RULE 238 FACTORY COATING OF FLAT WOOD PANELING

Adopted 11-03-94
(Amended 2-09-95, 6-08-95, 8-14-97, 02-18-04, 10-14-10 [Effective 7-1-11])

CONTENTS

100 GENERAL

101 PURPOSE
102 APPLICABILITY
103 EXEMPTIONS

200 DEFINITIONS

201 ADHESIVE
202 CAPTURE EFFICIENCY
203 COATING
204 CONTROL DEVICE EFFICIENCY
205 DIP COATER
206 ELECTROSTATIC SPRAY APPLICATION
207 EMISSION CONTROL SYSTEM
208 EXEMPT COMPOUNDS
209 FLATWOOD PANELING
210 FLOW COATER
211 HAND APPLICATION METHODS
212 HARDBOARD
213 HARDWOOD PLYWOOD
214 HIGH VOLUME, LOW PRESSURE (HVLP) SPRAY EQUIPMENT
215 INK
216 LOW SOLIDS COATING
217 NATURAL FINISH HARDWOOD PLYWOOD PANELS
218 NON-HEAT-SET INK
219 PANEL
220 PRINTED INTERIOR PANELS
221 ROLL COATER
222 SEMI-TRANSPARENT STAIN
223 SIMULATED WOOD MATERIALS
224 STAIN
225 THIN PARTICLEBOARD
226 TILEBOARD
227 TINT
228 VOC CONTENT
229 VOLATILE ORGANIC COMPOUND (VOC)
230 WOOD FLAT STOCK

300 STANDARDS

301 GENERAL REQUIREMENTS
302 APPLICATION EQUIPMENT REQUIREMENTS
303 CLEANUP AND STORAGE PROCEDURES

400 ADMINISTRATIVE REQUIREMENTS

401 OPERATION AND MAINTENANCE PLAN

500 MONITORING AND RECORDS

501 COATING LIST
502 RECORDKEEPING
503 RECORDKEEPING OF STAINS AND TINTS
504 EMISSION CONTROL SYSTEM RECORDS
505 RETENTION OF RECORDS
506 TEST METHODS

100 GENERAL

101 PURPOSE: The purpose of this Rule is to limit the emission of volatile organic compounds (VOC) from the factory application of coatings and inks to flatwood paneling as defined in Section 209, and to wood flat stock, as defined in Section 230.

102 APPLICABILITY:

102.1 Business Category: The provisions of this rule shall apply to any person who applies in a shop or factory facility, coatings or inks used to coat any products defined in Section 209 or 231, or who manufactures, blends, sells, repackages, distributes, or specifies such coatings and inks. Standard Industrial Code (SIC) classifications covering these coating processes are 2431, 2435, 2436, 2492 and 2499.

103 EXEMPTIONS:

103.1 Exemption, Furniture, and Cabinet Components: Surface coating of wood flat stock intended to be used as furniture or cabinet components, is subject to Rule 236, WOOD PRODUCTS COATING OPERATIONS, and is exempt from all provisions of this rule.

103.2 Exemption, Non-Shop Architectural Coatings: The coating of stationary structures and their appurtenances in a non-shop operation is subject to Rule 218, ARCHITECTURAL COATINGS, and is exempt from all provisions of this rule.

103.3 Exemption, Adhesives: The use of adhesives to manufacture flatwood panels or wood flat stock is subject to Rule 235, ADHESIVES, and is exempt from all provisions of this rule.

103.4 Exemption From Requirements of Other District Rules: Any coating, ink or cleanup material, which contains compounds that are subject to the VOC provisions of this rule, is exempt from the provisions of Rule 219, ORGANIC SOLVENTS.

103.5 Exemption, Residential, Non-Commercial Operations: Residential, non-commercial flatwood coating operations are exempt from all provisions of this rule.

103.6 Partial Exemption, Low Volume: Businesses using less than 55 gallons per year of coatings, inks and VOC-containing cleanup solvents or strippers, (singularly or in combination) are exempt from the provisions of this rule, except for Recordkeeping, Section 502.

103.7 Exemption, Aerosol Spray Coatings for Touch-Up: Aerosol spray coatings for touch up and repair are exempt from all provisions of this rule.

103.8 Exemption, Tints: Tints applied to stains in quantities not to exceed one pint of tint in any operating day, are exempt from all provisions of this rule, except for recordkeeping. Records shall be maintained and reported as specified in Section 503.

103.9 Exemption, Other: The application of coatings by template in order to add designs, letters, or numbers to wood products, is exempt from all provisions of this rule.

200 DEFINITIONS

201 ADHESIVE: Any substance that is applied for the primary purpose of bonding surfaces together.

202 CAPTURE EFFICIENCY: Expressed in percent, capture efficiency is the ratio of the weight of the VOC in the effluent stream entering a control device to the weight of the VOC emitted from flatwood paneling coating operations, both measured simultaneously in accordance with subsection 506.2, and can be calculated by the following equation:

$$\text{Capture Efficiency} = \frac{W_c}{W_e} \times 100$$

Where: W_c = Weight of VOC entering the control device
W_e = Weight of VOC discharged from the coating operations

203 COATING: Any coating applied on any flatwood paneling or wood flat stock including but not limited to water repellant preservative, semitransparent stains, opaque stains, filler, or clear top coat.

204 CONTROL DEVICE EFFICIENCY: Expressed in percent, control device efficiency is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously in accordance with subsection 506.3, and can be calculated by the following equation:

$$\text{Control Device Efficiency} = \frac{(W_c - W_a)}{W_c} \times 100$$

Where: W_c = Weight of VOC entering the control device
W_a = Weight of VOC discharged from the control device

205 DIP COATER: To dip an object into a vat of coating material and drain off any excess coating.

206 ELECTROSTATIC SPRAY APPLICATION: Any method of spray application of coatings where an electrostatic attraction is created between the part to be coated and the paint particles.

207 EMISSION CONTROL SYSTEM: A system for reducing emissions of VOC from flatwood paneling coating operations. It consists of (1) a capture device or system which collects all drying oven exhaust and fugitive emissions from the line and transports them to the control device, and (2) a VOC control device which destroys the VOC or otherwise limits the emission of VOC to the atmosphere. The individual efficiencies are calculated in accordance with Sections 202 and 204.

The overall efficiency of the emission control system is calculated by the following equation:

$$\text{Overall Efficiency} = \frac{\text{Capture Efficiency} \times \text{Control Device Efficiency}}{100}$$

208 EXEMPT COMPOUNDS: For the purposes of this rule, exempt compounds are as defined in Rule 102, DEFINITIONS.

209 FLATWOOD PANELING: Printed interior panels made of hardwood plywood and thin particle board, natural finish hardwood plywood, hardwood paneling, baseboard, wood flat stock, veneers, doors, door skins, wood flat product skins, tileboard and wallboard.

210 FLOW COATER: To coat an object by flowing a stream of coating over an object and draining off any excess coating.

211 HAND APPLICATION METHODS: The application of coatings, sealants, or adhesives by manually held, non-mechanically-operated equipment. Such equipment includes paint brushes, hand rollers, caulking guns, trowels, spatulas, syringe daubers, rags, and sponges.

212 HARDBOARD: A panel manufactured primarily from inter-felted ligno-cellulosic fibers which are consolidated under heat and pressure in a hot press.

213 HARDWOOD PLYWOOD: Plywood whose surface layer is a veneer of hardwood.

214 HIGH VOLUME, LOW PRESSURE (HVLP) SPRAY EQUIPMENT: Spray equipment used to apply coatings by means of a gun which is designed to be operated and which is operated between 0.1 and 10 pounds per square inch, gauge, (psig) air atomized pressure, measured dynamically at the center of the air cap and at the air horns.

215 INK: Any fluid or viscous composition used in printing impressing or transferring an image onto a panel.

216 LOW SOLIDS COATING: A coating or ink containing 120 grams or less of solids per liter (1.0 pounds or less of solids per gallon) of coating material.

217 NATURAL FINISH HARDWOOD PLYWOOD PANELS: Panels whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners.

218 NON-HEAT-SET INK: An ink which dries by oxidation and absorption into the substrate without the use of heat from dryers or ovens.

219 PANEL: A flat piece of wood or wood product usually rectangular and used inside homes and mobile homes for wall decorations.

220 PRINTED INTERIOR PANELS: Panels whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed.

221 ROLL COATER: A series of mechanical rollers that forms a thin coating film on the surface of roller, which is applied to a substrate by moving the substrate underneath the roller.

222 SEMI-TRANSPARENT STAIN: A stain containing dyes and/or semi-transparent pigments which are formulated to enhance wood grain and change surface color, but not to conceal surface grain, and include sap stain and non-grain raising stains. Semi-transparent stains with greater than one (1) pound of solids per gallon of coating shall be considered opaque stains.

223 SIMULATED WOOD MATERIALS: Materials, such as plastic, glass, metal, etc., that are made to give a wood-like appearance, or are processed like a wood product.

224 STAIN: A semitransparent or opaque coating labeled and formulated to change the color of a surface, but not conceal the grain pattern or texture.

225 THIN PARTICLEBOARD: A manufactured board 1/4 inch or less in thickness made of individual wood particles which have been coated with a binder and formed into flat sheets by pressure.

226 TILEBOARD: Paneling that has a colored waterproof surface coating.

227 TINT: A colorant added in small quantities to a stain to achieve a particular color for a finished product.

228 VOC CONTENT:

228.1 Regulatory VOC Content: The weight of VOC per combined volume of VOC and coating solids, measured in accordance with subsection 506.1, and calculated by the following equation:

$$G_1 = \frac{W_v - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where: G_1 = Weight of VOC in grams per liter of coating, less water and exempt compounds
W_v = Weight of volatile compounds, in grams
W_w = Weight of water, in grams
W_{ec} = Weight of exempt compounds, in grams
V_m = Volume of coating material, in liters
V_w = Volume of water, in liters
V_{ec} = Volume of exempt compounds, in liters

(To convert G_1 to pounds per gallon, multiply by 0.008345)

228.2 Actual VOC Content: The weight of VOC in grams, per liter of total material, measured in accordance with subsection 506.1, and calculated by the following equation:

$$G_L = \frac{W_v - W_w - W_{ec}}{V_m}$$

Where: G_L = Weight of VOC per liter of low solids coating material, less water and exempt compounds
W_v = Weight of volatile compounds, in grams
W_w = Weight of water, in grams
W_{ec} = Weight of exempt compounds, in grams
V_m = Volume of coating material, in liters

(To convert G_L to pounds per gallon, multiply by 0.008345)

229 VOLATILE ORGANIC COMPOUND (VOC): Any chemical compound containing at least one atom of carbon, except for the Exempt Compounds listed in Rule 102, DEFINITIONS.

230 WOOD FLAT STOCK: Interior panels containing wood including but not limited to redwood stocks, plywood panels, particle boards, composition hardboards, and any other panels containing solid wood or wood product.

300 STANDARDS

301 GENERAL REQUIREMENTS: Any person applying coatings or inks to flatwood paneling products subject to this rule shall comply with either of the following requirements listed in subsections 301.1 or 301.2:

301.1 Coating Materials and Inks: Only coatings and inks that comply with the following VOC Limits shall be used:

Coating Materials and Inks	Maximum Allowable VOC content, as applied
All coatings and inks except for low solids coatings and inks (below).	250 grams or less of VOC per liter (2.1 pounds VOC per gallon) less water and exempt compounds, as calculated in accordance with Section 228.1 (Regulatory VOC Content)
Low solids coatings and inks	120 grams or less of VOC per liter (1.0 pounds VOC per gallon) of material as calculated in accordance with Section 228.2 (Actual VOC Content)

301.2 Install and operate on the line(s), an emission control system as defined in Section 207, that operates at an overall efficiency of at least 95%, as calculated in accordance with Section 207, and that has been approved pursuant to Section 401.

302 APPLICATION EQUIPMENT REQUIREMENTS: A person or facility shall not apply coatings to wood products subject to the provisions of this rule unless the coating is applied with properly operating equipment, in accordance with proper operating procedures, and by the use of one of the following methods:

302.1 Electrostatic application;

302.2 High volume, low pressure (HVLP) spray;

302.3 Hand roller;

302.4 Flow coat;

302.5 Roll coater;

302.6 Dip coat;

302.7 Paint brush;

302.8 Detailing or touch-up guns.

303 CLEANUP AND STORAGE PROCEDURES: Any person or facility using VOC-containing solvents for cleanup or related uses shall observe the following procedures:

303.1 All solvent, including waste solvent and waste solvent residues, shall be stored in closed, non-absorbant, non-leaking, containers at all times. Each container shall have a label indicating the name of the solvent or material it contains.

303.2 If recovery of waste solvent by distillation is performed, solvent residues shall not contain more than 10 percent solvent by volume after distillation.

303.3 Solvents shall not be used for the cleanup of spray equipment including paint lines unless an enclosed system or other system that has been approved in writing for use by the Air Pollution Control Officer is used for cleanup. The system must enclose spray guns, cups, nozzles, bowls, and other parts during washing, rinsing, and draining procedures. Equipment used shall minimize the evaporation of organic

compounds to the atmosphere. Spray equipment may be cleaned without the use of an enclosed system if cleaning solutions are used that do not contain VOCs.

303.4 Spillage of VOC-containing materials shall be minimized. Spills shall be cleaned up immediately.

303.5 VOC-containing materials shall be stored and disposed of in closed containers. Storage and disposal containers must be kept closed, except when depositing or removing the materials. Disposal shall be conducted in a manner that the VOC are not emitted to the atmosphere.

303.6 VOC-containing materials shall be conveyed in closed containers or pipes.

303.7 Mixing vessels for VOC-containing materials must be closed except when in use.

303.8 VOC emissions shall be minimized during cleaning of storage, mixing, and conveying equipment.

400 ADMINISTRATIVE REQUIREMENTS

401 OPERATION AND MAINTENANCE PLAN: A person using an existing emission control system as a means of compliance with this rule, pursuant to Section 301.2, shall submit an Operation and Maintenance Plan for the emission control system to the Air Pollution Control Officer for approval. A person proposing to install a new emission control system as a means of compliance with this rule, shall submit in addition to an Operation and Maintenance Plan, an application for an Authority to Construct, pursuant to Rule 501, GENERAL PERMIT REQUIREMENTS. The Plan shall specify operating and maintenance procedures which will demonstrate continuous operation of the emission control system during periods of emissions-producing operations. The Plan shall also specify which records shall be kept to document these operating and maintenance procedures. These records shall comply with the requirements of Section 500. The Plan shall be implemented upon approval of the Air Pollution Control Officer.

500 MONITORING AND RECORDS

501 COATING LIST: Any person subject to Section 301 shall maintain at the facility, a current list of coatings and inks in use, which includes all of the data necessary to evaluate compliance with the standards of this rule.

502 RECORDKEEPING: Any person subject to this Rule shall maintain records on a monthly basis that provide the following information as applicable:

502.1 Coating types and mix ratios of components used;

502.2 Quantity of each coating applied;

502.3 Description of substrate(s) coated;

502.4 Oven or cure temperature, if applicable;

502.5 Type and amount of solvent used for cleanup and surface preparation.

503 RECORDKEEPING FOR STAINS AND TINTS: In addition to the requirements in Section 502, any person subject to this rule shall maintain records on a monthly basis that provide the following information as applicable:

503.1 Name, description, container size and actual VOC content of any tints used to color stains for factory coating of wood products.

503.2 For persons using tints to color stains, usage is limited to one pint of tint in any operating day. Records of any tint use shall be maintained on a monthly basis and submitted to the Placer Air Pollution Control District when requested.

504 EMISSION CONTROL SYSTEM RECORDS: A person using an emission control system as a means of compliance with this rule pursuant to Section 301.2, shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control system during periods of emission-producing activities. Key system operating parameters are those necessary to ensure compliance with the requirements of Section 301.2.

505 RETENTION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least three years from date of entry, with the exception of sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM. These sources shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

506 TEST METHODS:

506.1 Determination of VOC Content: VOC content, solids content and water content of flatwood paneling coatings shall be determined in accordance with United States Environmental Protection Agency (U.S. EPA) Method 24 or U.S. EPA Method 24A and Section 228.

506.2 Determination of Capture Efficiency: Efficiency of the capture system, calculated in accordance with Section 202, shall be based upon test measurements made in accordance with U.S. EPA "Guidelines for Determining Capture Efficiency, January 9, 1995". Individual capture efficiency test runs subject to the U.S. EPA technical guidelines shall be determined by:

506.2.1 40 CFR 51, Appendix M, Methods 204-204F; or

506.2.2 The South Coast Air Quality Management District "Protocol for Determination of Volatile Organic Compound (VOC) Capture Efficiency"; or

506.2.3 Any other method approved by U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.

506.3 Determination of Control Device Efficiency: Efficiency of the emissions control device, calculated in accordance with Section 204, shall be based upon test measurements made in accordance with (1) U.S. EPA Method 25 or 25A, for VOC concentration, and (2) U.S. EPA Method 2 or 2C for flow rates, as applicable. U.S. EPA Method 18 or CARB Method 422 "Determination of Volatile Organic Compounds in Emissions from Stationary Sources" may be used to determine emissions of exempt compounds.

506.4 Multiple Test Methods: When more than one test method or a set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

This page intentionally left blank