

**New Jersey Department of Environmental Protection
Reason for Application**

Permit Being Modified

Permit Class: **Number:** 0

Description of Modifications: PCM is submitting this Preconstruction Permit (PCP) Application (Application) to the New Jersey Department of Environmental Protection (NJDEP) to update the Facility's air permits to reflect the existing equipment and operations. PCM applies specialty industrial coatings to metal and glass equipment for industries ranging from food processing, wastewater treatment, pharmaceutical, laboratory equipment, as well as manufactures sensors for measuring upper atmospheric ozone. Operations at the Facility, in general, include coating preparations (i.e., cleaning and abrasive blasting), surface coating, and curing. Surface coating operations are performed in four existing coating booths and five existing drying/curing ovens.

With this application, PCM is:

- Permitting a new small abrasive blasting booth, to replace the existing equipment, which is currently permitted under NJDEP's General Permit (GP-016A). The GP-016A will be terminated upon approval of this permit.
- Permitting two liquid spray coating booths employ spray guns that could have the capacity to exceed the significant source threshold of one half gallon of liquid per any one hour under N.J.A.C. 7:27-8.2(c)(12).
- Permitting two natural gas-fired ovens each have a maximum rated heat input capacity that exceeds the significant source threshold of one million British thermal units per hour (MMBtu/hr) under N.J.A.C. 7:27-8.2(c)(1) and require a PCP application.

In addition to the equipment identified above, PCM operates insignificant equipment related to the source coating operations that do not need a permit and certificate under N.J.A.C. 7:27-8.2 (i.e., equipment that does not meet an applicability threshold of a significant source category). Each insignificant source vents to its own independent stack/emission point, and is not included in this application.

Please refer to Application narrative for additional details.

New Jersey Department of Environmental Protection
Facility Profile (General)

Facility Name (AIMS): Plastic Consulting & Mfg Co

Facility ID (AIMS): 50405

Street 1431 FERRY AVE
Address: CAMDEN, NJ 08104

Mailing 1431 FERRY AVE
Address: CAMDEN, NJ 08104

County: Camden
Location Corner of Second and Atlantic Avenue.
Description:

State Plane Coordinates:
X-Coordinate:
Y-Coordinate:
Units:
Datum:
Source Org.:
Source Type:

Industry:
Primary SIC:
Secondary SIC:
NAICS: 332812

**New Jersey Department of Environmental Protection
Facility Profile (General)**

Contact Type: Air Permit Information Contact

Organization: Plastic Consulting & Mfg. Co.

Org. Type: Individually Owned

Name: Steven B. Schwartz

NJ EIN: 18992300000

Title: President

Phone: (856) 963-7700 x

Mailing Address: 1431 Ferry Avenue

Fax: (856) 964-8977 x

Camden, NJ 08104

Other: () - x

Type:

Email: Steve_schwartz@bakewarecoating.com

Contact Type: Consultant

Organization: ALL4

Org. Type: LLC

Name: Merritt McGlynn

NJ EIN:

Title: Project Manager

Phone: (610) 422-1133 x

Mailing Address: 2393 Kimberton Road

Fax: () - x

P.O. Box 299

Other: () - x

Kimberton, PA 19442

Type:

Email: mmcglynn@all4inc.com

Contact Type: Fees/Billing Contact

Organization: Plastic Consulting & Mfg. Co.

Org. Type: Individually Owned

Name: Katherine Renimuth-Parker

NJ EIN: 18992300000

Title: Plant Coordinator

Phone: (856) 963-7700 x

Mailing Address: 1431 Ferry Avenue

Fax: () - x

Camden, NJ 08104

Other: () - x

Type:

Email: kathy@pcmco.com

**New Jersey Department of Environmental Protection
Facility Profile (General)**

Contact Type: Owner (Current Primary)

Organization: Plastic Consulting & Mfg. Co.

Org. Type: Individually Owned

Name: Steven B. Schwartz

NJ EIN: 18992300000

Title: President

Phone: (856) 963-7700 x

Mailing Address: 1431 Ferry Avenue

Fax: (856) 964-8977 x

Address: Camden, NJ 08104

Other: () - x

Type:

Email: Steve_schwartz@bakewarecoating.com

Contact Type: Responsible Official

Organization: Plastic Consulting & Mfg. Co.

Org. Type: Individually Owned

Name: Katherine Renimuth-Parker

NJ EIN: 18992300000

Title: Plant Coordinator

Phone: (856) 963-7700 x

Mailing Address: 1431 Ferry Avenue

Fax: () - x

Address: Camden, NJ 08104

Other: () - x

Type:

Email: kathy@pcmco.com

**New Jersey Department of Environmental Protection
Facility Profile (Permitting)**

1. Is this facility classified as a small business by the USEPA? Yes
2. Is this facility subject to N.J.A.C. 7:27-22? No
3. Are you voluntarily subjecting this facility to the requirements of Subchapter 22? No
4. Has a copy of this application been sent to the USEPA? No
5. If not, has the EPA waived the requirement? No
6. Are you claiming any portion of this application to be confidential? No
7. Is the facility an existing major facility? No
8. Have you submitted a netting analysis? No
9. Are emissions of any pollutant above the SOTA threshold? No
10. Have you submitted a SOTA analysis? No
11. If you answered "Yes" to Question 9 and "No" to Question 10, explain why a SOTA analysis was not required

12. Have you provided, or are you planning to provide air contaminant modeling? No

**New Jersey Department of Environmental Protection
Equipment Inventory**

Equip. NJID	Facility's Designation	Equipment Description	Equipment Type	Certificate Number	Install Date	Grand-Fathered	Last Mod. (Since 1968)	Equip. Set ID
E1	SM Liquid	Small Liquid Spray Booth	Surface Coating Equipment (Non-Fabric Material)		2/1/2015	No		
E2	LG Liquid	Large Liquid Spray Booth	Surface Coating Equipment (Non-Fabric Material)		7/1/2014	No		
E3	16-1	16-1 Curing Oven	Surface Coating Dryer		1/1/2002	No	1/1/2016	
E4	Conveyor	Conveyor	Surface Coating Dryer		1/1/2002	No	1/1/2015	
E5	Blast Booth	Blasting Booth	Other Equipment		1/1/2021	No		

**New Jersey Department of Environmental Protection
Control Device Inventory**

CD NJID	Facility's Designation	Description	CD Type	Install Date	Grand-Fathered	Last Mod. (Since 1968)	CD Set ID
CD1	Cart Filt 1	Cartridge Filter for Sm. Spray Booth	Particulate Filter (Cartridge)	2/1/2015	No		
CD2	Cart Filt 2	Cartridge Filter for Lg. Spray Booth	Particulate Filter (Cartridge)	7/1/2014	No		
CD3	Blast Filt	Fabric Filter for Abrasive Blasting Booth	Particulate Filter (Cartridge)	1/1/2021	No		

**New Jersey Department of Environmental Protection
Emission Points Inventory**

PT NJID	Facility's Designation	Description	Config.	Equiv. Diam. (in.)	Height (ft.)	Dist. to Prop. Line (ft)	Exhaust Temp. (deg. F)			Exhaust Vol. (acfm)			Discharge Direction	PT Set ID
							Avg.	Min.	Max.	Avg.	Min.	Max.		
PT1	EP1	Small Liquid Spray Booth	Round	18	22	60	75.0	0.0	100.0	1,250.0	0.0	2,500.0	Up	
PT2	EP2	Large Liquid Spray Booth	Round	36	22	55	75.0	0.0	100.0	5,000.0	0.0	10,000.0	Up	
PT3	16-1 EP	Emissions stack for 16-1 dryer.	Round	12	22	68	650.0	400.0	750.0	1,250.0	0.0	2,500.0	Up	
PT4	Conveyor EP	Emissions stack for Conveyor dryer.	Round	10	22	75	650.0	400.0	750.0	1,050.0	0.0	2,100.0	Up	
PT5	Blast EP	Emissions stack for the Blasting Booth	Round	10	22	60	75.0	0.0	100.0	3,000.0	0.0	6,000.0	Up	

**New Jersey Department of Environmental Protection
Emission Unit/Batch Process Inventory**

U 1 Surf Coat Op Spray Booths

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours		VOC Range	Flow (acfm)		Temp. (deg F)	
								Min.	Max.		Min.	Max.	Min.	Max.
OS1	SPRAY 1	Small Liquid Spray Booth	Normal - Steady State	E1	CD1 (P)	PT1	4-02-025-01	0.0	8,760.0		0.0	2,500.0	0.0	100.0
OS2	SPRAY 2	Large Liquid Spray Booth	Normal - Steady State	E2	CD2 (P)	PT2	4-02-025-01	0.0	8,760.0		0.0	10,000.0	0.0	100.0
OS3	16-1 Oven	16-1 Curing Oven	Normal - Steady State	E3		PT3	4-02-008-01	0.0	8,760.0		0.0	2,500.0	0.0	750.0
OS4	Convey. Oven	Conveyor Oven	Normal - Steady State	E4		PT4	4-02-008-01	0.0	8,760.0		0.0	2,100.0	0.0	750.0
OS5	Blast Booth	Blasting Booth	Normal - Steady State	E5	CD3 (P)	PT5	3-09-002-01	0.0	8,760.0		0.0	6,000.0	0.0	100.0
OS6	SP 1 Clean	Small liquid spray booth gun cleaning	Maintenance	E1		PT1	4-02-025-05	0.0	8,760.0		0.0	2,500.0	0.0	100.0
OS7	SP 2 Clean	Large liquid spray booth gun cleaning	Maintenance	E2		PT2	4-02-025-05	0.0	8,760.0		0.0	10,000.0	0.0	100.0

**New Jersey Department of Environmental Protection
Potential to Emit**

Subject Item: U1 Surf Coat Op

Operating Scenario: OS0 Summary

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
HAPs (Total)					tons/yr	No
NOx (Total)				0.77000000	tons/yr	No
PM-10 (Total)				0.28000000	tons/yr	No
PM-2.5 (Total)				0.03000000	tons/yr	No
TSP				0.58000000	tons/yr	No
VOC (Total)				2.41000000	tons/yr	No

Subject Item: U1 Surf Coat Op

Operating Scenario: OS1

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
VOC (Total)				1.75000000	lb/hr	No

Subject Item: U1 Surf Coat Op

Operating Scenario: OS2

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
VOC (Total)				1.75000000	lb/hr	No

**New Jersey Department of Environmental Protection
Potential to Emit**

Subject Item: U1 Surf Coat Op

Operating Scenario: OS3

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
NOx (Total)				0.34300000	lb/hr	No
VOC (Total)				0.01900000	lb/hr	No

Subject Item: U1 Surf Coat Op

Operating Scenario: OS4

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
NOx (Total)				0.14700000	lb/hr	No
VOC (Total)				0.00800000	lb/hr	No

Subject Item: U1 Surf Coat Op

Operating Scenario: OS5

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
PM-10 (Total)				0.28000000	lb/hr	No
PM-2.5 (Total)				0.03000000	lb/hr	No
TSP				0.58000000	lb/hr	No

**New Jersey Department of Environmental Protection
Potential to Emit**

Subject Item: U1 Surf Coat Op

Operating Scenario: OS6

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
VOC (Total)				3.73000000	lb/hr	No

Subject Item: U1 Surf Coat Op

Operating Scenario: OS7

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
VOC (Total)				3.73000000	lb/hr	No

000000 E1 (Surface Coating Equipment (Non-Fabric Material))
Print Date: 10/16/2020

Make:	<input type="text" value="Global Finishing Solutions"/>	
Manufacturer:	<input type="text" value="Global Finishing Solutions"/>	
Model:	<input type="text" value="CP1052034"/>	
Method of Application:	<input type="text" value="Spray"/>	Spray Type: <input type="text" value="Electrostatic"/>
Description:	<input type="text"/>	
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application? <input type="radio"/> Yes <input checked="" type="radio"/> No
Comments:	<input type="text" value="Serial #: U50673A"/>	

000000 E2 (Surface Coating Equipment (Non-Fabric Material))
Print Date: 10/16/2020

Make:	<input type="text" value="Global Finishing Solutions"/>	
Manufacturer:	<input type="text" value="Global Finishing Solutions"/>	
Model:	<input type="text" value="CP152334"/>	
Method of Application:	<input type="text" value="Spray"/>	Spray Type: <input type="text" value="Electrostatic"/>
Description:	<input type="text"/>	
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application? <input type="radio"/> Yes <input checked="" type="radio"/> No
Comments:	<input type="text" value="Serial # U45470-C"/>	

000000 E3 (Surface Coating Dryer)
Print Date: 10/16/2020

Make:	<input type="text" value="Precision Quincy / Eclipse"/>
Manufacturer:	<input type="text" value="Precision Quincy / Eclipse"/>
Model:	<input type="text" value="Custom 1410"/>
Dryer Type:	<input type="text" value="Combustion"/>
Heating Method:	<input type="text" value="Open Flame"/>
Maximum Rated Gross Heat Input (MMBtu/hr):	<input type="text" value="3.50"/>
Maximum % Sulfur content in Fuel:	<input type="text"/>
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Comments:	<input type="text" value="Serial #: HD8G101610TPF"/>

000000 E4 (Surface Coating Dryer)
Print Date: 10/16/2020

Make:	<input type="text" value="Precision Quincy / Eclipse"/>
Manufacturer:	<input type="text" value="Precision Quincy / Eclipse"/>
Model:	<input type="text" value="Custon 1411"/>
Dryer Type:	<input type="text" value="Combustion"/>
Heating Method:	<input type="text" value="Open Flame"/>
Maximum Rated Gross Heat Input (MMBtu/hr):	<input type="text" value="1.50"/>
Maximum % Sulfur content in Fuel:	<input type="text"/>
Have you attached a diagram showing the location and/or the configuration of this equipment?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Comments:	<input type="text" value="Serial #: Conveyor"/>

000000 E5 (Other Equipment)
Print Date: 10/16/2020

Make:	BLAST-IT-ALL
Manufacturer:	BLAST-IT-ALL
Model:	
Equipment Type:	Dry blasting system and enclosure booth
Capacity:	819.40
Units:	lb/hr
Description:	

Have you attached a diagram showing the location and/or the configuration of this equipment?

Yes
 No

Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?

Yes
 No

Comments:

000000 CD1 (Particulate Filter (Cartridge))
Print Date: 10/16/2020

Make:	AAF International
Manufacturer:	AAF International
Model:	PA14GT-2020-100
Number of Cartridges:	1
Size of Cartridges (ft²):	2.77
Total Cartridge Area (ft²):	2.80
Maximum Design Temperature Capability (°F):	100.0
Maximum Design Air Flow Rate (acfm):	2,500.0
Maximum Air Flow Rate to Filter Area Ratio:	
Minimum Operating Pressure Drop (in. H2O):	0.01
Maximum Operating Pressure Drop (in. H2O):	1.00
Maximum Inlet Temperature (°F):	100.0
Maximum Operating Exhaust Gas Flow Rate (acfm):	2,500.0
Method for Determining When Cartridge Replacement is Required:	Filter is changed daily.

Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):

Alternative Method to Demonstrate Control Apparatus is Operating Properly:

Have you attached a Particle Size Distribution Analysis?

 Yes No

Have you attached data from recent performance testing?

 Yes No

Have you attached any manufacturer's data or specifications in support of the feasibility and/or effectiveness of this control apparatus?

 Yes No

Have you attached a diagram showing the location and/or configuration of this control apparatus?

 Yes No

Comments:

50405 Plastic Consulting _Mfg Co PCP000000 U1 OS1 (Surface Coating (NFM))
Print Date: 10/16/2020

Objects being Coated?	<input type="text" value="Metal, Glass, and/or Plastic Equipment"/>
Material of Objects being Coated?	<input type="text" value="Miscellaneous Metal Parts"/>
VOC Content in Coating as applied (after thinning) (lbs/gal):	<input type="text" value="3.50"/>
Density of Coating as applied (after thinning) (lbs/gal):	<input type="text" value="12.13"/>
Type of Coating Being Applied:	<input type="text" value="Liquid"/>
Maximum coating used (gal/hr):	<input type="text" value="0.60"/>
Maximum coating used (gal/day):	<input type="text"/>
Maximum coating used (gal/yr):	<input type="text" value="1,220.00"/>
% VOC in Coating Emitted During Process:	<input type="text" value="1.00"/>
% Overspray (Fraction of the solid component of the Coating Material that does not adhere to the object when the Coating is sprayed. Usually 10-15% for a Booth in good operating condition. About 20% for an old unit.)	<input type="text" value="15.00"/>
Maximum % Weight of VOC in Coating:	<input type="text" value="10.00"/>
Maximum % Weight of Solids in Coating:	<input type="text"/>
Maximum % Weight of Water in Coating:	<input type="text" value="90.00"/>
Maximum % Volume of VOC in Coating:	<input type="text"/>
Maximum % Volume of Solids in Coating:	<input type="text"/>
Maximum % Volume of Water in Coating:	<input type="text"/>
Operating Hours per Day:	<input type="text"/>
Operating Hours per Week:	<input type="text"/>
Have you Attached the MSDS for the Coating?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Comments:	<input type="text" value="PCM operated two spray coating booths (liquid) with a facility-wide annual coating usage of 1,220 gallons."/>

50405 Plastic Consulting_Mfg Co PCP000000 U1 OS1 (Efficiency Table - CD1)
Print Date: 10/16/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	99.00	99.00
PM-2.5	100.00	99.00	99.00
SO2			
TSP	100.00	99.00	99.00
VOC (Total)			

50405 Plastic Consulting _Mfg Co PCP000000 U1 OS2 (Surface Coating (NFM))
Print Date: 10/16/2020

Objects being Coated?	<input type="text" value="Metal, Glass, and/or Plastic Equipment"/>
Material of Objects being Coated?	<input type="text" value="Miscellaneous Metal Parts"/>
VOC Content in Coating as applied (after thinning) (lbs/gal):	<input type="text" value="3.50"/>
Density of Coating as applied (after thinning) (lbs/gal):	<input type="text" value="12.13"/>
Type of Coating Being Applied:	<input type="text" value="Liquid"/>
Maximum coating used (gal/hr):	<input type="text" value="0.60"/>
Maximum coating used (gal/day):	<input type="text"/>
Maximum coating used (gal/yr):	<input type="text" value="1,220.00"/>
% VOC in Coating Emitted During Process:	<input type="text" value="1.00"/>
% Overspray (Fraction of the solid component of the Coating Material that does not adhere to the object when the Coating is sprayed. Usually 10-15% for a Booth in good operating condition. About 20% for an old unit.)	<input type="text" value="15.00"/>
Maximum % Weight of VOC in Coating:	<input type="text" value="10.00"/>
Maximum % Weight of Solids in Coating:	<input type="text"/>
Maximum % Weight of Water in Coating:	<input type="text" value="90.00"/>
Maximum % Volume of VOC in Coating:	<input type="text"/>
Maximum % Volume of Solids in Coating:	<input type="text"/>
Maximum % Volume of Water in Coating:	<input type="text"/>
Operating Hours per Day:	<input type="text"/>
Operating Hours per Week:	<input type="text"/>
Have you Attached the MSDS for the Coating?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Comments:	<input type="text" value="PCM operated two spray coating booths (liquid) with a facility-wide annual coating usage of 1,220 gallons."/>

50405 Plastic Consulting _Mfg Co PCP000000 U1 OS3 (Dryer)
Print Date: 10/16/2020

Operation Temperature of
Dryer (°F):

% VOC in Coating Emitted
During Drying:

Comments:

50405 Plastic Consulting _Mfg Co PCP000000 U1 OS4 (Dryer)
Print Date: 10/16/2020

Operation Temperature of
Dryer (°F):

% VOC in Coating Emitted
During Drying:

Comments:

50405 Plastic Consulting Mfg Co PCP000000 U1 OS5 (Other Equipment)
Print Date: 10/16/2020

Volume of Gas Discharged
from this Source (acfm):

6,000.00

50405 Plastic Consulting_Mfg Co PCP000000 U1 OS5 (Efficiency Table - CD3)
Print Date: 10/16/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	97.40	97.40
PM-2.5	100.00	97.40	97.40
SO2			
TSP	100.00	97.40	97.40
VOC (Total)			

50405 Plastic Consulting _Mfg Co PCP000000 U1 OS6 (Surface Coating (NFM))
Print Date: 10/16/2020

Objects being Coated?	<input type="text" value="N/A"/>
Material of Objects being Coated?	<input type="text"/>
VOC Content in Coating as applied (after thinning) (lbs/gal):	<input type="text" value="7.46"/>
Density of Coating as applied (after thinning) (lbs/gal):	<input type="text" value="7.47"/>
Type of Coating Being Applied:	<input type="text" value="N/A"/>
Maximum coating used (gal/hr):	<input type="text" value="0.10"/>
Maximum coating used (gal/day):	<input type="text"/>
Maximum coating used (gal/yr):	<input type="text" value="5.00"/>
% VOC in Coating Emitted During Process:	<input type="text" value="99.90"/>
% Overspray (Fraction of the solid component of the Coating Material that does not adhere to the object when the Coating is sprayed. Usually 10-15% for a Booth in good operating condition. About 20% for an old unit.)	<input type="text"/>
Maximum % Weight of VOC in Coating:	<input type="text"/>
Maximum % Weight of Solids in Coating:	<input type="text"/>
Maximum % Weight of Water in Coating:	<input type="text"/>
Maximum % Volume of VOC in Coating:	<input type="text"/>
Maximum % Volume of Solids in Coating:	<input type="text"/>
Maximum % Volume of Water in Coating:	<input type="text"/>
Operating Hours per Day:	<input type="text"/>
Operating Hours per Week:	<input type="text"/>
Have you Attached the MSDS for the Coating?	<input type="radio"/> Yes <input checked="" type="radio"/> No

Comments:

50405 Plastic Consulting _Mfg Co PCP000000 U1 OS7 (Surface Coating (NFM))
Print Date: 10/16/2020

Objects being Coated?	<input type="text" value="N/A"/>
Material of Objects being Coated?	<input type="text"/>
VOC Content in Coating as applied (after thinning) (lbs/gal):	<input type="text" value="7.46"/>
Density of Coating as applied (after thinning) (lbs/gal):	<input type="text" value="7.47"/>
Type of Coating Being Applied:	<input type="text" value="N/A"/>
Maximum coating used (gal/hr):	<input type="text" value="0.10"/>
Maximum coating used (gal/day):	<input type="text"/>
Maximum coating used (gal/yr):	<input type="text" value="5.00"/>
% VOC in Coating Emitted During Process:	<input type="text" value="99.90"/>
% Overspray (Fraction of the solid component of the Coating Material that does not adhere to the object when the Coating is sprayed. Usually 10-15% for a Booth in good operating condition. About 20% for an old unit.)	<input type="text"/>
Maximum % Weight of VOC in Coating:	<input type="text"/>
Maximum % Weight of Solids in Coating:	<input type="text"/>
Maximum % Weight of Water in Coating:	<input type="text"/>
Maximum % Volume of VOC in Coating:	<input type="text"/>
Maximum % Volume of Solids in Coating:	<input type="text"/>
Maximum % Volume of Water in Coating:	<input type="text"/>
Operating Hours per Day:	<input type="text"/>
Operating Hours per Week:	<input type="text"/>
Have you Attached the MSDS for the Coating?	<input type="radio"/> Yes <input checked="" type="radio"/> No

Comments:

Table B-1
Equipment Details
Plastics Consulting & Manufacturing Co. - Camden, NJ

Curing Ovens	Permitted 16-1	Permitted Conveyor	PQ	4x4	24-1
Manufacturer	Precision Quincy / Eclipse	Precision Quincy / Eclipse	Various / Pollution Control	Gruneberg	Despatch
Model	Custom 1410	Custom 1411	IGG743	B120	Spec Gas Fired Batch Oven
Serial #	HD8G101610TPF	Conveyor	8587	4883	135827
Maximum Heat Input (Btu/hr)	3,500,000	1,500,000	800,000	N/A - Electric	500,000
Installation Date	~2002 (Rem. 2016)	~2002 (Rem. 2015)	~2002 (Rem. 2006/2010/2015)	Pre-1998	~2002

Spray Booths	Sm Powder	Sm Liquid	Lg Powder	Lg Liquid
Manufacturer	Nordson	JB1-Binks-Devilbiss (Global)	JB1-Binks-Devilbiss (Global)	JB1-Binks-Devilbiss (Global)
Model	Econocoat ECH	IFPX 5	CP152334	CP1052034
Serial #	4501209669-10	N/A	U45470	U50673A
Installation date	2015	April 2001 (Rem Jan 15)	~2002 (Rem 2014)	~2001 (Rem 2014)

Blasting Booth	
Manufacturer	Blast-It-All
Model	10'W x 12'L x 10'H Blast Enclosure
Serial #	N/A
Installation date	Proposed 1Q2021

Table B-2B
 PM Emissions from the Liquid Spray Coating Booths
 Plastics Consulting & Manufacturing Co. - Camden, NJ

Potential Emissions - Particulate Matter (PM)					
Annual Coating Usage (gal/yr)^(a)	Solids Content, Any Surface Coating (lb/gal)^(b)	PM/PM₁₀/PM_{2.5} Emissions, Uncontrolled (lb/hr)^{(c), (d)}	PM/PM₁₀/PM_{2.5} Emissions, Uncontrolled (ton/yr)^(e)	PM/PM₁₀/PM_{2.5} Emissions, Controlled (lb/hr)^(f)	PM/PM₁₀/PM_{2.5} Emissions, Controlled (ton/yr)^(f)
1,220.00	9.8	0.74	0.46	0.04	0.02

^(a) Maximum annual coating throughput based on historical operational data (i.e., 2019 actual gallons used) multiplied by a safety factor of 2.5.

^(b) Based on PCM's current coating materials, solids content of any surface coating formulation is assumed to be 4.9 lb/gal with a safety factor of 2 applied. This allows for flexibility with obtaining, testing, and using coatings at the facility, as needed.

^(c) Spray gun rate is based on capacity of spray guns of one-half gallon per hour.

^(d) The transfer efficiency of the spray guns is at least 85%, with a maximum overspray of 15%.

^(e) Annual emissions (ton/yr) based on spray rate of one-half gallon per hour, 5 hr/day coating operation, 5 day/week, 50 weeks/yr.

^(f) Hourly and annual controlled emissions (ton/yr) assume filter control efficiency of 95%.

Assumptions	
Assume PM=PM ₁₀ =PM _{2.5}	
Spray rate:	0.5 gal/hr
Hours of operation:	1,250 hr/yr
Transfer Efficiency:	85%
Filter Control Efficiency:	95%

Table B-3
Coating Characteristics
Plastics Consulting & Manufacturing Co. - Camden, NJ

Coating Product No.	Coating Description	Coating Category	Relative Density	Density (lb/gal)	Coating VOC (as packaged) (g/L)	Coating VOC (as packaged) (lb/gal)	Solids Content (lb/gal)
856G-204 TOPCOAT GREEN	Chemours 856G-204 Topcoat Green	Topcoat	1.37	11.42	100.06	0.84	N/A
D13454869	Chemours 699N-129 Primer Black	Primer	1.13	9.44	80.05	0.67	0.94
D14567374	Chemours 850G-204 One Coat Green	One Coat	1.39	11.63	19.17	0.16	2.91
D14565378	Chemours 850G-314 Primer Green	Primer	1.45	12.13	26.84	0.22	2.43
D14592159	Chemours 855G-021 Primer Blue	Primer	1.14	9.51	110.96	0.93	1.43
856G-410 TOPCOAT CLEAR	Chemours 856G-410 Topcoat Clear	Topcoat	1.32	11.00	10.31	0.09	N/A
Chemours 857G-100 PRIMER BLACK	Chemours 857G-100 Primer Black	Primer	1.16	9.66	105.33	0.88	0.97
D15071939	Chemours 857G-508 One Coat Red	One Coat	1.16	9.70	120.07	1.00	2.91
TN-8595	Chemours TN8595 Thinner	Thinner	0.90	7.47	893.69	7.46	N/A
D11393	Xylan 1756/D11393 Gluten Free Purple Midcoat	Midcoat	1.40	11.68	141.6	1.18	4.92

Table B-4
HAP Emissions from the Painting Area
Plastics Consulting & Manufacturing Co. - Camden, NJ

Chemours 856G-204 Topcoat Green	% by weight	Density HAP (lb/gal)	Reporting Threshold (lb/yr)	HAP Emissions (lb/yr)
				PTE
Xylene	7.5%	0.86	2,000	266.69

Xylan 1756/D11393 Gluten Free Purple Midcoat	% by weight	Density (lb/gal)	Reporting Threshold (lb/yr)	HAP Emissions (lb/yr)
				PTE
Ethylene glycol	7.5%	0.88	2,000	85.44

Chemours 857G-508 One Coat Red	% by weight	Density (lb/gal)	Reporting Threshold (lb/yr)	HAP Emissions (lb/yr)
				PTE
2-Dimethylaminoethanol	3%	0.291	1,000	38.40
2-(2-Butoxyethoxy)ethanol	3%	0.291	1,000	38.40
2-Butoxyethanol (EGBE)	3%	0.291	1,000	38.40
Formaldehyde	0.15%	0.015	3.5	1.92
Phenol	0.55%	0.053	200	7.04

Chemours 699N-129 Primer Black	% by weight	Density (lb/gal)	Reporting Threshold (lb/yr)	HAP Emissions (lb/yr)
				PTE
Triethylamine	0.6%	0.052	325	2.41

Chemours 850G-204 One Coat Green	% by weight	Density (lb/gal)	Reporting Threshold (lb/yr)	HAP Emissions (lb/yr)
				PTE
Chromium Oxide	7.5%	0.87246975	1,000	228.37
Chromic Acid	7.5%	0.87246975	1,000	228.37

Chemours 857G-100 Primer Black	% by weight	Density (lb/gal)	Reporting Threshold (lb/yr)	HAP Emissions (lb/yr)
				PTE
N/A	N/A	N/A	N/A	N/A

Chemours 850G-314 Primer Green	% by weight	Density (lb/gal)	Reporting Threshold (lb/yr)	HAP Emissions (lb/yr)
				PTE
Chromium Oxide	7.5%	0.909	1,000	181.15

Chemours 856G-410 Topcoat Clear	% by weight	Density (lb/gal)	Reporting Threshold (lb/yr)	HAP Emissions (lb/yr)
				PTE
N/A	N/A	N/A	N/A	N/A

Chemours 855G-021 Primer Blue	% by weight	Density (lb/gal)	Reporting Threshold (lb/yr)	HAP Emissions (lb/yr)
				PTE
Triethylamine	0.6%	0.052	325	0.78

Chemours TN8595 Thinner	% by weight	Density (lb/gal)	Reporting Threshold (lb/yr)	HAP Emissions (lb/yr)
				PTE
4-Methylpentan-2-one (MIBK)	55%	4.109	2,000	20.54

(a) HAP contents were obtained from Safety Data Sheets.

HAP Compound	Reporting Threshold (lb/yr)	Facility-Wide HAP Emissions (lb/yr)
		PTE
Xylene	2000	266.69
4-Methylpentan-2-one (MIBK)	2000	20.54
Triethylamine	325	3.20
Chromium Oxide	1000	409.52
Chromic Acid	1000	228.37
Phenol	200	7.04
Formaldehyde	3.5	1.92
2-Dimethylaminoethanol	1000	38.40
2-(2-Butoxyethoxy)ethanol	1000	38.40
2-Butoxyethanol (EGBE)	1000	38.40
Ethylene glycol	2000	85.44

(a) HAP contents were obtained from Safety Data Sheets.

(b) Reporting thresholds are based on N.J.A.C. 7:27-17.9 Table 2.

Table B-5
Emissions from the Drying Ovens
Plastics Consulting & Manufacturing Co. - Camden, NJ

Date	Facility Gas Usage	VOC ^(a)	NO _x ^(b)
	(therms) ^{(c),(d)}	(tons/yr)	(tons/yr)
PTE	160,000	0.043	0.774

^(a) Emissions factor for VOC obtained from U.S. EPA's AP-42 Chapter 1 - External Combustion Sources, Chapter 4 - Natural Gas Combustion, Table 1.

^(b) Emissions factor for NO_x obtained from U.S. EPA's AP-42 Chapter 1 - External Combustion Sources, Chapter 4 - Natural Gas Combustion, Table 2.

^(c) Maximum annual natural gas throughput based on historical operational data, with conservative safety factor of 2.5 times average consumption.

^(d) Value represents maximum annual natural gas throughput for "16-1 Oven" and "Conveyor Oven" combined.

Emissions Factors - Criteria Pollutants			
NO _x	100.00	lb/MMscf	AP-42 Table 1.4-1
VOC	5.50	lb/MMscf	AP-42 Table 1.4-2

Conversion factors:	2,000	lb/ton
	96.7	cf/therm
	1,000,000	cf/MMcf
	1,020	BTU/cf

Oven	16-1	Conveyor
Heat Input (BTU/hr)	3,500,000	1,500,000
VOC Emissions (lb/hr)	0.019	0.008
NO _x Emissions (lb/hr)	0.343	0.147
VOC Emissions (ton/yr)	0.030	0.013
NO _x Emissions (ton/yr)	0.542	0.232

Table B-6
Particulate Emissions for Abrasive Blasting
Plastics Consulting & Manufacturing Co. - Camden, NJ

Pollutant	Emissions Factor ^(a) (lb/1,000 lb abrasive)	Uncontrolled Emissions (lb/hr)	Controlled Emissions ^(b) (lb/hr)	Controlled Emissions ^(c) (tons/yr)
Total PM ^(d)	27	22.1	0.58	0.58
PM ₁₀	13	10.7	0.28	0.28
PM _{2.5}	1.3	1.1	0.03	0.03

^(a) Emissions factors were obtained from U.S. EPA AP-42 Chapter 13.2.6, Table 13.2.6-1.

^(b) Control efficiency is based on U.S. EPA AP-42 Chapter 13.2.6, Background Document, Section 4.1, References 3 and 4.

^(c) Annual emissions based on 2,000 operating hours per year.

^(d) Total PM emission factor based on wind speed of 5 MPH due to blasting operations occurring indoors (Table 13.2.6-1).

Control Efficiency ^(b)	97%
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Mass Flow Rate of Abrasive (m _a) ^(e)	(lb/hr)	819.4
Mass Flow Rate of Sand (m _s) ^(f)	(lb/hr)	507
Actual Nozzle Diameter (D _a)	(in)	0.3125
AP-42 Nozzle Diameter (D _s) ^(f)	(in)	0.3125
Density of Sand (ρ _s) ^(g)	(lb/ft ³)	99
Density of Aluminum oxides (ρ _a) ^(g)	(lb/ft ³)	160
Nozzle Pressure	(psig)	100

^(e) Mass flow rate of abrasive was calculated using U.S. EPA AP-42 Chapter 13.2.6, Background Document, Equation 2-1.

^(f) Obtained from U.S. EPA AP-42 Chapter 13.2.6, Background Document, Table 2-2.

^(g) Obtained from U.S. EPA AP-42 Chapter 13.2.6, Background Document, Table 2-3.

$$\dot{m}_a = \dot{m}_s \times \frac{(D_a)^2}{(D_s)^2} \times \frac{\rho_a}{\rho_s} \quad (2-1)$$

where:

- \dot{m}_a = mass flow rate (lb/hr) of abrasive with nozzle internal diameter D_a
- \dot{m}_s = mass flow rate (lb/hr) of sand with nozzle internal diameter D_s from Table 2-2
- D_a = actual nozzle internal diameter (in.)
- D_s = nozzle internal diameter (in.) from Table 2-2
- ρ_s = bulk density of sand (lb/ft³)
- ρ_a = bulk density of abrasive (lb/ft³)

Nozzle Diameter (in)	Sand flow rate through nozzle (lb/hr)							
	Nozzle Pressure (psig)							
5/16	30	40	50	60	70	80	90	100
	205	247	292	354	377	420	462	507

^(h) Excerpt from U.S. AP-42 Chapter 13.2.6, Background Document, Table 2-2.

Table B-7
 Summary of Emissions
 Plastics Consulting & Manufacturing Co. - Camden, NJ

Emissions Unit	PTE (ton/year)				
	PM	PM ₁₀	PM _{2.5}	NO _x	VOC
OS1 - Small Liquid Spray Coating Booth	0.02	0.02	0.02	--	1.07
OS2 - Large Liquid Spray Coating Booth				--	1.07
OS3 - 16-1 Curing Oven	--	--	--	0.54	0.03
OS4 - Conveyor Drying Oven	--	--	--	0.23	0.01
OS5 - Blasting Booth	0.58	0.28	0.03	--	--
OS6 - Sm. Liquid Spray Booth Gun Cleaning	--	--	--	--	0.12
OS7 - Lg. Liquid Spray Booth Gun Cleaning	--	--	--	--	0.12
Total Emissions	0.60	0.30	0.05	0.77	2.41