71-0190

TUTCO INC./500 Gould Drive/Cookeville, Tennessee 38506/(931) 432-4141

State Of Tennessee
Dept. of Environment And Conservation
Division of Air Pollution Control
7th Floor L & C Annex, 401 Church St.
Nashville, TN 37243-0438

2009 MAY -7 PM 3:29

May 4, 2009

Technical Secretary
Tennessee Air Pollution Control Board

Dear Sir:

I am writing to you on behalf of TUTCO Inc. in Cookeville, TN about some product lines that TUTCO is moving into our Cookeville, TN facilities from a plant in Elmhurst, IL. There are eight (8) product lines that are going to be moved from Fast Heat in Elmhurst, IL to TUTCO's facilities in Cookeville, TN during the 2009 calendar year. There are also air emissions associated with the production of each of these product lines, but each product line operates independent of each other.
I am also writing to respectfully request that these product lines be considered as "insignificant activity" for air emissions based upon the emission records being submitted to you, and per the State's requirements stated in the Construction And Operating Permits manual, Chapter 1200-3-9, pages 154 and 155.
Should you need any other information from TUTCO Inc., please contact me at 931-432-7271 or 931-267-5078 and I will respond very promptly. My E-mail address is also (bwiegand@tutco.com).
Thank you for considering this request from TUTCO Inc.

Sincerely,
Bill Wiegand

Bill Wiegand
Manufacturing Engineering Manager
TUTCO Inc.
500 Gould Dr.
Cookeville, TN 38506

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Illinois Environmental Protection Agency
2007 Annual Emission Report - Supporting Calculations
Fast Heat

2007 Air Emissions Calculations

Facility: Fast Heat, Inc.
Location: 776 Oaklawn Avenue, Elmhurst, Illinois

1. Process/Emission Units: Band Heater Line with Electric Burn-Off Oven

Operation Level	Material Containing VOM Throughput (lbs/hr)	VOM/Formaldehyde HAP/PM-PM10 Emission Rate (lbs/hr)	VOM/Formaldehyde HAP/PM-PM10 Annual Emissions (lbs)	VOM/Formaldehyde HAP/PM-PM10 Annual Emissions (tons)
2007 Rate	3.838	0.012	43	0.022

Emission Calculations:
1) Aluminum oxide tape lbs/hr usage rate: 13,677 lbs/yr / 3,564 hrs/yr = 3.838 lbs/hr
2) Material containing VOM lbs/hr usage rate: 3.838 lbs/hr
3) Aluminum oxide tape usage VOM/Formaldehyde HAP/PM-PM10 lbs/hr emission rate: 13,677 lbs tape/yr x 0.05 binder content x 0.06 binder VOM/Formaldehyde HAP content / 3,564 operating hrs/yr = 0.012 lbs/hr
4) VOM/Formaldehyde HAP/PM-PM10 lbs/hr emission rate: 0.012 lbs/hr
5) VOM/Formaldehyde HAP/PM-PM10 annual emissions (lbs): 0.012 lbs/hr x 3,564 operating hrs/yr = 43 lbs/yr $\times \frac{1\,ton}{2000\,lbs} = .0215$ ton/yr

Note: PM-PM10 - Total particulate matter & particulate matter 10 microns, VOM - Volatile organic material, HAP - Hazardous Air Pollutant

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2007 Annual Emission Report - Supporting Calculations
Fast Heat

2. Process/Emission Units: High Temperature Cartridge Heater Line with Cure & Dry-Off Ovens

Operation Level	Material Containing VOM Throughput (lbs/hr)	VOM Emission Rate (lbs/hr)	VOM Annual Emissions (lbs)	VOM Annual Emissions (tons)
2007 Rate	0.423	0.378	771	0.386

Emission Calculations:
1) RTV GE 116 Red lbs/hr usage rate: 39 lbs/yr / 2,040 hrs/yr = 0.019 lbs/hr
2) RTV GE 112 White lbs/hr usage rate: 16 lbs/yr / 2,040 operating hrs/yr = 0.008 lbs/hr
3) RTV 157 Grey lbs/hr usage rate: 38 lbs/yr / 2,040 operating hrs/yr = 0.019 lbs/hr
4) RTV Primer GE SS4155 lbs/hr usage rate: 1 lb/yr / 2,040 operating hrs/yr = 0.0005 lbs/hr
5) Copps Epoxy Resin A-018 lbs/hr usage rate: 396 lbs/yr / 2,040 operating hrs/yr = 0.194 lbs/hr
6) Copps Epoxy Hardener B-218 lbs/hr usage rate: 312 lbs/yr / 2,040 operating hrs/yr = 0.153 lbs/hr
7) Abocure Epoxy 50-1 Part B lbs/hr usage rate: 18 lbs/yr / 2,040 operating hrs/yr = 0.009 lbs/hr
8) Abocure Epoxy 7505-2 Part A lbs/hr usage rate: 28 lbs/yr / 2,040 operating hrs/yr = 0.014 lbs/hr
9) Masterbond Supreme Epoxy 45HTND Part A lbs/hr usage rate: 9 lbs/yr / 2,040 operating hrs = 0.004 lbs/hr
10) Masterbond Supreme Epoxy 45HTND Part B lbs/hr usage rate: 3 lbs/yr / 2,040 hrs/yr = 0.001 lbs/hr
11) Material containing VOM lbs/hr usage rate: 0.019 lbs/hr + 0.008 lbs/hr + 0.019 lbs/hr + 0.0005 lbs/hr + 0.194 lbs/hr + 0.153 lbs/hr + 0.009 lbs/hr + 0.014 lbs/hr + 0.004 lbs/hr + 0.001 lbs/hr = 0.423 lbs/hr
12) RTV GE 116 Red VOM lbs/hr emission rate: 2.15 VOM lbs/yr / 2,040 hrs/yr = 0.001 lbs/hr
13) RTV GE 112 White VOM lbs/hr emission rate: 1 VOM lb/yr / 2,040 operating hrs/yr = 0.0005 lbs/hr
14) RTV 157 Grey VOM lbs/hr emission rate: 1.5 VOM lbs/yr / 2,040 operating hrs/yr = 0.0007 lbs/hr
15) RTV Primer GE SS4155 VOM lbs/hr emission rate: 1 lb/yr / 2,040 operating hrs/yr = 0.0005 lbs/hr
16) Copps Epoxy Resin A-018 VOM lbs/hr emission rate: 396 lbs/yr / 2,040 operating hrs/yr = 0.194 lbs/hr
17) Copps Epoxy Hardener B-218 VOM lbs/hr emission rate: 312 lbs/yr / 2,040 operating hrs/yr = 0.153 lbs/hr
18) Abocure Epoxy 50-1 Part B VOM lbs/hr emission rate: 18 lbs/yr / 2,040 operating hrs/yr = 0.009 lbs/hr
19) Abocure Epoxy 7505-2 Part A VOM lbs/hr emission rate: 28 lbs/yr / 2,040 operating hrs/yr = 0.014 lbs/hr
20) Masterbond Supreme Epoxy 45HTND Part A VOM lbs/hr emission rate: 9 lbs/yr / 2,040 operating hrs = 0.004 lbs/hr
21) Masterbond Supreme Epoxy 45HTND Part B VOM lbs/hr emission rate: 3 lbs/yr / 2,040 hrs/yr = 0.001 lbs/hr
22) VOM lbs/hr emission rate: Material Containing VOM (0.001 VOM lbs/hr + 0.0005 lbs/hr + 0.0007 lbs/hr + 0.0005 lbs/hr + 0.194 lbs/hr + 0.153 lbs/hr + 0.009 lbs/hr + 0.014 lbs/hr + 0.004 lbs/hr + 0.001 lbs/hr = 0.378 VOM lbs/hr) + Natural Gas-Fired Curing Oven & Drying Ovens VOM (0.0006 lbs/hr) = 0.378 lbs/hr
23) Material containing VOM annual emissions (lbs): 0.378 lbs/hr *x* 2,080 operating hrs/yr = 771 lbs/yr

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2007 Annual Emission Report - Supporting Calculations
Fast Heat

2. Process/Emission Units: High Temperature Cartridge Heater Line with Cure & Dry-Off Ovens - Continued

AP-42 EMISSION CALCULATIONS - ACTUAL NATURAL GAS COMBUSTION EMISSIONS
High Temperature Cartridge Heater Line Cement Cure & Dry-Off Ovens (2 Units - 50,000 Btu/hr Firing Rate per Unit)

Process	High Temperature Cartridge Heater Line Cement Cure & Dry-Off Ovens	
Actual Operating Hours	2,040	hours
Combined Firing Rate	0.10	million Btu/hr
Annual Natural Gas Usage	0.2	million scf
Heat Content	1,000	Btu/scf

Actual Rate:

Pollutant	AP-42 Emission Factor (lb/10^6 scf)	Emissions (lb/hr)	Operating Hours	Emissions (tons/year)
Particulate Matter (PM)	7.60	0.0008	2,040	0.001
Carbon Monoxide (CO)	84.00	0.0084	2,040	0.009
Nitrogen Oxides (NOx)	100.00	0.0100	2,040	0.010
Volatile Organic Material (VOM)	5.50	0.0006	2,040 hr/yr	tons/2000 0.001
Sulfur Dioxide (SO2)	0.60	0.0001	2,040	0.000
		.00076 ≈ .0008	8760	.0035 ≈ .004
		.0084	8760	.0367 ≈ .037 (CO)
		.0100	8760	.0438 ≈ .044 (NOx)
		.00055 ≈ .0006	8760	.0026 ≈ .003
		.00006 ≈ .0001	8760	.0004
			8760	

$(7.60\ lb/10^6\ scf) \times (.10\ 10^6\ Btu/hr) \times (.001\ scf/Btu) =$

$(.76\ lb/hr)(.001) = .00076 \approx .0008\ lb/hr$

$(.0008\ lb/hr)(8760\ hr/yr)(1/2000\ ton/lb) =$

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2007 Annual Emission Report - Supporting Calculations
Fast Heat

3. Process/Emission Units: Sump Heater Line

Operation Level	Material Containing VOM Throughput (lbs/hr)	Material Containing VOM Emission Rate (lbs/hr)	Material Containing VOM Annual Emissions (lbs)	Material Containing VOM Annual Emissions (tons)
2007 Rate	0.632	0.409	810	0.405

Operation Level	Phenol HAP Emission Rate (lbs/hr)	Phenol HAP Annual Emissions (lbs)	Phenol HAP Annual Emissions (tons)
2007 Rate	0.008	16	0.008

Emission Calculations:
1) Copps Epoxy Resin A-018 lbs/hr usage rate: 396 lbs/yr / 1,980 operating hrs/yr = 0.208 lbs/hr
2) Copps Epoxy Hardener B-218 lbs/hr usage rate: 312 lbs/yr / 1,980 operating hrs/yr = 0.158 lbs/hr
3) Permabond 200 Adhesive lbs/hr usage rate: 19 lbs/yr / 1,980 operating hrs/yr = 0.01 lbs/hr
4) PCS BU-5006-55 Degreaser lbs/hr usage rate: 506 lbs/yr / 1,980 operating hrs/yr = 0.256 lbs/hr
5) Material containing VOM lbs/hr usage rate: 0.208 lbs/hr + 0.158 lbs/hr + 0.01 lbs/hr + 0.256 lbs/hr = 0.632 lbs/hr
6) Copps Epoxy Resin A-018 VOM lbs/hr emission rate: 396 lbs/yr / 1,980 operating hrs/yr = 0.2 lbs/hr
7) Copps Epoxy Hardener B-218 VOM lbs/hr emission rate: 312 lbs/yr / 1,980 operating hrs/yr = 0.158 lbs/hr
8) Permabond 200 Adhesive VOM lbs/hr emission rate: 19 lbs/yr / 1,980 operating hrs/yr = 0.01 lbs/hr
9) PCS BU-5006-55 Degreaser lbs/hr usage rate: 81 lbs/yr / 1,980 operating hrs/yr = 0.041 lbs/hr
10) Material containing VOM lbs/hr emission rate: 0.2 lbs/hr + 0.158 lbs/hr + 0.01 lbs/hr + 0.041 lbs/hr = 0.409 lbs/hr
11) Material containing VOM annual emissions (lbs): 0.409 lbs/hr x 1,980 operating hrs/yr = 810 lbs/yr
12) Phenol HAP annual emissions (lbs): 0.008 Phenol lbs/hr x 1,980 hrs/yr = 16 lbs/yr

$\times 8760 \frac{hrs}{yr} \times \frac{ton}{2000 lbs} = .035$

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2007 Annual Emission Report - Supporting Calculations
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4. Process/Emission Units: Hot Runner Component Assembly Line with Cure Oven

Operation Level	Material Containing VOM Throughput (lbs/hr)	VOM Emission Rate (lbs/hr)	VOM Annual Emissions (lbs)	VOM Annual Emissions (tons)
2007 Rate	0.020	0.002	4	0.002

Emission Calculations:
1) RTV GE 116 Red lbs/hr usage rate: 39 lbs/yr / 1,980 hrs/yr = 0.02 lbs/hr
2) RTV Primer GE SS4155 lbs/hr usage rate: 1 lb/yr / 1,980 operating hrs/yr = 0.0005 lbs/hr
3) Material containing VOM lbs/hr usage rate: 0.02 lbs/hr + 0.0005 lbs/hr = 0.02 lbs/hr
4) RTV GE 116 Red VOM lbs/hr emission rate: 2.15 lbs/yr / 1,980 hrs/yr = 0.001 lbs/hr
5) RTV Primer GE SS4155 VOM lbs/hr emission rate: 1 lb/yr / 1,980 operating hrs/yr = 0.0005 lbs/hr
6) VOM lbs/hr emission rate: Material Containing VOM (0.001 lbs/hr + 0.0005 lbs/hr) + Natural Gas-Fired Curing Oven VOM (0.0003) = 0.002 lbs/hr
7) Material containing VOM annual emissions (lbs): 0.002 lbs/hr *x* 1,980 operating hrs/yr = 4 lbs/yr

4. Process/Emission Units: Hot Runner Component Assembly Line with Cure Oven - Continued

AP-42 EMISSION CALCULATIONS - ACTUAL NATURAL GAS COMBUSTION EMISSIONS
Hot Runner Assembly Line Cement Cure Oven (50,000 Btu/hr Firing Rate)

Process	Hot Runner Component Assembly Cement Curing Oven	
Actual Operating Hours	1,980	hours
Firing Rate	0.05	million Btu/hr
Annual Natural Gas Usage	0.1	million scf
Heat Content	1,000	Btu/scf

Actual Rate:

Pollutant	AP-42 Emission Factor (lb/10^6 scf)	Emissions (lb/hr)	Operating Hours	Emissions (tons/year)
Particulate Matter (PM-PM10)	7.60	0.0004	1,980	0.000
Carbon Monoxide (CO)	84.00	0.0042	1,980	0.004
Nitrogen Oxides (NOx)	100.00	0.0050	1,980	0.005
Volatile Organic Material (VOM)	5.50	0.0003	1,980	0.000
Sulfur Dioxide (SO2)	0.60	0.00003	1,980	0.000
		(CO)	8760	.0183 ≈ .018
		(NOx)	8760	.0219 ≈ .022

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2007 Annual Emission Report - Supporting Calculations
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5. Process/Emission Units: Refrigerator Heater Line

Operation Level	Material Containing VOM Throughput (lbs/hr)	VOM Emission Rate (lbs/hr)	VOM Annual Emissions (lbs)	VOM Annual Emissions (tons)
2007 Rate	0.444	0.444	880	0.440

Emission Calculations:
1) LPS ZeroTri Degreaser lbs/hr usage rate: 879 lbs/yr / 1,980 hrs/yr = 0.444 lbs/hr
2) LPS ZeroTri Degreaser VOM lbs/hr usage rate: 879 lbs/yr / 1,980 hrs/yr = 0.444 lbs/hr
3) LPS ZeroTri Degreaser VOM annual emissions (lbs): 0.444 lbs/hr *x* 1,980 operating hrs/yr = 880 lbs/yr

6. Process/Emission Units: Belly Band Line

Operation Level	Material Containing VOM Throughput (lbs/hr)	VOM Emission Rate (lbs/hr)	VOM Annual Emissions (lbs)	VOM Annual Emissions (tons)
2007 Rate	0.190	0.190	399	0.200

Emission Calculations:
1) Dow 748 Sealant lbs/hr usage rate: 399 lbs/yr / 2,100 hrs/yr = 0.190 lbs/hr
2) Dow 748 Sealant VOM lbs/hr usage rate: 399 lbs/yr / 2,100 hrs/yr = 0.190 lbs/hr
2) Dow 748 Sealant annual emissions (lbs): 0.190 lbs/hr *x* 2,100 operating hrs/yr = 399 lbs/yr

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7. Process/Emission Units: Rebuild Part Electric Burn-Off Oven

Operation Level	Residue Containing VOM/Styrene HAP/PM-PM10 Throughput (lbs/hr)	VOM/Styrene HAP/PM-PM10 Emission Rate (lbs/hr)	VOM/Styrene HAP/PM-PM10 Annual Emissions (lbs)	VOM/Styrene HAP/PM-PM10 Annual Emissions (tons)
2007 Rate	0.008	0.008	15	0.008

Emission Calculations: Worst case scenario based on styrene plastic residue that comprises minimal percentage of actual plastic residue
1) Rebuild part plastic residue quantity:
a. Sprue bushing rebuild part - 0.009 lbs residue
b. Sensitwin bushing rebuild part - 0.149 lbs residue
c. Machine nozzle rebuild part - 0.075 lbs residue

2) Burn-off oven plastic residue monthly throughput:
a. 22 Sprue bushing rebuild parts/month x 0.009 lbs residue/part = 0.199 lbs residue/month
b. 6 Sensitwin bushing rebuild parts/month x 0.149 lbs residue/part = 0.894 lbs residue/month
c. 2 Machine nozzle rebuild parts/month x 0.075 lbs residue/part = 0.149 lbs residue/month

3) Plastic residue VOM/HAP/PM-PM10 emissions per month: 0.199 lbs + 0.849 lbs + 0.150 lbs = 1.243 lbs

4) Plastic residue VOM/HAP/PM-PM10 annual emissions: 1.243 lbs/month *x* 12 month/yr = 15 lbs

5) Plastic residue VOM/HAP/PM-PM10 emissions per hour: 15 lbs/yr / 1,980 hrs/yr = 0.008 lbs

$.008\ lbs/hr \times 8760\ hr/yr \times 1\ ton/2000\ lbs = .035\ tons/yr$

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2007 Annual Emission Report - Supporting Calculations
Fast Heat

8. Process/Emission Units: Standard Cartridge Heater Line with Cure Oven

AP-42 EMISSION CALCULATIONS - ACTUAL NATURAL GAS COMBUSTION EMISSIONS
Standard Cartridge Heater Line Cement Cure Oven (38,000 Btu/hr Firing Rate)

Process	Standard Cartridge Heater Line Cure Oven	
Actual Operating Hours	2,000	hours
Firing Rate	0.04	million Btu/hr
Annual Natural Gas Usage	0.1	million scf
Heat Content	1,000	Btu/scf

Actual Rate:

Pollutant	AP-42 Emission Factor (lb/10^6 scf)	Emissions (lb/hr)	Operating Hours	Emissions (tons/year)
Particulate Matter (PM-PM10)	7.60	0.0003	2,000	0.0003
Carbon Monoxide (CO)	84.00	0.0034	2,000	0.0034
Nitrogen Oxides (NOx)	100.00	0.0040	2,000	0.0040
Volatile Organic Material (VOM)	5.50	0.0002	2,000	0.0002
Sulfur Dioxide (SO2)	0.60	0.00002	2,000	0.0000
			8760	.0148 ≈ .015
		(CO)	8760	.0175 ≈ .018
		(NOx)		

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10. Facility Total Air Emissions

2007 Operating Year

Air Pollutant	Band Heater Line with Electric Burn-Off Oven (tons/yr)	High Temperature Cartridge Heater Line with Cure & Dry-Off Ovens (tons/yr)	Sump Heater Line (tons/yr)	Hot Runner Component Assembly Line with Cure Oven (tons/yr)	Refrigerator Heater Line (tons/yr)
VOM	0.022	0.386	0.405	0.002	0.440
PM-PM10	0.022	0.001		0.0004	
CO		0.009		0.004	
NOx		0.010		0.005	
SO2		0.0001		0.00003	
Formaldehyde HAP	0.022				
Phenol HAP			0.008		
Dibutyl Phthalate HAP					
Styrene HAP					

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2007 Annual Emission Report - Supporting Calculations
Fast Heat

10. Facility Total Air Emissions - Continued

Typical Operations Emissions Summary - 2,080 or less operating hours

8760 operating hrs

Air Pollutant	Belly Band Line (tons/yr)	Part Rebuild Electric Burn-Off Oven (tons/yr)	Standard Cartridge Heater Line with Cure Oven (tons/yr)	2007 Total Air Emissions (tons/yr)
VOM	0.200	0.008	0.0002	1.462053
PM-PM10		0.008	0.0003	0.030455
CO			0.0034	0.016086
NOx			0.0040	0.019150
SO2			0.00002	0.000115
Formaldehyde HAP				0.021500
Phenol HAP				0.008000
Dibutyl Phthalate HAP				0.000000
Styrene HAP		0.008		0.007500

.037 + .018 + .015 = .07

.044 + .022 + .018 = .084

.0215
.035
.035
} .0915 ≈ .092

From: Origin ID: CSVA (931) 432-4141
Bill Wiegand
TUTCO, INC
500 GOULD DRIVE

Cookeville, TN 38506

FedEx Express

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