



**TECHNICAL REVIEW AND EVALUATION  
OF APPLICATION FOR  
AIR QUALITY PERMIT No. 95882**

**I. INTRODUCTION**

This Class I permit is issued to American Woodmark Corporation, the Permittee, for the continued operation of a kitchen and bath cabinet finishing and assembly facility. This permit renews and supersedes Permit No. 67347.

The facility is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart JJ for Wood Furniture Manufacturing Operations. Without the controls or operating limits specified in the permit, the facility has the potential to emit volatile organic compounds in excess of 250 tons per year. Since the facility is limited to 250 tons per year, it is not a Prevention of Significant Deterioration (PSD) major source as defined under Arizona Administrative Code (A.A.C.) R18-2-401. In addition, the facility has the potential to emit hazardous air pollutants in excess of 25 tons per year. Therefore, the facility qualifies for a Class I permit under A.A.C. R18-101.75.c.

**A. Company Information**

Facility Name: American Woodmark Corporation – Kingman Facility

Mailing Address / Facility Location: 4475 E. Mohave Airport Rd.  
Kingman, AZ 86401

**B. Attainment Classification**

The facility is located Mohave County, an area designated as attainment or unclassified for all criteria pollutants.

**II. PROCESS DESCRIPTION**

**A. Process Description**

**1. Overview**

The facility conducts two (2) major operations:

- Finishing line operations including cleaning operations; and
- Assembly operations.

In addition, there are five (5) supporting operations:

- Small parts and salvage operations;
- Milling operations;

- Fuel burning operations;
- Pump room operations; and
- Test spray booth operations.

Prefabricated, unfinished (i.e. whitewood) kitchen and bath cabinet parts are shipped to the facility and placed in storage. Based on product specifications for the day, the whitewood is picked from the storage area and delivered to one of three (3) finishing lines. The parts undergo sanding and cleaning to remove any contaminants from the surface and then various finishes are applied to the wood to provide a desired color, appearance and protective coating to the surface. Following finishing line operations, the finished kitchen and bath cabinet parts are sent to storage in the painted stock area prior to being transferred to the flat stock area associated with the assembly operations.

2. Finishing Line 1 (Main Line), Finishing Line 3 (Expedite Line), Finishing Line 4 (Hybrid Line)

Finishing Line 1 is the main line where standard finishes are produced in a one-pass operation. Finishing Line 3 is the expedite line where individual kitchen and bath cabinet parts are finished on an as-needed basis. Finishing Line 4 is the hybrid line where specialty finishes can be produced in a one-pass operation.

3. Cleaning Operations

Along with the periodic cleaning that occurs throughout the day, spray booths and accompanying trolleys associated with Finishing Lines 1 and 4 must be fully cleaned once per day with industrial solvents to maintain high quality application of the finishing material as well as to allow for changes in the color and type of the finishing material. The cleaning process entails breaking down the equipment to its major components and using techniques such as soaking and manual wiping to fully clean the equipment.

**B. Control Devices**

1. Regenerative Thermal Oxidizer (RTO)

RTO is used to capture and control volatile organic compounds (VOC) and hazardous air pollutant (HAP) emissions from Finishing Lines 1 and 4 during normal operations and during cleaning operations. Although the VOC and HAP emission units have RTO bypass dampers, they are only opened during emergency situations, scheduled maintenance, and when emission units are not operating and/or emitting VOC and HAP emissions.

2. Dust Collectors

The dust collectors are used to control particulate matter emissions from the Rotary Sanding Machines, Downdraft Sanding Belts, Manual Sanding Downdraft

Conveyors, Panel Cleaning Machines, and Feather Duster in Finishing Lines 1 and 4.

### III. COMPLIANCE HISTORY

Since the issuance of Permit No. 67347, ADEQ has conducted five (5) facility inspections. The last facility inspection took place on August 4, 2022. No compliance deficiencies were noted during the course of these inspections.

Moreover, the facility has submitted nine (9) semiannual compliance certifications. In addition, it has reported five (5) permit deviations. One of the permit deviations led to a Notice of Violation (NOV) on March 20, 2019.

#### Case No. 181627

On March 1, 2019, the Permittee submitted one (1) permit deviation report. The facility's RTO was vented to the atmosphere during routine maintenance. However, there were no excess emissions after performing calculations.

### IV. EMISSIONS

The facility's potential to emit (PTE) was calculated using AP-42 emission factors as well as voluntarily accepted emission limitations as illustrated in Table 1 below:

**Table 1: PTE (typ)**

Pollutant	PTE
PM <sub>10</sub>	23.00
PM <sub>2.5</sub>	17.34
NO <sub>x</sub>	18.42
CO	15.47
SO <sub>2</sub>	0.11
VOCs	230.67
Lead	0.00009
Xylenes	26.13
Total HAPs	55.56

### V. VOLUNTARILY ACCEPTED EMISSION LIMITS AND STANDARDS

The permit contains the following voluntary emission limits and standards:

#### A. Hours of Operation Limits

1. The facility accepted a voluntary hours of operation limit to not operate the finishing material test booth for more than 416 hours in any 12-month period. The hours of operation limit was incorporated into Permit No. 42868 issued back in 2008.
2. The facility accepted a voluntary hours of operation limit to not discharge from Dust Collector 3 (BH-3) to the finishing line building enclosure no more than 6,887 hours in any 12-month period. The hours of operation limit was incorporated into Permit No. 67347 issued back in 2018.

**B. Emission Limits**

1. The facility accepted a voluntary emission limit to not emit no more than 167 tons of VOC emissions per year from finishing lines 1 and 4 in any 12-month period. The emission limit was incorporated into Permit No. 42868 issued back in 2008.
2. The facility accepted a voluntary emission limit to not emit no more than 59 tons of VOC emissions per year from finishing line 3 in any 12-month period. The emission limit was incorporated into Permit No. 52974 issued back in 2013.

**VI. APPLICABLE REGULATIONS**

Table 2 identifies applicable regulations and verification as to why that standard applies. The table also contains a discussion of any regulations the emission unit is exempt from.

**Table 2: Applicable Regulations**

Unit(s)	Control Device	Rule	Discussion
Finishing Line 1 (Main Line), Finishing Line 3 (Expedite Line), Finishing Line 4 (Hybrid Line), Pump Room and Test Spray Booth	Regenerative Thermal Oxidizer (RTO-1)	A.A.C. R18-2-702; 40 CFR Part 63 Subpart A; 40 CFR Part 64 Subpart JJ	Finishing operations are subject to A.A.C. R18-2-702 for General Provisions, 40 CFR Part 63 Subpart A for General Provisions and 40 CFR Part 64 Subpart JJ for Wood Furniture Manufacturing Operations.
Hot Water Heaters (HWH-1, 2 and 3), Co-Ray-Vac Heating System (CRV-1) and Finishing Heaters (FH-1 through FH-18)	N/A	A.A.C. R18-2-724	Fuel-burning equipment is subject to A.A.C. R18-2-724 for Fossil-fuel Fired Industrial and Commercial Equipment.

Unit(s)	Control Device	Rule	Discussion
Finishing Line Operations, Assembly and Small Parts Operations and Milling Operations	Dust Collectors 1, 2 and 3 (BH-1, BH-2 and BH-3)	A.A.C. R18-2-702; A.A.C. R18-2-730; 40 CFR Part 64 Subpart JJ	Woodworking operations are subject to A.A.C. R18-2-702 for General Provisions, A.A.C. R18-2-730 for Unclassified Sources and 40 CFR Part 64 Subpart JJ for Wood Furniture Manufacturing Operations.
Fugitive Dust	Water Trucks; Dust Suppressants; Other Approved Methods	A.A.C. R18-2-Article 6	Any non-point source of fugitive dust is subject to A.A.C. R18-2-Article 6.
Abrasive Blasting	Wet Blasting; Dust Collecting Equipment; Other Approved Methods	A.A.C. R-18-2-702; A.A.C. R-18-2-726	Any abrasive blasting operation is subject to these rules.
Use of Paints	Enclosures	A.A.C. R18-2-702; A.A.C. R-18-2-727	Any spray painting operation is subject to these rules.
Demolition/Renovation	N/A	A.A.C. R18-2-1101.A.12	Any asbestos related demolition or renovation is subject to these rules.

## VII. PREVIOUS PERMIT REVISIONS AND CONDITIONS

### A. Previous Permit Revisions

There were five (5) facility changes without permit revisions to Permit No. 67347 during the previous permit term:

#### 1. Facility Change without a Permit Revision No. 71342

On May 3, 2018, the facility reverted back to using the A3 Recycled Solvent supplied by WRR Environmental after it had most recently used Veolia's 7014 Mixed Solvent but had previously used the A3 Recycled Solvent.

#### 2. Facility Change without a Permit Revision No. 73487

On September 21, 2018, the facility added automation controls to evaporative coolers and finishing heaters.

#### 3. Facility Change without a Permit Revision No. 78644

On September 23, 2019, the facility replaced six (6) existing finishing heaters.

#### 4. Facility Change without a Permit Revision No. 92788

On January 19, 2022, the facility added the following heaters to control temperature and humidity in the Sink Kitchen (i.e. a repair area for cabinets that have been sent back for light repair) and the Small Parts areas.

5. **Facility Change without a Permit Revision No. 93334**

On February 25, 2022, the facility moved the Ultraviolet Oven after the Drying Oven/Tunnel in Finishing Line 3.

**B.** Changes to Current Renewal

Table 3 addresses the changes made to the sections and conditions from Permit No. 67347:

**Table 3: Previous Permit Conditions**

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "A"		X		General Provisions – Updated emissions inventory questionnaire and facility change without a permit revision requirements.
Att. "B", Section I		X		Facility-Wide Requirements – Added applicability statement. Added EPA Reference Method 9 requirements.
Att. "B", Section II		X		Finishing Operation Requirements – Revised applicability statement and survey of visible emissions requirements. Updated cross-references and citations.
Att. "B", Section III		X		Fuel-Burning Equipment Requirements – Revised applicability statement and survey of visible emissions requirements. Updated cross-references and citations.
Att. "B", Section IV		X		Woodworking Operation Requirements – Revised applicability statement and survey of visible emissions requirements. Updated air pollution control requirements. Updated cross-references and citations.
Att. "B", Section VI			X	Mobile Source Requirements – Deleted section. No longer applicable.
Att. "B", Section VII		X		Other Periodic Activities – Added survey of visible emissions requirements. Updated cross-references.
Att. "D"		X		Equipment List – Added "A.A.C. / NSPS / NESHAP" column. Moved attachment to the bottom of the permit.

**VIII. MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS**

Table 4 contains an inclusive, but not an exhaustive list of the monitoring, recordkeeping and reporting requirements prescribed by the air quality permit. The table below is intended to provide insight to the public for how the facility is required to demonstrate compliance with the emission limits and standards in the permit.

**Table 4: Permit No. 95882**

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Finishing Line 1 (Main Line), Finishing Line 3 (Expedite Line), Finishing Line 4 (Hybrid Line), Pump Room and Test Spray Booth	VOCs	< 416 hours (finishing material test booth) < 167 tons per year of VOC emissions (finishing lines 1 and 4) < 59 tons per year of VOC emissions (finishing line 3)	Perform a daily inspection to verify the integrity and particle loading of the spray booth dry filters. Perform a weekly inspection of the spray booths to monitor overspray. Conduct a quarterly survey of visible emissions.	Maintain a record of daily, monthly and 12-month rolling totals for the operating hours of the test booth and finishing lines. Maintain records of spray booth and control system inspections, filter replacements and corrective actions taken, if any. Maintain monthly accounting of all finishing materials purchased and used in finishing operations. Maintain monthly records of all VOC containing waste materials.	Report VOC emissions from Finishing Lines 1, 3 and 4 that exceed 18.9 tons in any calendar month.

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Hot Water Heaters (HWH-1, 2 and 3), Co-Ray-Vac Heating System (CRV-1) and Finishing Heaters (FH-1 through FH-18)			Conduct a quarterly survey of visible emissions.	Keep records of fuel supplier certifications or other documentation.	
Finishing Line Operations, Assembly and Small Parts Operations and Milling Operations	PM		Perform a quarterly inspection of all bags from the dust control systems.  Conduct a quarterly survey of visible emissions.	Keep a record of the 12-month hours of operation each month.	
Fugitive Dust	PM	40% opacity	Conduct a weekly survey of visible emissions.	Record the dates and types of dust control measures employed.	N/A
Abrasive Blasting	PM	20% opacity	Conduct a quarterly survey of visible emissions (if applicable).	Record the date, duration and type of control measures employed for any abrasive blasting project.	N/A
Use of Paints	VOCs	20% opacity	Conduct a quarterly survey of visible emissions (if applicable).	Record the date, duration and type of control measures employed, Safety Data Sheets for all paints and solvents used and the amount of paint	N/A



Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
				consumed for any spray painting operation.	
Demolition/ Renovation	Asbestos	N/A	N/A	Maintain records of all asbestos related demolition/renovation including the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents.	N/A

**IX. COMPLIANCE ASSURANCE MONITORING (CAM)**

The CAM rule applies to pollutant-specific emission units (PSEU) at a Title V source if a unit meets all of the following criteria:

- A. The unit is subject to an emission limit or standard for the applicable regulated air pollutant;
- B. The unit uses a control device to achieve compliance with the emission limit or standard; and
- C. The unit has "potential pre-control device emissions" of the applicable regulated air pollutant equal to or greater than 100% of the amount in tons per year required for a source to be classified as a major source. "Potential pre-control device emissions" means potential to emit except emission reductions achieved by the applicable control device are not taken into account.

The CAM rule required monitoring to assure compliance with emission standards. This ensures that control devices meet and maintain the assumed control efficiencies. Compliance is verified by monitoring of the operation and maintenance of the control equipment and, if applicable, operating conditions of the PSEU. For the PSEUs that have post control potential to emit equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source, the facility shall collect four (4) or more data values equally spaced over each hour for each parameter monitored. Such units are defined as "large" PSEUs. For all "small" PSEUs, the monitoring shall include some data collection at least once per 24-hour period. Table 5 provides a list of the facility's PSEUs.

**Table 5: CAM Applicable Units**

No.	Equipment	Process	Control Device
1	Finishing Lines 1 and 4	Equipment in Main Line and Hybrid Line. In addition, sanding, panel cleaning and dusting.	RTO
2	Assembly, Small Parts and Milling Operations	Drilling machines in Assembly and Small Parts Operations. Panel saws and cutting machines in Milling Operations.	Dust Collectors

**B. Monitoring Approach**

The facility uses an RTO to capture and control VOC emissions. In addition, it uses dust collectors to capture and control particulate matter (PM) emissions. The monitoring approach for these devices is detailed below.

**Table 6: Finishing Lines 1 and 4**

Indicator	Visible Emissions
Indicator Range	<ul style="list-style-type: none"> <li>• Static pressure on each VOC capture module.</li> <li>• Static pressure at the inlet to the RTO.</li> <li>• Outlet temperature of the RTO combustion chamber.</li> <li>• Pressure differential of the finishing room building enclosure.</li> <li>• Dry filter loading and integrity.</li> </ul>
Measurement Approach	<ul style="list-style-type: none"> <li>• The static pressure on each VOC capture module is measured at least once per day.</li> <li>• The static pressure at the inlet to the RTO, the outlet temperature of the RTO combustion chamber and the pressure differential of the finishing room building enclosure are measured continuously.</li> <li>• Visual inspection of the dry filter loading and integrity is completed once per day.</li> </ul>
Quality Assurance and Control	<ul style="list-style-type: none"> <li>• All electronic monitoring devices are maintained according to manufacturer's specifications.</li> <li>• Employees are trained to ensure validity of monitoring data.</li> </ul>
Excursion Range	<ul style="list-style-type: none"> <li>• Each positive static pressure reading at any VOC capture system monitoring location.</li> <li>• Each period longer than 15 consecutive minutes during which the RTO inlet static pressure is greater than -3.5 inches of water.</li> <li>• Each period longer than 15 consecutive minutes during which the RTO combustion chamber outlet temperature falls below 1,425°F.</li> <li>• Each rolling 15-minute average pressure differential of the finishing room building enclosure that is greater than -0.007 inches of water.</li> <li>• Each dry filter not operating properly.</li> </ul>

**Table 7: Assembly, Small Parts and Milling Operations**

Indicator	Visible Emissions
Indicator Range	<ul style="list-style-type: none"> <li>• Visible emissions at the stack of Dust Collector 1 (BH-1).</li> <li>• Visible emissions at the stack of Dust Collector 3 (BH-3).</li> </ul>
Measurement Approach	<ul style="list-style-type: none"> <li>• Instantaneous surveys of visible emissions are completed once per day for any day when an emission unit controlled by BH-1 is in operation.</li> <li>• Instantaneous surveys of visible emissions are completed once per day for any day when an emission unit controlled by BH-3 is in operation.</li> </ul>

Indicator	Visible Emissions
Quality Assurance and Control	<ul style="list-style-type: none"> <li>• Employees are trained to ensure validity of monitoring data.</li> </ul>
Excursion Range	<ul style="list-style-type: none"> <li>• Visible emissions at the stack of Dust Collector 1 (BH-1).</li> <li>• Visible emissions at the stack of Dust Collector 3 (BH-3).</li> </ul>

**X. LIST OF ABBREVIATIONS**

- A.A.C..... Arizona Administrative Code
- ADEQ..... Arizona Department of Environmental Quality
- CAM..... Compliance Assurance Monitoring
- CFR..... Code of Federal Regulations
- CO..... Carbon Monoxide
- EPA..... Environmental Protection Agency
- HAPs..... Hazardous Air Pollutants
- NAAQS..... National Ambient Air Quality Standards
- NESHAP..... National Emission Standards for Hazardous Air Pollutants
- NOV..... Notice of Violation
- NO<sub>x</sub>..... Nitrogen Oxides
- PM..... Particulate Matter
- PM<sub>10</sub>..... Particulate Matter Less Than 10 µm Nominal Aerodynamic Diameter
- PM<sub>2.5</sub>..... Particulate Matter Less Than 2.5 µm Nominal Aerodynamic Diameter
- PSD..... Prevention of Significant Deterioration
- PSEUs..... Pollutant-Specific Emission Units
- PTE..... Potential to Emit
- SO<sub>2</sub>..... Sulfur Dioxide
- tpy..... Tons per Year
- VOCs..... Volatile Organic Compounds