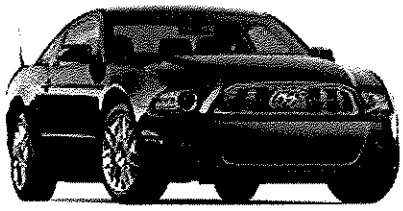
Ford Flat Rock Assembly Plant
Flat Rock, Michigan



Environmental Testing Program – Week of October 28, 2013

Transfer Efficiency
Booth Capture Efficiency
Oven Capture Efficiency

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1.0 Executive Summary

JLB Industries, LLC completed a compliance environmental testing program during the week of October 28, 2013 at the Ford Flat Rock Assembly Plant (FRAP) in Flat Rock, Michigan. The testing program included Transfer Efficiency (TE) and Capture Efficiency (CE) testing of the booth and ovens. Determination of TE and CE were conducted in accordance with all applicable procedures contained in USEPA document *Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations* and with 40 CFR Chapter 1, Appendix A to Subpart IIII of Part 63. The test results will be used to demonstrate compliance with Auto MACT requirements and in monthly emissions compliance calculations.

Transfer Efficiency values were derived using the Ford Mustang and Fusion vehicles, which currently accounts for the majority of production volumes. Personnel from the paint shop, Ford environmental staff and JLB Industries, LLC conducted the testing. These groups worked together at each stage of testing to ensure that the results were representative of production conditions.

JLB Industries used highly accurate weighing systems to determine the vehicle and panel weights before and after coating application. Calibrated volumetric flow meters, located on each applicator, were used to measure paint usage.

Material samples were collected from the paint circulation tanks directly after vehicle spray out. Determination of percent solids by weight and density was performed by Advanced Technologies of Michigan laboratories located in Livonia, Michigan.

Table 1 – Testing Results Summary

Tested Coating	Booth	Solids Transfer Efficiency (%)	Booth Capture Efficiency (%)	Oven Capture Efficiency (%)
Gray Prime	3-Wet #1		81.8%	10.4%
	3-Wet #2		81.8%	N/A
	Average		**81.8%**	**10.4%**
Black Basecoat	3-Wet #1		82.0%	N/A
	3-Wet #2		83.1%	10.0%
	Average		**82.5%**	**10.0%**
Clearcoat	3-Wet #1		39.4%	42.1%
	3-Wet #2		38.5%	42.8%
	Average		**38.9%**	**42.4%**
Fusion 3-Wet System (Prime, BC and CC)	3-Wet #2	**73.7%**		
Mustang 3-Wet System (Prime, BC and CC)	3-Wet #2	**77.1%**		

2.0 Introduction

JLB Industries, LLC (JLBI) was contracted by Ford Flat Rock Assembly Plant (FRAP) to perform Transfer Efficiency (TE) and Capture Efficiency (CE) testing program on the 3-Wet paint systems at the FRAP Assembly Plant in Flat Rock, Michigan. This testing was conducted using the Ford Mustang and Fusion models during the week of October 28, 2013.

3.0 Sampling and Analytical Procedures

Transfer Efficiency Test

Transfer Efficiency testing was conducted in the 3-Wet Spraybooth #2, where Gray Prime, Black Metallic Basecoat and Clearcoat coatings were applied. Applicator and environmental conditions were monitored to ensure that the testing accurately reflected production conditions. Measured parameters included: Vehicle weight gain, material usage, material analysis (percent solids by weight and density), applicator settings, film build and oven heat settings.

A total of eight vehicle bodies were used in testing. Three Mustangs and three Fusions were processed as normal production vehicles, while two vehicles were dedicated as no-paint, control vehicles in conjunction with each test. All units were production vehicles with electrocoat and sealer.

An off-line vehicle weigh station (VWS) was constructed to measure the weight of the test units before and after each painting process. Test vehicles were routed off-line and pushed into the VWS. A fixed stop was secured to assure repeatable positioning of the vehicles. Test vehicles were lifted free from their carriers by two lift-table mounted scale bases. Ultra-high molecular weight (UHMW) plastic blocks were strategically placed on the scale bases to lift the vehicle at the center of gravity locations. The UHMW blocks minimized friction loading on vehicles and scale bases.

Vehicle weights were measured several times and recorded. All test vehicles were weighed with production fixtures (door hooks and hood props) installed. The vehicle weigh station scales were calibrated using Class-F calibration weights conforming to the National Bureau of Standards handbook 105-1. A two-pound avoirdupois, Class F stainless steel weight was added periodically during pre- and post-process weighing to verify scale linearity.

Coating thickness was measured on each test vehicle to verify paint film-build was within the production specification. The data was taken with a handheld Elcometer gauge.

Coating material usage was monitored via volumetric flow measurement devices located on each applicator. A calibration/verification of each applicator was performed by FRAP personnel to ensure accurate usage measurement. Material samples of applied coatings were collected from the respective systems directly after testing. Samples were sent to Advanced Technologies of Michigan laboratories for analysis to determine density by

ASTM D1475 and weight solids content by ASTM D2369 (referenced in EPA Method 24). The laboratory results were used in calculating the Transfer Efficiency and Capture Efficiency values.

Production vehicles with paint shop sealer were prepared with e-coat and processed through the 3-Wet Spraybooth #2. A gap was placed before and after the test vehicles to prevent overspray. The test sequence for the Transfer Efficiency test was:

Fusion 3-Wet – Gray Prime, Tuxedo Black Basecoat and Clearcoat

1. Test Unit ID 1941
2. Test Unit ID 1989
3. Test Unit ID 2035

Mustang 3-Wet – Gray Prime, Ebony Basecoat and Clearcoat

1. Test Unit ID 2778
2. Test Unit ID 2859
3. Test Unit ID 2955

No-Paint Control Vehicles

1. Test Unit ID 3372 (No-paint)
2. Test Unit ID 3513 (No-paint)

Capture Efficiency Tests

A panel weigh station (PWS) was assembled between the 3-Wet Spraybooths, near the exit of the controlled basecoat spray zones. Weighing locations were chosen based on the controlled zone locations as outlined below in *Diagram 1 – Panel Testing Diagram*. A precision balance with measurement capability to 0.001 gram was placed on an isolation platform inside an enclosure to minimize vibration and air movement. Four test runs were performed:

1. 3-Wet #1 Prime Booth Capture Efficiency
2. 3-Wet #2 Prime Booth Capture Efficiency
3. 3-Wet #1 Basecoat Booth Capture Efficiency
4. 3-Wet #2 Basecoat Booth Capture Efficiency

The panel weigh station (PWS) was moved to the oven entrance to perform additional testing. Four test runs were performed:

1. 3-Wet #1 Clearcoat Booth and Oven Capture Efficiency
2. 3-Wet #2 Clearcoat Booth and Oven Capture Efficiency
3. 3-Wet #1 Prime Oven Capture Efficiency
4. 3-Wet #2 Basecoat Oven Capture Efficiency

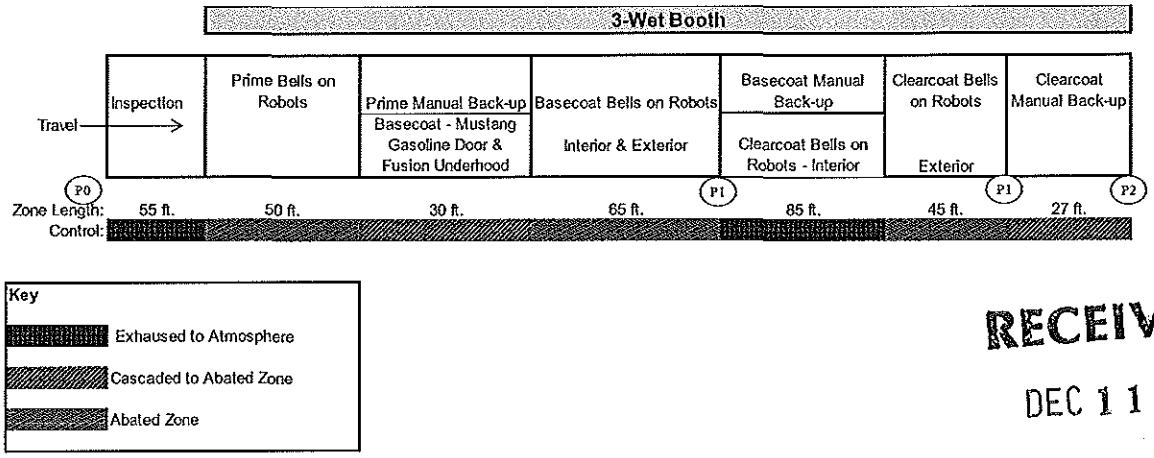
The testing conformed to the methods described in ASTM 5087-02 for solvent borne coatings. Capture Efficiency values for the controlled oven and spraybooth zones were calculated using the procedures outlined in the 40 CFR, Part 63. All test panels were placed on Ford Fusion model vehicles and processed with normal production spray programming.

Four electrocoated panels were used for each of the tests. Each group of test panels was weighed in three locations (see panel test diagram) to determine the relative distribution of VOC that is released in the controlled spray zones and bake oven. The panels were attached to test vehicles by magnet, which allowed for removal of the wet panels with minimal disturbance to the coating during handling. Panel mounting locations were chosen to achieve a representative coating film based on the observation of normal vehicle production:

1. Front Door (vertical)
2. Roof (horizontal)
3. Rear Door (vertical)
4. Deck Lid (horizontal)

Before the panels were coated, they were marked (1, 2, 3, 4, blank) and weighed to establish the initial unpainted panel weights (P0). The panels were then attached to a test vehicle and routed through the Spraybooth. For Booth Capture tests, panels were carefully removed from the test vehicle and brought to the balance for weighing after coating, upon exiting the controlled spraybooth zone (P1). For Oven Capture tests, panels were weighed immediately before entering the bake oven (P2). In all tests, panels were then placed on the test vehicle for travel through the curing oven. Upon exiting the oven, the panels were allowed to cool and then weighed a final time (P3).

Diagram 1 – Panel Testing Diagram



4.0 Test Equipment and Calibration

Vehicle Weigh Station (VWS)

A dedicated vehicle weigh station (VWS) equipped with two 1,000 lb. capacity scale bases was used to obtain pre- and post-process vehicle weights. The VWS is accurate to better than 0.05 pounds.

The scales were calibrated as directed by the operating instruction manual. Scales were powered up and exercised by placing 300 pounds of Class F calibration weights on each

scale platform. Then, the VWS was calibrated with 600 pounds of Class F calibration weights. VWS linearity was checked using a two-pound, Class F stainless steel calibration weight. The two-pound weight was also added to each test vehicle during pre- and post-process weighing to verify scale linearity.

Material Usage

Coating material usage was monitored via volumetric flow measurement devices located on each applicator. A calibration/verification of each applicator was performed by FRAP paint personnel before testing to ensure accurate usage data. Paint usage was measured at each applicator in a graduated cylinder and compared to the expected volume. Verification data is included in section 7 of this report.

A sample of each material was taken after each test and analyzed by Advanced Technologies of Michigan. These values were used in calculating the paint solids sprayed and the transfer efficiency for each type of calculation. ASTM Method D-2369 was used to determine paint solids. ASTM Method D-1475 was used to determine paint density.

Panel Weigh Station

A panel weigh station (PWS) with measurement capability to 0.001 gram was used to measure panel weights. The balance was warmed up and then calibrated with a 300 gram test weight. The balance was tested with 300, 50, 10 and 1 gram weights before commencing weighing operations. A blank panel weight was measured at the beginning of the testing program and again at the time of each subsequent panel weight measurement. The balance was placed on an isolation platform and inside an enclosure to minimize vibration and airflow at the measurement point.

5.0 Discussion of Test Results

There were no significant disruptions to the testing program. Control vehicles demonstrated a weight loss due to sealer bake out in the curing oven. This weight loss was used to adjust the test vehicle weight gains. Several basecoat applicators displayed a usage value including the load volume due to color change. This load value was removed from the paint usage calculations to reflect the actual material volume sprayed.

6.0 Summary of Results

Table 2 - Fusion Transfer Efficiency Calculation Summary
Ford FRAP, October 2013
3-Wet Booth 2

Vehicle ID	Vehicle Weight Gain (lb.)	Prime Sprayed (gal)	Basecoat Sprayed (gal)	Clearcoat Sprayed (gal)
Variable:	VWG	PPS	BCPS	CCPS
Calculation:	(W2-W1)			
1941	3.65	0.193	0.611	0.439
1989	3.66	0.193	0.594	0.439
2035	3.50	0.193	0.567	0.439
Total:	10.82	0.580	1.772	1.318
BVWG:	**11.46**	BVWG=(sumVWG-SWL)		

Material	Batch Paint Sprayed (gal)	Coating Density (lb/gal)	Weight Solids Fraction	Batch Solids Sprayed (lb.)	Transfer Efficiency (%)
Variable:	BPS	CD	WSF	BSS	TE
Calculation:	(sum PS)	(Method 24)	(Method 24)	(BPS*CD*WSF)	(BVWG/BSS)
Prime	0.580	9.92	0.5726	3.30	
Basecoat	1.772	7.84	0.4062	5.64	
Clearcoat	1.318	8.58	0.5839	6.60	
				15.54	**73.7%**

Control Vehicle Sealer Weight Loss

Vehicle ID	Vehicle Weight Gain (lb.)
Variable:	SWL
Calculation:	(W2-W1)
3372	-0.23
3513	-0.19
Average	-0.21
Batch SWL:	-0.63

*Corrected for three vehicles in test batch.

Table 3 - Mustang Transfer Efficiency Calculation Summary
Ford FRAP, October 2013
3-Wet Booth 2

Vehicle ID	Vehicle Weight Gain (lb.)	Prime Sprayed (gal)	Basecoat Sprayed (gal)	Clearcoat Sprayed (gal)
Variable:	VWG	PPS	BCPS	CCPS
Calculation:	(W2-W1)			
2778	3.57	0.193	0.611	0.439
2859	3.76	0.193	0.594	0.439
2955	3.61	0.193	0.567	0.439
Total:	10.95	0.580	1.772	1.318
BVWG:	**11.58**	BVWG=(sumVWG-SWL)		

Material	Batch Paint Sprayed (gal)	Coating Density (lb/gal)	Weight Solids Fraction	Batch Solids Sprayed (lb.)	Transfer Efficiency (%)
Variable:	BPS	CD	WSF	BSS	TE
Calculation:	(sum PS)	(Method 24)	(Method 24)	(BPS*CD*WSF)	(BVWG/BSS)
Prime	0.576	9.93	0.5769	3.30	
Basecoat	1.620	7.96	0.4374	5.64	
Clearcoat	1.215	8.58	0.5829	6.08	
				15.02	**77.1%**

Control Vehicle Sealer Weight Loss

Vehicle ID	Vehicle Weight Gain (lb.)
Variable:	SWL
Calculation:	(W2-W1)
3372	-0.23
3513	-0.19
Average	-0.21
Batch SWL:	-0.63

*Corrected for three vehicles in test batch.

Table 4 -- Prime Booth VOC Capture Efficiency
Ford FRAP
October 2013
Booth 1

Sample	Blank Panel Weights (g)	Wet Panel Weights - Control Zone Exit	Panel Weights - after bake (g)	Weight of Coating Solids Deposited (g)	Weight of VOC remaining after zone (g)	Weight of VOC remaining per Weight Solids Deposited (g)	Mass Fraction Solids	Mass Fraction VOC in Coating	VOC fraction remaining on Panel after Zone	Section Capture Efficiency (%)
Variable	P0	P1	P3	W_{sdep}	W_{rem}	P_m	W_s	W_{VOC}	P_{VOC}	CE
Formula				P2-P0	P1-P2	W_{rem}/W_{sdep}			$(P_m)(W_s)/(W_{VOC})$	$1-P_{VOC}$
P1	187.041	188.555	188.373	1.332	0.182	0.137				
P2	187.126	188.119	188.016	0.890	0.103	0.116				
P3	187.324	188.716	188.542	1.218	0.174	0.143				
P4	187.999	189.455	189.269	1.270	0.186	0.146				
Average	187.373	188.711	188.550	1.178	0.161	0.137	0.5702	0.4298	0.182	**81.8%**

Table 5 -- Prime Booth VOC Capture Efficiency
Ford FRAP
October 2013
Booth 2

Sample	Blank Panel Weights (g)	Wet Panel Weights - Control Zone Exit	Panel Weights - after bake (g)	Weight of Coating Solids Deposited (g)	Weight of VOC remaining after zone (g)	Weight of VOC remaining per Weight Solids Deposited (g)	Mass Fraction Solids	Mass Fraction VOC in Coating	VOC fraction remaining on Panel after Zone	Section Capture Efficiency (%)
Variable	P0	P1	P3	W_{sdep}	W_{rem}	P_m	W_s	W_{VOC}	P_{VOC}	CE
Formula				P2-P0	P1-P2	W_{rem}/W_{sdep}			$(P_m)(W_s)/(W_{VOC})$	$1-P_{VOC}$
P1	188.168	189.513	189.348	1.180	0.165	0.140				
P2	187.383	188.294	188.193	0.810	0.101	0.125				
P3	187.593	188.858	188.710	1.117	0.148	0.132				
P4	187.357	188.774	188.591	1.234	0.183	0.148				
Average	187.625	188.860	188.711	1.085	0.149	0.138	0.5702	0.4298	0.182	**81.8%**

Table 6 -- Basecoat Booth VOC Capture Efficiency
Ford FRAP
October 2013
Booth 1

Sample	Blank Panel Weights (g)	Wet Panel Weights - Control Zone Exit	Panel Weights - after bake (g)	Weight of Coating Solids Deposited (g)	Weight of VOC remaining after zone (g)	Weight of VOC remaining per Weight Solids Deposited (g)	Mass Fraction Solids	Mass Fraction VOC in Coating	VOC fraction remaining on Panel after Zone	Booth Capture Efficiency (%)
Variable	P0	P1	P3	W_{sdep}	W_{rem}	P_m	W_s	W_{VOC}	P_{VOC}	CE
Formula				P2-P0	P1-P2	W_{rem}/W_{sdep}			$(P_m)(W_s)/(W_{VOC})$	$1-P_{VOC}$
B1	186.743	187.651	187.471	0.728	0.180	0.247				
B2	186.730	187.738	187.530	0.800	0.208	0.260				
B3	188.791	189.631	189.463	0.672	0.168	0.250				
B4	188.157	188.967	188.800	0.643	0.167	0.260				
Average	187.605	188.497	188.316	0.711	0.181	0.254	0.4147	0.5853	0.180	**82.0%**

Table 7 -- Basecoat Booth VOC Capture Efficiency
Ford FRAP
October 2013
Booth 2

Sample	Blank Panel Weights (g)	Wet Panel Weights - Control Zone Exit	Panel Weights - after bake (g)	Weight of Coating Solids Deposited (g)	Weight of VOC remaining after zone (g)	Weight of VOC remaining per Weight Solids Deposited (g)	Mass Fraction Solids	Mass Fraction VOC in Coating	VOC fraction remaining on Panel after Zone	Booth Capture Efficiency (%)
Variable	P0	P1	P3	W_{sdep}	W_{rem}	P_m	W_s	W_{VOC}	P_{VOC}	CE
Formula				P2-P0	P1-P2	W_{rem}/W_{sdep}			$(P_m)(W_s)/(W_{VOC})$	$1-P_{VOC}$
B1	187.110	187.992	187.823	0.713	0.169	0.237				
B2	187.457	188.645	188.391	0.934	0.254	0.272				
B3	187.452	188.316	188.150	0.698	0.166	0.238				
B4	188.408	189.257	189.116	0.708	0.141	0.199				
Average	187.607	188.553	188.370	0.763	0.183	0.239	0.4147	0.5853	0.169	**83.1%**

Table 8 -- Clearcoat Booth VOC Capture Efficiency
Ford FRAP
October 2013
Booth 1

Sample	Blank Panel Weights (g)	Wet Panel Weights - Control Zone Exit (g)	Panel Weights - after bake (g)	Weight of Coating Solids Deposited (g)	Weight of VOC remaining after zone (g)	Weight of VOC remaining per Weight Solids Deposited (g)	Mass Fraction Solids	Mass Fraction VOC in Coating	VOC fraction remaining on Panel after Zone	Section Capture Efficiency (%)
Variable	P0	P1	P3	W_{sdep}	W_{rem}	P_m	W_s	W_{VOC}	P_{VOC}	CE
Formula				P2-P0	P1-P2	W_{rem}/W_{sdep}			$(P_m)(W_s)/(W_{VOC})$	$1-P_{VOC}$
C1	187.332	189.119	188.622	1.290	0.497	0.385				
C2	186.950	189.065	188.445	1.495	0.620	0.415				
C3	187.200	189.057	188.554	1.354	0.503	0.371				
C4	188.051	190.491	189.753	1.702	0.738	0.434				
Average	187.383	189.433	188.844	1.460	0.589	0.404	0.5857	0.4143	0.571	42.9%

Paint Usage Data

Process	Applicator	Paint Sprayed (cc) Uncontrolled	Controlled
Clearcoat Interior	R1-Int	64	
	R2-Int	74	
Clearcoat Exterior	R1		186
	R2		187
	R3		207
	R4		208
	R5		189
	R6		189
	R7		172
	R8		187
	Total	138	1525
	Ratio	0.083	0.917

Note: Clearcoat Booth Capture Efficiency is a section capture efficiency as only the exterior application is controlled.
Booth CE is Controlled Section CE (42.9%) * The ratio of coating sprayed in the controlled section (.917) = CC Booth CE (39.4%)

Clearcoat Booth CE: 39.4%

Table 9 -- Clearcoat Booth VOC Capture Efficiency
Ford FRAP
October 2013
Booth 2

Sample	Blank Panel Weights (g)	Wet Panel Weights - Control Zone Exit (g)	Panel Weights - after bake (g)	Weight of Coating Solids Deposited (g)	Weight of VOC remaining after zone (g)	Weight of VOC remaining per Weight Solids Deposited (g)	Mass Fraction Solids	Mass Fraction VOC in Coating	VOC fraction remaining on Panel after Zone	Section Capture Efficiency (%)
Variable	P0	P1	P3	W_{sdep}	W_{rem}	P_m	W_s	W_{VOC}	P_{VOC}	CE
Formula				P2-P0	P1-P2	W_{rem}/W_{sdep}			$(P_m)(W_s)/(W_{VOC})$	$1-P_{VOC}$
C1	187.698	189.522	189.011	1.313	0.511	0.389				
C2	187.394	189.622	188.957	1.563	0.665	0.425				
C3	187.401	189.175	188.689	1.288	0.486	0.377				
C4	187.523	190.079	189.302	1.779	0.777	0.437				
Average	187.504	189.600	188.990	1.486	0.610	0.410	0.5857	0.4143	0.580	42.0%

Paint Usage Data

Process	Applicator	Paint Sprayed (cc) Uncontrolled	Controlled
Clearcoat Interior	R1-Int	64	
	R2-Int	74	
Clearcoat Exterior	R1		186
	R2		187
	R3		207
	R4		208
	R5		189
	R6		189
	R7		172
	R8		187
	Total	138	1525
	Ratio	0.083	0.917

Note: Clearcoat Booth Capture Efficiency is a section capture efficiency as only the exterior application is controlled.
Booth CE is Controlled Section CE (42.0%) * The ratio of coating sprayed in the controlled section (.917) = CC Booth CE (38.5%)

Clearcoat Booth CE: 38.5%

Table 10 – Prime Oven VOC Capture Efficiency
Ford FRAP
October 2013

Oven Solvent Loading Booth 1

Sample	Blank Panel Weights (g)	Wet Panel Weights - Before Bake (g)	Panel Weights - after bake (g)	Weight of Coating Solids Deposited (g)	Weight of VOC available for abatement (g)	Weight of VOC available per volume of coating solids (lb/gal)
Variable	P0	P2	P3	W_{cos}	W_a	CL
Formula				P2-P0	P1-P2	$(W_a/W_{cos})*D_{cos}$
P1	188.689	189.855	189.745	1.056	0.110	1.22
P2	187.210	188.054	187.984	0.774	0.070	1.06
P3	187.816	188.907	188.801	0.985	0.106	1.26
P4	188.082	189.329	189.197	1.115	0.132	1.39
Average	187.949	189.036	188.932	0.982	0.105	**1.25**

Material Properties

Sample	Coating Density (lb/gal)	Mass Fraction Solids	Volume Fraction Solids	Average Film Build Thickness (mil)	VOC mass fraction	Solids Density (lb/gal)
Variable	W_c	W_s	V_s	mil	W_{voc}	D_{cos}
Formula						(Ws*Wc)/Vs
Gray Prime	9.93	0.5702	0.4833	1.38	0.4298	11.72

Capture Efficiency

Mass Fraction VOC in Coating	Coating Density (lb/gal)	Mass VOC per Volume Coating (lb/gal)	Transfer Efficiency (%)	Volume Fraction Solids	Volume Solids Deposited per Volume Coating Sprayed	Panel Test Result (lb VOC/gal Solids)	Oven VOC Capture Efficiency (%)
W_{voc}	D_c	VOC	TE	V_s	V_{sdep}	P	CE
		(Dc)(Wvoc)			$(V_s)(TE)$		$(P)(V_{sdep})(100)/(VOC)$
0.4298	9.93	4.268	73.7%	0.4833	0.356	1.25	**10.4%**

Table 11 – Basecoat Oven VOC Capture Efficiency
Ford FRAP
October 2013

Oven Solvent Loading Booth 2

Sample	Blank Panel Weights (g)	Wet Panel Weights - Before Bake (g)	Panel Weights - after bake (g)	Weight of Coating Solids Deposited (g)	Weight of VOC available for abatement (g)	Weight of VOC available per volume of coating solids (lb/gal)
Variable	P0	P2	P3	W_{cos}	W_a	CL
Formula				P2-P0	P1-P2	$(W_a/W_{cos})*D_{cos}$
B1	188.369	188.991	188.875	0.506	0.116	1.80
B2	188.834	189.750	189.602	0.768	0.148	1.51
B3	187.523	188.233	188.121	0.598	0.112	1.47
B4	187.970	188.760	188.647	0.677	0.113	1.31
Average	188.174	188.934	188.811	0.637	0.122	**1.50**

Material Properties

Sample	Coating Density (lb/gal)	Mass Fraction Solids	Volume Fraction Solids	Film Build Thickness (mil)	VOC mass fraction	Solids Density (lb/gal)
Variable	W_c	W_s	V_s	mil	W_{voc}	D_{cos}
Formula						$(W_s*W_c)/V_s$
Silver BC	7.81	0.4147	0.4131	0.45	0.5853	7.84

Capture Efficiency

Mass Fraction VOC in Coating	Coating Density (lb/gal)	Mass VOC per Volume Coating (lb/gal)	Transfer Efficiency (%)	Volume Fraction Solids	Volume Solids Deposited per Volume Coating Sprayed	Panel Test Result (lb VOC/ gal Solids)	Oven VOC Capture Efficiency (%)
W_{voc}	D_c	VOC	TE	V_s	V_{sdep}	P	CE
		$(D_c)(W_{voc})$			$(V_s)(TE)$		$(P)(V_{sdep})(100)/(VOC)$
0.5853	7.81	4.571	73.7%	0.4131	0.304	1.50	**10.0%**

Table 12 -- Clearcoat Oven VOC Capture Efficiency
Ford FRAP
October 2013

Oven Solvent Loading Booth 1

Sample	Blank Panel Weights (g)	Wet Panel Weights - Before Bake (g)	Panel Weights - after bake (g)	Weight of Coating Solids Deposited (g)	Weight of VOC available for abatement (g)	Weight of VOC available per volume of coating solids (lb/gal)
Variable	P0	P2	P3	W_{cos}	W_a	CL
Formula				P2-P0	P1-P2	$(W_a/W_{cos})*D_{cos}$
C1	187.332	189.119	188.622	1.290	0.497	3.58
C2	186.950	189.065	188.445	1.495	0.620	3.85
C3	187.200	189.057	188.554	1.354	0.503	3.45
C4	188.051	190.491	189.753	1.702	0.738	4.03
Average	187.383	189.433	188.844	1.460	0.589	**3.75**

Material Properties

Sample	Coating Density (lb/gal)	Mass Fraction Solids	Volume Fraction Solids	Film Build Thickness (mil)	VOC mass fraction	Solids Density (lb/gal)
Variable	W_c	W_s	V_s	mil	W_{voc}	D_{cos}
Formula						$(Ws*Wc)/Vs$
Clearcoat	8.58	0.5857	0.5408	1.74	0.4143	9.29

Capture Efficiency

Mass Fraction VOC in Coating	Coating Density (lb/gal)	Mass VOC per Volume Coating (lb/gal)	Transfer Efficiency (%)	Volume Fraction Solids	Volume Solids Deposited per Volume Coating Sprayed	Panel Test Result (lb VOC/ gal Solids)	Oven VOC Capture Efficiency (%)
W_{voc}	D_c	VOC	TE	V_s	V_{sdep}	P	CE
		(Dc)(Wvoc)			$(V_s)(TE)$		$(P)(V_{sdep})(100)/(VOC)$
0.4143	8.58	3.555	73.7%	0.5408	0.399	3.75	**42.1%**

Table 13 -- Clearcoat Oven VOC Capture Efficiency
Ford FRAP
October 2013

Oven Solvent Loading Booth 2

Sample	Blank Panel Weights (g)	Wet Panel Weights - Before Bake (g)	Panel Weights - after bake (g)	Weight of Coating Solids Deposited (g)	Weight of VOC available for abatement (g)	Weight of VOC available per volume of coating solids (lb/gal)
Variable	P0	P2	P3	W_{cos}	W_a	CL
Formula				P2-P0	P1-P2	$(W_a/W_{cos})*D_{cos}$
C1	187.698	189.522	189.011	1.313	0.511	3.62
C2	187.394	189.622	188.957	1.563	0.665	3.95
C3	187.401	189.175	188.689	1.288	0.486	3.51
C4	187.523	190.079	189.302	1.779	0.777	4.06
Average	187.504	189.600	188.990	1.486	0.610	**3.81**

Material Properties

Sample	Coating Density (lb/gal)	Mass Fraction Solids	Volume Fraction Solids	Film Build Thickness (mil)	VOC mass fraction	Solids Density (lb/gal)
Variable	W_c	W_s	V_s	mil	W_{voc}	D_{cos}
Formula						$(Ws*Wc)/Vs$
Clearcoat	8.58	0.5857	0.5408	1.74	0.4143	9.29

Capture Efficiency

Mass Fraction VOC in Coating	Coating Density (lb/gal)	Mass VOC per Volume Coating (lb/gal)	Transfer Efficiency (%)	Volume Fraction Solids	Volume Solids Deposited per Volume Coating Sprayed	Panel Test Result (lb VOC/ gal Solids)	Oven VOC Capture Efficiency (%)
W_{voc}	D_c	VOC	TE	V_s	V_{sdep}	P	CE
		$(Dc)(Wvoc)$			$(V_s)(TE)$		$(P)(V_{sdep})(100)/(VOC)$
0.4143	8.58	3.555	73.7%	0.5408	0.399	3.81	**42.8%**

7.0 Data Sheets

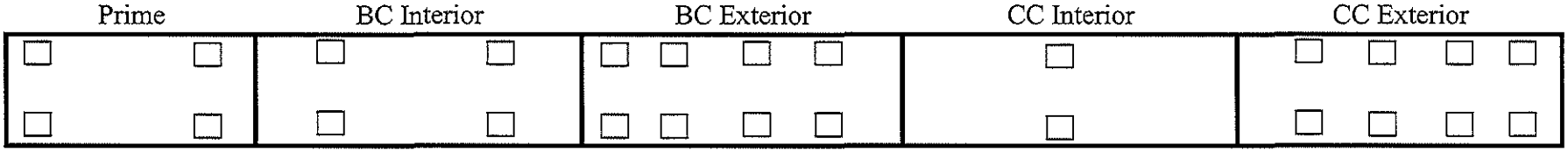
Table 14 - Applicator Parameter Summary
Ford FRAP Transfer Efficiency Test, October 2013

3-Wet Booth

Operation	Manufacturer	Applicator	Fluid Tip	Air Cap	Gun Voltage	RPM	Target Distance	Remarks
Prime Exterior	*Fanuc*	*Versa Bell II*	*1.2 mm*	*Serrated Bell*	*80 kV*	*50,000*	*10"*	
Basecoat Interior	*Fanuc*	*Versa Bell II+*	*0.9 mm*	*Serrated Bell*	*40 kV*	*30,000*	*10"*	
Basecoat Exterior	*Fanuc*	*Versa Bell II*	*0.9 mm*	*Serrated Bell*	*80 kV*	*45,000*	*10"*	
Clearcoat Interior	*Sames*	*Sames 501*	*1.4 mm*		*60 kV*	*N/A*	*10-12"*	
Clearcoat Exterior	*Fanuc*	*Versa Bell II*	*1.2 mm*	*Serrated Bell*	*80 kV*	*45,000*	*10"*	

Line Speed: 17.1 ft/min

Process Diagram



Paint Metering Data Record

Ford FRAP Transfer Efficiency Test, October 2013

Fusion Gray Prime

Process	Applicator	Vehicle ID/ Paint Sprayed (cc) 1989	1941	2035
Prime	R1	282	282	282
	R2	--	--	--
	R3	174	174	174
	R4	276	276	276
Prime (cc):		732	732	732
Prime (gal):		0.193	0.193	0.193

Total Paint Sprayed (gal): **0.580**

Paint Metering Data Record
Ford FRAP Transfer Efficiency Test, October 2013

Fusion Tuxedo Black Basecoat

Process	Applicator	Vehicle ID/ Paint Sprayed (cc) 1989	1941	2035
Manual	1	35	25	22
Interior Basecoat	R1	745	692	600
	R2	--	--	--
	R3	345	345	343
	R4	304	304	302
Exterior Basecoat	R1	228	228	227
	R2	228	228	226
	R3	179	179	179
	R4	--	--	--
	R5	98	98	98
	R6	98	98	98
	R7	--	--	--
	R8	52	52	52
Total (cc):		2312	2249	2147
Total (gal):		0.611	0.594	0.567

Total Paint Sprayed (gal): **1.772**

*Load values removed from paint totals.

Paint Metering Data Record

Ford FRAP Transfer Efficiency Test, October 2013

Fusion Clearcoat

Process	Applicator	Vehicle ID/ Paint Sprayed (cc) 1989	1941	2035
Clearcoat Interior	R1	64	64	63
	R2	74	74	75
Clearcoat Exterior	R1	186	186	186
	R2	187	187	187
	R3	207	207	207
	R4	208	208	208
	R5	189	189	189
	R6	189	189	189
	R7	172	172	172
	R8	187	187	187
	Total (cc):	1663	1663	1663
	Total (gal):	0.439	0.439	0.439

Total Paint Sprayed (gal): **1.318**

Paint Metering Data Record

Ford FRAP Transfer Efficiency Test, October 2013

Mustang Gray Prime

Process	Applicator	Vehicle ID/ Paint Sprayed (cc) 2859	2778	2955
Prime	R1	268	268	266
	R2	--	--	--
	R3	196	196	196
	R4	264	264	264
Prime (cc):		728	728	726
Prime (gal):		0.192	0.192	0.192

Total Paint Sprayed (gal): **0.576**

Paint Metering Data Record

Ford FRAP Transfer Efficiency Test, October 2013

Mustang Ebony Black Basecoat

Process	Applicator	Vehicle ID/ Paint Sprayed (cc) 2859	2778	2955
Manual	1	25	27	26
Interior Basecoat	R1	419	422	420
	R2	--	--	--
	R3	283	283	283
	R4	284	284	284
Exterior Basecoat	R1	235	235	232
	R2	235	235	254
	R3	162	162	162
	R4	--	--	--
	R5	148	148	148
	R6	150	150	150
	R7	--	--	--
	R8	95	95	95
	Total (cc):	2036	2041	2054
	Total (gal):	0.538	0.539	0.543

Total Paint Sprayed (gal): **1.620**

*Load values removed from paint totals.

Paint Metering Data Record

Ford FRAP Transfer Efficiency Test, October 2013

Mustang Clearcoat

Process	Applicator	Vehicle ID/ Paint Sprayed (cc) 2859	2778	2955
Clearcoat Interior	R1	59	48	48
	R2	57	46	46
Clearcoat Exterior	R1	176	175	176
	R2	175	175	175
	R3	189	189	189
	R4	188	188	188
	R5	173	173	173
	R6	173	173	173
	R7	185	185	185
	R8	173	173	173
Total (cc):		1548	1525	1526
Total (gal):		0.409	0.403	0.403

Total Paint Sprayed (gal): **1.215**

1-E. TEST FLUID CAL/VERIFICATION

Date 10/27/13

		Set Point	Actual
Prime	R1	~~100 cc~~	~~100 cc~~
	R2		
	R3 R4	100cc 100 cc	100cc 100cc

R1 100 cc 90 cc
R2 100 cc 100 cc
R3 100 cc ~~120~~ 130 cc
R4 100 120 cc

P700	R1	100cc	100 cc
	R2	Low Pressure Faults	
	R3 R4	100 100 cc	100 100 cc

Z1 P500	R1	100 cc	100 cc
	R2	100 cc	100 cc
	R3 R4	100 cc	100 cc

Z2 P500	R1	100 cc	100 cc
	R2	100 cc	100 cc
	R3 R4	100 cc 100 cc	90 cc ★ 90 cc ★

Clear P200	C1	100cc	100 cc
	C2	100 cc	100 cc
	C3	100 cc	100 cc
	C4	100 cc	100 cc

Clear P500	R1	100 cc	100 cc
	R2	100 cc	100 cc
	R3	100 cc	100 cc
	R4	100 cc	100 cc
	R5	100 cc	100 cc
	R6	100 cc	100 cc
	R7	100 cc	105 cc
	R8	100 cc	105 cc

Vehicle Weigh Station Data Record
Fusion 3-Wet: Prime, Basecoat and Clearcoat
Ford FRAP Transfer Efficiency Test, October 2013

Test Vehicle 1		Ecoat Weight (lb.) *W1*	Coated Weight *W2*
Carrier	1941	1033.00	1036.60
VIN	TE 1	1032.92	1036.62
		1032.96	1036.58
		1032.94	1036.64
Two-Pound Linearity Check:		*1034.94*	*1038.64*
Average Vehicle Weight:		1032.96	1036.61
Vehicle Weight Gain:			**3.65**

Test Vehicle 2		Ecoat Weight (lb.) *W1*	Coated Weight *W2*
Carrier	1989	1033.96	1037.60
VIN	TE 2	1033.86	1037.58
		1033.92	1037.58
		1033.94	1037.58
Two-Pound Linearity Check:		*1035.94*	*1039.58*
Average Vehicle Weight:		1033.92	1037.59
Vehicle Weight Gain:			**3.66**

Test Vehicle 3		Ecoat Weight (lb.) *W1*	Coated Weight *W2*
Carrier	2035	1031.02	1034.54
VIN	TE 3	1031.06	1034.58
		1031.08	1034.58
		1031.10	1034.58
Two-Pound Linearity Check:		*1033.10*	*1036.58*
Average Vehicle Weight:		1031.07	1034.57
Vehicle Weight Gain:			**3.50**

Vehicle Weigh Station Data Record
Mustang 3-Wet: Prime, Basecoat and Clearcoat
Ford FRAP Transfer Efficiency Test, October 2013

Test Vehicle 1		Ecoat Weight (lb.) *W1*	Coated Weight *W2*
Carrier	2778	1018.44	1022.02
VIN	TE 4	1018.48	1022.04
		1018.46	1022.04
		1018.46	1022.04
Two-Pound Linearity Check:		*1020.46*	*1024.04*
Average Vehicle Weight:		1018.46	1022.04
Vehicle Weight Gain:			**3.57**

Test Vehicle 2		Ecoat Weight (lb.) *W1*	Coated Weight *W2*
Carrier	2859	1017.86	1021.54
VIN	TE 5	1017.82	1021.58
		1017.78	1021.64
		1017.88	1021.62
Two-Pound Linearity Check:		*1019.88*	*1023.62*
Average Vehicle Weight:		1017.84	1021.60
Vehicle Weight Gain:			**3.76**

Test Vehicle 3		Ecoat Weight (lb.) *W1*	Coated Weight *W2*
Carrier	2955	1018.44	1022.04
VIN	TE 6	1018.46	1022.08
		1018.46	1022.06
		1018.44	1022.08
Two-Pound Linearity Check:		*1020.44*	*1024.08*
Average Vehicle Weight:		1018.45	1022.07
Vehicle Weight Gain:			**3.61**

Vehicle Weigh Station Data Record
No-Paint Control Vehicles
Ford FRAP Transfer Efficiency Test, October 2013

Control Vehicle 1		Ecoat Weight (lb.) *W1*	Coated Weight *W2*
Carrier	3372	1019.00	1018.66
VIN	TE 7	1019.00	1018.72
		1019.02	1018.80
		1018.98	1018.78
			1018.84
			1018.80
			1018.80
Two-Pound Linearity Check:		*1020.98*	*1020.80*
Average Vehicle Weight:		1019.00	1018.77
Vehicle Weight Gain:			**-0.23**

Control Vehicle 2		Ecoat Weight (lb.) *W1*	Coated Weight *W2*
Carrier	3513	1018.20	1018.00
VIN	TE 8	1018.22	1018.02
		1018.18	1018.02
		1018.20	1018.00
		1018.22	
Two-Pound Linearity Check:		*1020.22*	*1020.00*
Average Vehicle Weight:		1018.20	1018.01
Vehicle Weight Gain:			**-0.19**

AToM

ADVANCED TECHNOLOGIES of MICHIGAN
Jeffries Tech Center
37651 Schoolcraft Road
Livonia, MI 48150
Phone: (734) 953-5034 Fax: (734) 953-5415
Email: atominc@sbcglobal.net

Requestor: **JLB Industries, LLC** **Date:** 11/06/2013

JLB

Ford FRAP

Sample Name	Date	%NV	%V	Density g/mL	Density #/gal	VOC g/L	VOC #/gal
Gray Prime	10/29/13	57.26	42.74	1.18	9.92	508.1	4.24
Tuxedo Black BC	10/29/13	40.62	59.38	0.939	7.84	557.5	4.65
Clearcoat	10/29/13	58.39	41.61	1.028	8.58	427.6	3.57
Gray Prime	10/30/13	57.69	42.31	1.190	9.93	503.6	4.20
Ebony Black BC	10/30/13	43.74	56.26	0.954	7.96	536.7	4.48
Clearcoat	10/30/13	58.29	41.71	1.029	8.58	429.0	3.58
Gray Prime	10/31/13	57.02	42.98	1.190	9.93	511.3	4.27
Tuxedo Black BC CE	10/31/13	41.47	58.53	0.936	7.81	547.6	4.57
Clearcoat CC CE	10/31/13	58.57	41.43	1.028	8.58	426.0	3.56

Certificate of Analysis

PPG INDUSTRIES
3800 West 143rd Street
Cleveland, OH 44111

Submitted to: Ford Motor Company

Supplier: (Manufacturing Site)	PPG Industries, Inc.	**Date:**	09/02/13
Material Name:	Ebony	**M Number:**	M6373
Approved By:	Janet Klein	**Supplier Batch #:**	49731
Color Standard Date:	N/A	**Basecoat Supplier Code:**	UDCT6373R
% Reduction (Target)	N/A	**Tox #:**	181885
Reducing Solvent	N/A	**Batch Size:**	1499 GAL

Test Description	Test Method	Range	Actual
WPG (Pkg Theoretical)	TM-CALC	REPORT	8.025
% NV by Wt (Pkg theoretical)	TM-CALC	REPORT	47.78%
Vol %NV (Pkg Theoretical)	TM-CALC	REPORT	40.29%
VOC (Pkg Theoretical)	TM-CALC	REPORT	4.19

Ford

Test Description	Test Method	Range	Actual
Ford Viscosity (Pkg)	ASTM D 1200/ASTM D4287	17 - 19	20.2
WPG (Pkg)	ASTM D 1475	REPORT	8.03
% NV by Wt (Pkg)	ASTM D 1353	41.0 - 47.0	44.9
VOC (Pkg)	ASTM D 3960	4.20 - 4.70	4.42
LB. HAPS PER GALLON	TM-CALC	REPORT	0.22
Resistivity	ASTMD5682	0.05 - 2.00	0.97
Color	DELTA E 45°	0 - 3	0.83
QMS[7] (Wavescan) Horizontal	SDS DVM 0030-PA	65 - 69	76.1
Vertical		52 - 56	66.0
Dry Hiding	FLTM BI 158-01	0.5 - 0.8	0.50
Adhesion	FLTM BI 106-01 Part B	0 - 2	0
Dirt Count	PARTICLES	0 - 5	4
	FIBERS	0 - 3	1

[1] Pop & Sag Clearcoat & Primer only testing
[2] Clearcoat, Waterborne Basecoat, & Primer only testing.
[4] Clearcoat Wet Sample Transmittance.
[5] Non-suspected carcinogenic HAPs @ 1% or greater by weight.
[6] Suspected Carcinogenic Based HAPs @ 0.1% or greater based upon weight.
[8] X-Rite Color Readings will be required here for consistency & Color Harmony Teams.
[7] Wavescan test results have been compared to historical statistical data, per a Ford/PPG agreement

Certificate of Analysis

PPG INDUSTRIES
3800 West 143rd Street
Cleveland, OH 44111

Submitted to: Ford Motor Company

Supplier: (Manufacturing Site)	PPG Industries, Inc.	Date:	10/26/13
Material Name:	Carbamate Clear for 3-We	M Number:	M9000
Approved By:	Kathy Immonen	Supplier Batch #:	52009
Color Standard Date:	N/A	Basecoat Supplier Code:	TMAC9000FR
% Reduction (Target)	N/A	Tox #:	191186
Reducing Solvent	N/A	Batch Size:	6499 GAL

Test Description	Test Method	Range	Actual
WPG (Pkg Theoretical)	TM-CALC	REPORT	8.643
% NV by Wt (Pkg Theoretical)	TM-CALC	REPORT	60.48%
Vol %NV (Pkg Theoretical)	TM-CALC	REPORT	54.08%
VOC (Pkg Theoretical)	TM-CALC	REPORT	3.415

Test Description	Test Method	Range	Actual
Ford Viscosity (Pkg)	ASTM D 1200/ASTM D4287	27.0 - 30.0	28.3
WPG (Pkg)	ASTM D 1475	REPORT	8.64
% NV by Wt (Pkg)	ASTM D 1353	56.5 - 62.0	56.7
VOC (Pkg)	ASTM D 3960	3.30 - 4.10	3.74
LB HAPS PER GALLON	TM-CALC	REPORT	0.00
Resistivity	ASTM D5682	0.05 - 2.00	0.15
UV Transmittance @ 360 NM	ASTM E 169-99	REPORT	27.1
Color			
QMS[7] (Wavescan) Horizontal	SDS DVM 0030-PA	55 - 70	66.2
Vertical		47 - 61	47.8
Pop	POPSPRY000	1.8 - 2.5	2.20
Sag	FLTM BL 122-02	1.6 - 2.2	2.20
Adhesion	FLTM BI 106-01 Part B	2 MAX	0
Crater Count[2]	CRT CRT P01	-	0
Dirt Count	PARTICLES	0 - 5	2
	FIBERS	0 - 3	1

[1] Pop & Sag Clearcoat & Primer only testing
[2] Clearcoat, Waterborne Basecoat, & Primer only testing.
[4] Clearcoat Wet Sample Transmittance.
[5] Non-suspected carcinogenic HAPs @ 1% or greater by weight.
[6] Suspected Carcinogenic Based HAPs @ 0.1% or greater based upon weight.
[8] X-Rite Color Readings will be required here for consistency & Color Harmony Teams.

Certificate of Analysis

PPG INDUSTRIES
3800 West 143rd Street
Cleveland, OH 44111

Submitted to: Ford Motor Company

Supplier: (Manufacturing Site)	PPG Industries, Inc.	**Date of Manufacture:**	10/09/13
Material Name:	3-Wet Mid Gray Primer	**Alpha Code:**	N/A
Approved By:	Mauria Fluker	**M Number:**	M6534
Color Standard Date:	N/A	**Supplier Batch #:**	51504
Primer Specification:	N/A	**Supplier Code:**	SCP6534R
% Reduction	N/A	**Tox #:**	187280
Reducing Solvent	N/A	**Batch Size:**	1500 GAL

Test Description	Test Method	Range	Actual
WPG (Pkg Theoretical)	TM-CALC	N/A	10.440
% NV by Wt (Pkg theoretical)	TM-CALC	N/A	65.42%
Vol %NV (Pkg Theoretical)	TM-CALC	N/A	48.33%
VOC (PkgTheoretical)	TM-CALC	REPORT	3.61

Ford

Test Description	Test Method	Range	Actual
Viscosity Ford	ASTM D 1200	22.0 - 24.0	25.0
WPG (Pkg)	ASTM D 1475	REPORT	10.44
% NV by Wt (Pkg)	ASTM D 2369	60.00 - 70.00	62.66
Vol %NV (Pkg Theoretical)	Computer Generated from Batch Ticket	REPORT	48.33%
VOC (Pkg)	ASTM D 3960	3.50 - 4.20	3.80
LB HAPS PER GALLON	TM-CALC	REPORT	0.00
Resistivity	ASTM D5682	0.05 - 2.00	0.59
Dry Hiding	FLTM BI 158-01	0.40 - 0.90	0.60
Adhesion	FLTM BI 106-01 Part B	2 MAX	0
Intercoat Adhesion (Std/Std)	FLTM BI 106-01 Part B	PASS	PASS
Crater Count[2]		0 - 0	0
Dirt Count	PARTICLES	0 - 5	2
	FIBERS	0 - 3	0

[1] Suspected Carcinogenic Based HAPs @ 0.1% or greater based upon weight.
[2] Suspected Carcinogenic Based HAPs @ 0.1% or greater based upon weight.

Certificate of Analysis

PPG INDUSTRIES
3800 West 143rd Street
Cleveland, OH 44111

Submitted to: Ford Motor Company

Supplier: (Manufacturing Site)	PPG Industries, Inc.	Date:	10/24/13
Material Name:	Tuxedo Black	M Number:	M7211
Approved By:	Todd Schnell	Supplier Batch #:	52073
Color Standard Date:	N/A	Basecoat Supplier Code:	DCT7211RL
% Reduction (Target)	N/A	Tox #:	186717
Reducing Solvent	N/A	Batch Size:	3926 GAL

Test Description	Test Method	Range	Actual
WPG (Pkg Theoretical)	TM-CALC	REPORT	8.003
% NV by Wt (Pkg theoretical)	TM-CALC	REPORT	49.20%
Vol %NV (Pkg Theoretical)	TM-CALC	REPORT	41.31%
VOC (Pkg Theoretical)	TM-CALC	REPORT	4.07

Test Description	Test Method	Range	Actual
Ford Viscosity (Pkg)	ASTM D 1200/ASTM D4287	17 - 19	19.0
WPG (Pkg)	ASTM D 1475	REPORT	8.00
% NV by Wt (Pkg)	ASTM D 1353	42.0 - 50.0	44.0
VOC (Pkg)	ASTM D 3960	4.00 - 4.50	4.34
LB. HAPS PER GALLON	TM-CALC	REPORT	0.01
% wt. HAPS	TM-CALC	REPORT	0.13
Resistivity	ASTMD5682	0.05 - 2.00	0.30
Color			
Color Ecmc 25°	SAE J1545°	0 - 3	0.72
Color Ecmc 45°	SAE J1545°	0 - 3	0.35
Color Ecmc 75°	SAE J1545°	0 - 3	0.64
QMS[7] (Wavescan) Horizontal	SDS DVM 0030-PA	60 - 64	63.6
Vertical		47 - 51	50.6
Adhesion	FLTM BI 106-01 Part B	0 - 2	0
Dirt Count	PARTICLES	0 - 5	0
	FIBERS	0 - 3	0

[1] Pop & Sag Clearcoat & Primer only testing
[2] Clearcoat, Waterborne Basecoat, & Primer only testing.
[4] Clearcoat Wet Sample Transmittance.
[5] Non-suspected carcinogenic HAPs @ 1% or greater by weight.
[6] Suspected Carcinogenic Based HAPs @ 0.1% or greater based upon weight.
[6] X-Rite Color Readings will be required here for consistency & Color Harmony Teams.
[7] Wavescan test results have been compared to historical statistical data, per a Ford/PPG agreement

JLB Industries, LLC
Chain of Custody Form

Facility: FORD FRAP OCTOBER 2013

Material Name	Sampling Location	Date	Label	Comment
FT. GRAY Prime	Mix Room	10/29/13	FRAP Prime	ALL SOLVENT BORNE
Tuxedo Black BC	"	10/29/13	FRAP BC	
CLEARCOAT	"	10/29/13	FRAP CC	
LT GRAY Prime	"	10/30/13	FRAP Prime M	
EBony Black BC	"	10/30/13	FRAP BC M	
CLEARCOAT	"	10/30/13	FRAP CC M	
LT GRAY Prime	"	10/31/13	FRAP Prime CE	
Tuxedo Black BC	"	10/31/13	FRAP BC CE	
Clearcoat	"	10/31/13	FRAP CE CE	

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	11/1/13	11:05	[signature]	11/1/13	11:05