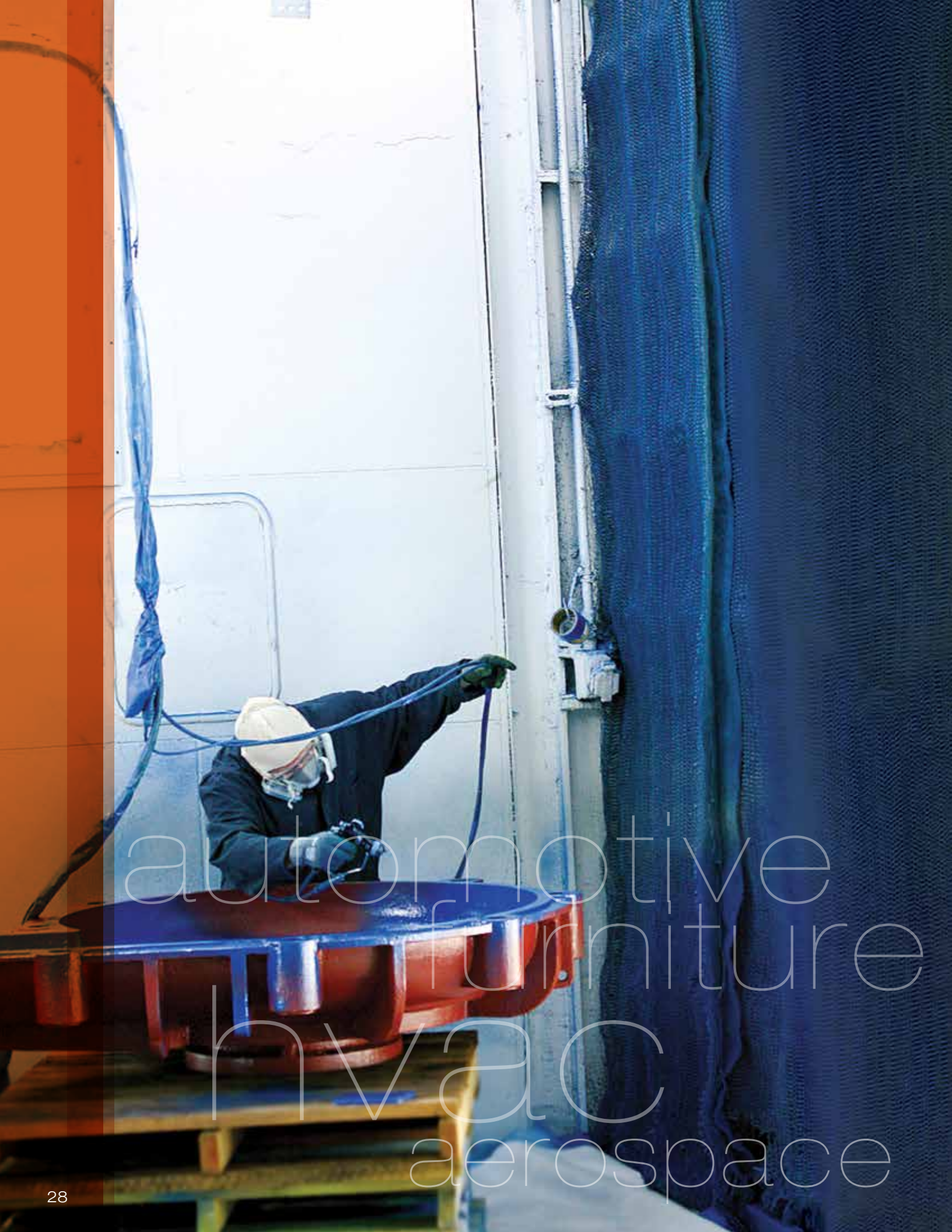
Paint Description: High Solids Baking Enamel
(S.W. #1 Permaclad 2400, red)
Paint Spray Method: Conventional Air Gun at 40 PSI
Spray Feed Rate: 143 grains/min. 135 cc./min.
Air Velocity: 150 FPM

TEST RESULTS

Initial Pressure Drop of Clean Test Filter: 0.01 in. wg
Final Pressure Drop of Loaded Test Filter: 0.04 in. wg
Paint Holding Capacity of Test Filter: 1674 grams = 3.7 lb.
Average Removal Efficiency of Test Filter: 98.66%

TEST SUMMARY





automotive
furniture
hvac
aerospace

3000 SERIES

STANDARD RP PAINT ARRESTORS



OVERVIEW: The 3000 Series provides good all around performance for general applications and can be used for most coatings applied by the various spray coating methods. The 3000 series provides an environmentally friendly, degradable solution for any customer's economic overspray needs. Available in both rolls and modular pad form, its recommended usage consists of two pads or rolls assembled in tandem.

PAINT ARRESTOR IDENTIFICATION

PA Model: 3000 Series Standard RP Paint Arrestor

RP Part #: 3032 Double Pad (20"x20")

Number of pads in series: 2

TEST INFORMATION

Paint Description: High Solids Baking Enamel
(S.W. #1 Permaclad 2400, red)

Paint Spray Method: Conventional Air Gun at 40 PSI

Spray Feed Rate: 143 grains/min. 135 cc./min.

Air Velocity: 150 FPM

TEST RESULTS

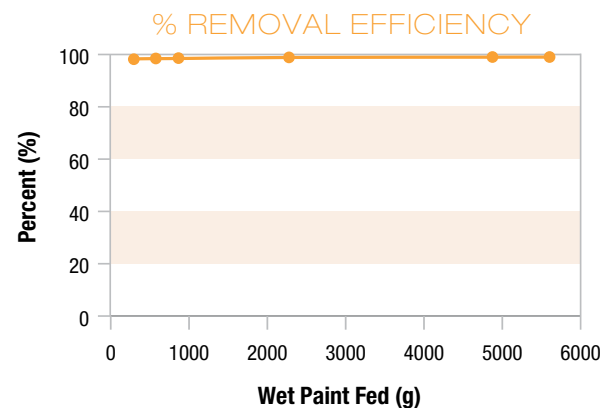
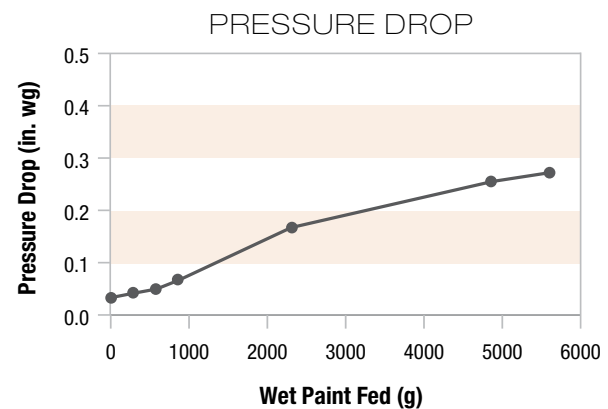
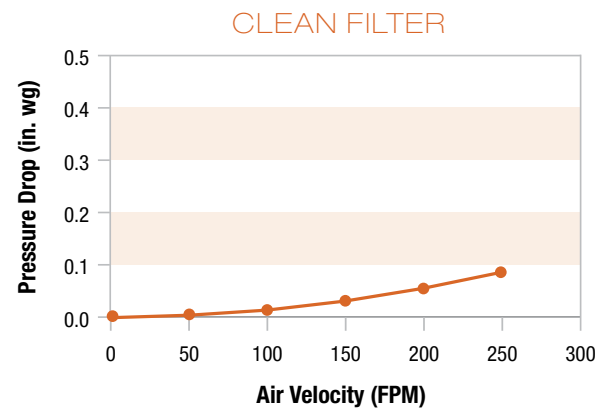
Initial Pressure Drop of Clean Test Filter: 0.03 in. wg

Final Pressure Drop of Loaded Test Filter: 0.27 in. wg

Paint Holding Capacity of Test Filter: 2244 grams = 4.9 lb.

Average Removal Efficiency of Test Filter: 99.22%

TEST SUMMARY



ACCESSORIES

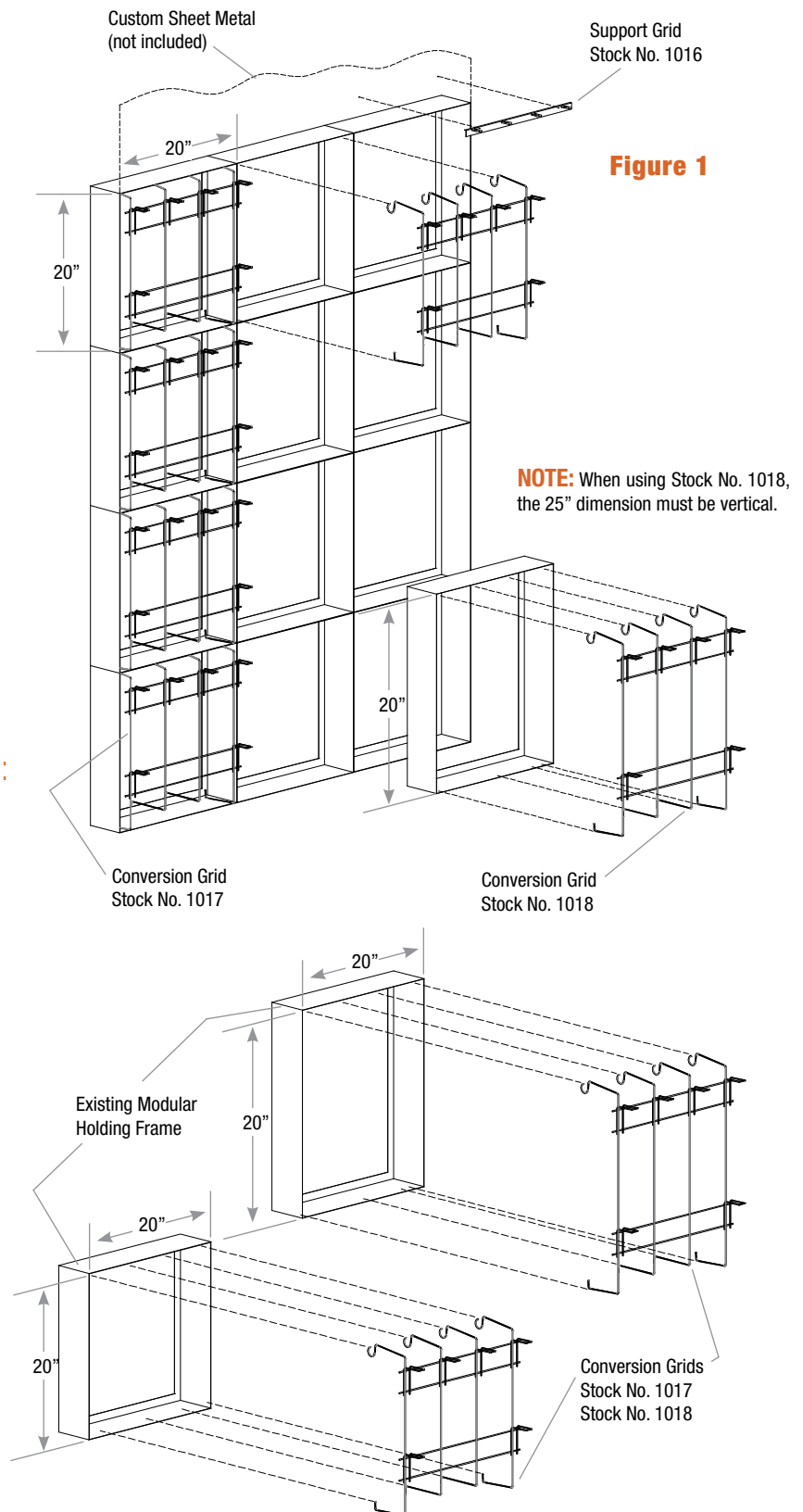
CONVERSION GRIDS

STOCK NO. 1016, 1017 & 1018

OVERVIEW: Do you have an existing spray booth that utilizes 20" x 20" or 20" x 25" modules? Research Products offers a convenient and economical method for converting a modular booth so that it can utilize RP Paint Arrestor roll media. These conversion grids will take the time, manpower, and cost from the conversion process and will prevent the end-user from needing to design or assemble a new booth. When the conversion grids are properly specified with RP Paint Arrestors, you can expect cleaner ducts, exhaust fans, and stacks. This leads to reduced maintenance activities, fire hazards, and coating items you do not want (roof, parked cars, neighboring properties). When looking at a per pound basis of overspray, RP Paint Arrestors offer the best means of overspray collection available today. Installation instructions are provided with the product.

INSTALLATION INSTRUCTIONS:

- 1: Determine the number of Conversion Grids Stock No. 1017 or 1018 by counting the number of modular holding frames. One grid is needed per holding frame as shown in Figure 1.
- 2: Determine the number of media support grids Stock No. 1016 by counting the number of modular holding frames across the top row of the booth. The No. 1016 above the top row helps to prevent bypass air.
- 3: Remove all pads, snap-in grids, or pad holding devices from the holding frame.
- 4: Install Conversion Grid as shown in Figures 2, 3, and 4.
- 5: Hang length of RP Paint Arrestor roll media vertically by stretching slightly and pushing securely onto No. 1016 Support Grid and Conversion Grid. Overlap vertical seams to eliminate any bypass air.



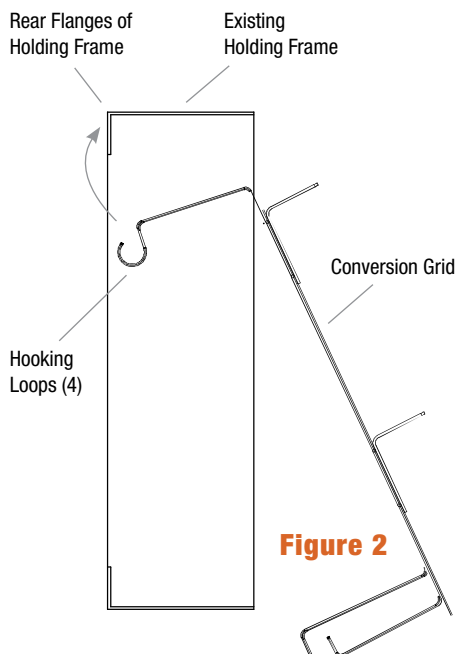


Figure 2

Place top of Conversion Grid into top rear flange of holding frame with the rear flange of the holding frame inserted into the four hooking loops on the grid.

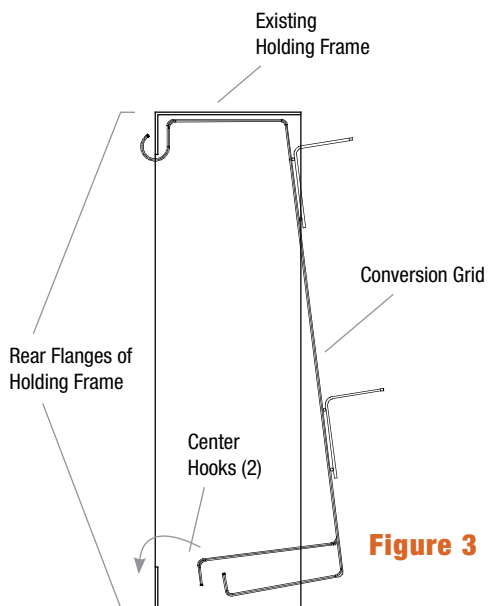


Figure 3

Push bottom of Conversion Grid into holding frame. Lift the two bottom center hooks over the rear flange of the holding frame locking the Conversion Grid into place.

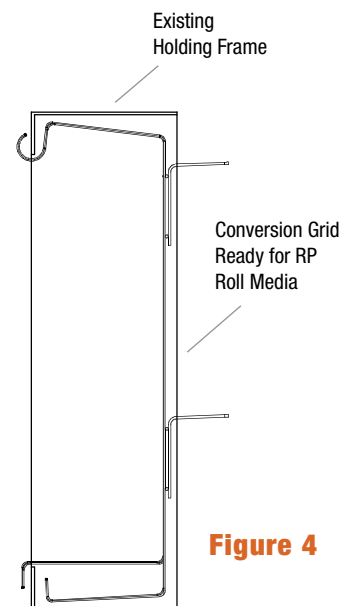
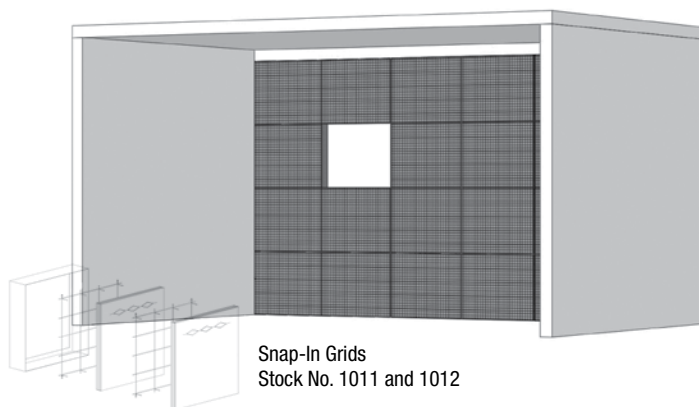


Figure 4

Conversion Grid is now ready for installation of RP roll media.



MODULAR BOOTH DESIGN FOR PADS: An RP Paint Arrestor bank is easily assembled by riveting together the number of holding frames required for a specific installation. Any bypass space is blanked off with sheet metal. A downstream Snap-In Grid is placed in each holding frame. An RP Paint Arrestor pad is then placed against the installed grid. Another grid is positioned and a second pad is installed to complete the installation.

OSHA 1910.107 STANDARD FOR DESIGN

This standard requires that spraying be so designed, installed, and maintained that the average air velocity over the open face of the booth shall not be less than the lower explosive limit of the solvents being sprayed which is usually above 100 lineal feet per minute. Electrostatic spraying operations may be conducted with an air velocity over the open face of the booth of not less than 60 lineal feet per minute or more, depending on certain variables (see OSHA 1910.107 Standard for the full scope of spray booth operating requirements). The reasoning behind this standard relates primarily to health concerns; however, it also provides for proper collection of airborne solids. A higher initial start-up velocity should be used in order to maintain airflow above the minimum required. This is caused by the gradual increase in resistance as the overspray collectors become loaded. Research Products' Paint Arrestors will perform well at high velocities; however, when considering energy usage, this is not recommended.

PARTICULATE EMISSIONS:

SPRAY BOOTHS

Many codes list an allowable particulate emission from the paint booth stack in terms of grains per cubic foot of exhaust air. The form below assists in calculating the total allowable weight of the emissions and provides an estimate of what is actually going out of the Paint Arrestor - equipped paint booth stack.

**TO ACCOMPLISH THESE CALCULATIONS,
THE FOLLOWING INFORMATION IS REQUIRED:**

- a) Width and height of booth – feet _____
- b) Velocity of air in booth – FPM _____
- c) Allowable emission – grains per cubic feet _____
- d) Paint sprayed per hour – gallons _____
- e) Weight of paint – pounds _____
- f) Solids in paint – percent _____
- g) Overspray – percent _____
- h) Overspray passing through the collection system
(100% minus efficiency) – percent _____

EXAMPLE: The following example can be used as a guideline to help you in your specific application.

The sample calculation is based on a 10’ by 7’ booth, which is a very popular size produced by several manufacturers. To calculate the allowable emission in pounds per hour, we assumed a face velocity through the booth of 125 FPM. The 70 square feet times 125 FPM results in an exhaust volume of 8,750 CFM times 60 minutes is 525,000 cubic feet of air per hour. In the example, we used an allowable emission rate of 0.003 grains per cubic foot. This is the most rigid particulate emission control requirement. The allowable emission rate, 0.003 times 525,000 is 1,575 grains per hour, divided by 7,000 grains per pound results in an allowable emission of 0.225 pounds of particulate per hour.

To calculate the stack emissions estimate, information, when known, was used and if not available, assumptions were made. In the example, three gallons of paint per hour weighing nine pounds per gallon were sprayed. The solids are 50% and the overspray was also calculated at 50%.

The calculations for the example using the above assumptions resulted in an estimate of 6.75 pounds of overspray approaching the Paint Arrestor collection system. In the example, the High Efficiency Spra-Gard has a minimum efficiency of 97%. Therefore, three percent maximum would pass through. The calculated emission would be 0.203 pounds per hour. This value (0.203) is less than the allowable emission (0.225), resulting in acceptable emissions.

Frequently, the booth exhaust exceeds 125 FPM. This results in an increase in allowable emission, since it varies directly with the exhaust air volume. Lower solid content and/or increased transfer result in less emission, assuring compliance with a margin to spare.

CALCULATION SHEET

PAINT BOOTH PARTICULATE EMISSIONS EXAMPLE

INFORMATION NEEDED:

- A. Width and height of booth 10' x 7'
- B. Velocity of air in booth 125 FPM
- C. Allowable emission 0.003 grains/cu. ft.
- D. Paint sprayed per hour 3 gallons
- E. Weight of paint..... 9 pounds/gallon
- F. Solids in paint 50%
- G. Overspray..... 50%
- H. Overspray passing through the collections system
(100% minus efficiency)..... 3%

ALLOWABLE EMISSION:

- W 10' x H 7' (a)..... 70 sq. ft. (area)
- Multiply by (b)..... 125 FPM (velocity)
- To get..... 8,750 CFM (volume)
- Multiply by..... 60 minutes
- To get..... 525,000 cu. ft./hour (volume)
- Multiply (c)..... 0.003 grains/cu. ft. (allowable emission)
- To get..... 1,575 grains/hour (allowable emission)
- Divide by 7,000 grains/pound
- To get..... 0.225 pounds/hour (allowable emission)

CALCULATED EMISSION:

- Paint used (d)..... 3 gallons/hour
- Multiply by (e)..... 9 pounds/gallon (weight per gallon)
- To get..... 27 pounds/hour (paint sprayed)
- Multiply by (f)..... 50% solids
- To get..... 13.5 pounds solids/hour
- Multiply by (g)..... 50% overspray
- To get..... 6.75 pounds overspray/hour
- Multiply by (h)..... 3% paint passing through
- To get..... 0.203 pounds/hour (calculated emission)

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This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

RESEARCH PRODUCTS

PAINT ARRESTORS

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