

Optional Information

Name of School:

Date of Inspection:

Vocational Program/Course/Room:

Signature of Inspector:

**Spray Finishing  
Self-Inspection Checklist**

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Guidelines: This checklist covers some of the regulations issued by the New Jersey Department of Community Affairs under the Uniform Fire Code (N.J.A.C. 5:70) and the U.S. Department of Labor - OSHA General Industry standards 1910.94 and 1910.107. The Uniform Fire Code has adopted the model code of the Building Officials and Code Administrators International, Inc. known as the "BOCA National Fire Prevention Code/1996" by reference.

This checklist applies to spray finishing operations in educational buildings involving flammable and combustible liquids such as paint, varnish, lacquer or stain. This checklist must be used in conjunction with the checklist entitled "Flammable and Combustible Liquids." Definitions of underlined terms are provided at the end of the checklist to help you understand some of the questions. Questions marked with the symbol (☞) may require the help of an outside expert. The questions that are most likely not the responsibility of the individual teacher are marked with an asterisk (\*).

Spray-finishing operations cannot be conducted in a school except in a room designed for that purpose - protected with an approved fire suppression system and separated vertically and horizontally from other areas. Undercoating spray operations do not have to comply with this checklist if 1) the area has adequate natural or mechanical ventilation, 2) the local fire official approves of the operation; and 3) the undercoating materials use only solvents having a flash point in excess of 100 degrees Fahrenheit.

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General Requirements

Please Circle

1. Are smoking and open flames prohibited in any spraying area? [N.J.A.C. 5:70-3.2{BOCA F-1303.2}] Y N N/A DK
2. Are spraying areas posted with a conspicuous sign reading "No Smoking"? [29 CFR 1910.107(g)(7)] Y N N/A DK
3. ☞ Is there an adequate supply of portable fire extinguishers near all spraying areas? [N.J.A.C. 5:70-3.2{BOCA F-1304.8} and 29 CFR 1910.107(f)(4)] Y N N/A DK

Note: Consult your local fire official. The BOCA Code requires at least one portable fire extinguisher with a minimum 40-B:C rating located within 30 feet of travel distance from the spraying area.

4. Are approved metal waste cans equipped with self-closing lids provided wherever rags or waste are impregnated with finishing material Y N N/A DK
5. Are rags or waste impregnated with finishing material deposited immediately after use into approved metal waste cans equipped with self-closing lids? [N.J.A.C. 5:70- 3.2{BOCA F-1304.9.5} and 29 CFR 1910.107(g)(3)] Y N N/A DK

Construction

- 6.\* Are spray-finishing operations conducted only in a room designed for that purpose and protected with an approved automatic fire suppression system? [N.J.A.C. 5:70-3.2{BOCA F-1304.2 and F-1304.8} and 29 CFR 1910.107(b)(5)(iv)] Y N N/A DK

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Note: The spray-finishing operations must be separated both vertically and horizontally from other areas. OSHA requires an automatic sprinkler system in a spray booth on the downstream and upstream sides of filters.

7.\* Are spray booths separated from other operations by at least three feet or partition or wall to reduce the hazard? [N.J.A.C. 5:70-3.2{BOCA F-1304.3.5} and 29 CFR 1910.107(b)(8)] Y N N/A DK

8.\* Are spray booths substantially constructed with securely and rigidly supported steel, concrete or masonry? [29 CFR 1910.107(b)(1)] Y N N/A DK

9.\* Are the floors in spray booths covered by approved noncombustible materials? [N.J.A.C. 5:70-3.2{BOCA F-1304.3.2}; 29 CFR 1910.94(c); and 29 CFR 1910.107(b)(3)] Y N N/A DK

Note: Combustible coverings, such as thin paper or plastic and strippable coatings may be utilized over noncombustible materials to facilitate cleaning operations.

10.\* Are baffle plates in spray booths constructed of noncombustible material, readily removable or capable of being cleaned on both sides, and designed to promote an even flow of air through the booth, as well as prevent the deposit of overspray before it enters the exhaust duct? [N.J.A.C. 5:70-3.2{BOCA F-1304.3.3}; 29 CFR 1910.94(c)(3); and 1910.107(b)(4)] Y N N/A DK

11.\* Are spray booth interiors smooth and continuous without edges and designed to prevent pocketing of residues? [N.J.A.C. 5:70-3.2{BOCA F-1304.3.1} and 29 CFR 1910.107(b)(2)] Y N N/A DK

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- 12.\* Are spray booths installed such that all portions are readily accessible for cleaning? [N.J.A.C. 5:70-3.2{BOCA F-1304.3.6} and 29 CFR 1910.107(b)(9)] Y N N/A DK
- 13.\* Is at least 3 feet on all sides of spray booths kept free from storage or combustible construction? [N.J.A.C. 5:70-3.2{BOCA F-1304.3.6} and 29 CFR 1910.107(b)(9)] Y N N/A DK
- 14.\* Does each spray booth having a frontal area larger than nine square feet, have a metal deflector or curtain not less than 4 and 1/2 inches deep installed at the upper outer edge of the booth, over the opening? [N.J.A.C. 5:70-3.2{BOCA F-1304.3.4} and 29 CFR 1910.107(b)(6)] Y N N/A DK
- 15.\* When spraying areas are illuminated through glass panels or other translucent materials, are only fixed lighting units used as a source of illumination? [N.J.A.C. 5:70-3.2{BOCA F-1304.3.7} and 29 CFR 1910.107(b)(10)] Y N N/A DK

Note: Panels shall effectively isolate the spraying areas from the area in which the lighting unit is located, and be of noncombustible material of such a nature or so protected against breakage. Panels shall be arranged so normal accumulations or residue on the exposed surface of the panel will not be raised to a dangerous temperature by radiation or conduction from the source of illumination.

- 16.\* Are all motors, wiring, and lighting fixtures not subject to deposits of combustible residues in spraying areas explosion proof and approved for Class I, Division 1, Hazardous Locations? [N.J.A.C. 5:70-3.2{BOCA F-1303.3 and F-1304.5} and 29 CFR 1910.94(c) & 1910.107(c)] Y N N/A DK

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17. ~~\*~~ ☞ Are all motors, wiring, and lighting fixtures which are not outside, but located within 20 feet of a spraying area, and are not separated by a partition, approved for Class I, Division 2, Hazardous Locations? [N.J.A.C. 5:70-3.2{BOCA F-1303.3 and F-1304.5} and 29 CFR 1910.94(c) & 1910.107(c)] Y N N/A DK

18.\* Are hot surfaces such as space heaters, appliances and steam pipes located away from spraying areas? [N.J.A.C. 5:70-3.2{BOCA F-1304.5.1 and F-1304.7.5} and 29 CFR 1910.107(c)(3)] Y N N/A DK

19. ~~\*~~ ☞ Are all metal parts of spray booths, exhaust ducts and piping systems effectively and permanently grounded? [N.J.A.C. 5:70-3.2{BOCA F-1304.7.7} and 29 CFR 1910.107(c)(9)] Y N N/A DK

Operations and Maintenance

20. Are spray booth interiors free from accumulated deposits? [N.J.A.C. 5:70-3.2{BOCA F-1304.3.2} and 29 CFR 1910.107(b)(2) & (g)(2)] Y N N/A DK

Note: Combustible coverings (thin paper, plastic, and so forth) and strippable coatings may be used to facilitate cleaning operations.

21. Are tools used for scraping residues and debris nonsparking? [N.J.A.C. 5:70-3.2{BOCA F-1304.9.1} and 29 CFR 1910.107(g)(2)] Y N N/A DK

22. Are residue scrapings and debris immediately removed from the premises and disposed of properly? [N.J.A.C. 5:70-3.2{BOCA F-1304.9.2} and 29 CFR 1910.107(g)(3)] Y N N/A DK

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23. Are cleaning solvents restricted to those with flash points above 140 °F? [N.J.A.C 5:70-3.2{BOCA F-1304.9.3} and 29 CFR 1910.107(g)(5)] Y N N/A DK

Note: OSHA regulations require cleaning solvents with flash points above 100 °F.

24. Are cleaning operations using flammable or combustible solvents conducted inside spray booths with the ventilating equipment operating during the cleaning procedure? [N.J.A.C 5:70-3.2{BOCA F-1304.9.3.1} and 29 CFR 1910.107(g)(5)] Y N N/A DK

25. Are fire sprinkler heads kept free of accumulated deposits? [29 CFR 1910.107(f)(3)] Y N N/A DK

26. Are spray booth filters and filter rolls noncombustible or of an approved type? [N.J.A.C. 5:70-3.2{BOCA F-1304.4.3} and 29 CFR 1910.107(b)(5)(vi)] Y N N/A DK

27. Are spray booth filters and filter rolls prohibited from use when applying a spray material known to be highly susceptible to spontaneous heating and ignition? [N.J.A.C. 5:70-3.2{BOCA F-1304.4.3} and 29 CFR 1910.107(b)(5)(v)] Y N N/A DK

28. Are the same spray booth filters and filter rolls not used for different types of coating materials where the combination of materials may be conducive to spontaneous ignition? [N.J.A.C. 5:70-3.2{BOCA F-1304.4.4} and 29 CFR 1910.107(b)(5)(vi)] Y N N/A DK

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29. Are *spray booth* overspray filters discarded at the end of each day unless maintained completely in water? [N.J.A.C. 5:70-3.2{BOCA F-1304.4.1} and 29 CFR 1910.107(b)(5)(ii)] Y N N/A DK

Flammable and Combustible Liquids

30. Is the quantity of flammable or combustible liquids kept in the vicinity of spraying operations no greater than that required for one day? [29 CFR 1910.107(e)(2)] Y N N/A DK

31. If the quantity of flammable liquid in 5-gallon and smaller containers (except that in originally of sealed containers), is greater than 10 gallons, is it stored in an approved storage cabinet or an interior storage room? [N.J.A.C. 5:70- 3.2{BOCA F-1304.7.1}] Y N N/A DK

32. Are all flammable and combustible liquids transported in closed containers, approved portable tanks, approved safety cans or closed piping? [N.J.A.C. 5:70-3.2{BOCA F- 1304.7.2} and 29 CFR 1910.107(e)(3)] Y N N/A DK

33. Are all flammable and combustible liquids in containers larger than 60 gallons transferred by means of an approved pump? [29 CFR 1910.107(e)(4)] Y N N/A DK

34. Do all containers or pipes attached to flexible hoses have shut-off valves at the connections? [N.J.A.C. 5:70-3.2{BOCA F-1304.7.4} and 29 CFR 1910.107(e)(6)(i)] Y N N/A DK

35. When flammable liquids are transferred from one container to another, are both containers bonded and grounded? [N.J.A.C. 5:70-3.2{BOCA F-1304.7.7} and 29 CFR 1910.107(e)(6)(iv)] Y N N/A DK

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| 36. | Are containers, which are used to supply spray nozzles, of a closed type or are they provided with a metal cover? [N.J.A.C. 5:70-3.2{BOCA F-1304.7.3} and 29 CFR 1910.107(e)(5)]  | Y N N/A DK |
| 37. | Are containers, which are used to supply spray nozzles, resting on floors, on noncombustible supports or suspended by wire cables? [N.J.A.C. 5:70-3.2{BOCA F-1304.7.3} and 29 CFR 1910.107(e)(5)]   | Y N N/A DK |
| 38. | Are containers, which are used to supply spray nozzles by gravity flow, no more than 10 gallons in size? [N.J.A.C. 5:70-3.2{BOCA F-1304.7.3} and 29 CFR 1910.107(e)(5)]   | Y N N/A DK |
| 39. | If flammable or combustible liquids are supplied to spray nozzles by positive displacement pumps, has a means been provided to prevent the discharge pressure from exceeding the operating pressure of the system?[N.J.A.C. 5:70- 3.2{BOCA F-1304.7.6} and 29 CFR 1910.107(e)(5)] | Y N N/A DK |

Ventilation

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| 40.    | Are spraying areas provided with mechanical ventilation which is kept in use during spraying? [N.J.A.C. 5:70-3.2{BOCA F-1304.6}; 29 CFR 1910.94(c); and 29 CFR 1910.107(d)(2)] | Y N N/A DK |
| 41 . ☞ | Do spraying operations have sufficient ventilation to maintain solvent vapor concentrations to at least 25 percent of the lower explosive limit? [29 CFR 1910.94(c)(6)]        | Y N N/A DK |
| 42 . ☞ | Do exhaust ventilation systems appear to be well constructed and in good working order? [29 CFR 1910.94(c)(5 through 7) and 29 CFR 1910.107(d)]                                | Y N N/A DK |

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43. ☞ Is the average velocity of air flowing into the face of spray booths maintained at least 100 feet per minute? [29 CFR 1910.94(c)(6)(i) and 1910.107(b)(5)(i)] Y N N/A DK

Note: Electrostatic spraying operations may be conducted with an average air velocity not less than 60 feet per minute.

44. Are visible gauges, audible alarms or pressure activated devices installed to indicate or insure that the required air velocity is maintained? [29 CFR 1910.107(b)(5)(i)] Y N N/A DK

45. Are doors to downdraft booths kept closed when booth is in operation? [29 CFR 1910.94(c)(6)((iii)(b))] Y N N/A DK

46. Is clean fresh makeup air supplied to the area to replace the volume of air exhausted through the spray booth? [29 CFR 1910.94(c)(7)] Y N N/A DK

Note: If outdoor air temperature is less than 55 °F, makeup air must be heated.

47. Do all spray booths have independent exhaust stacks to the outside? [29 CFR 1910.107(d)(3)] Y N N/A DK

48. Are all fan rotating elements constructed of nonferrous or nonsparking materials? [29 CFR 1910.107(d)(4)] Y N N/A DK

49. Are electric motors driving the exhaust fans placed outside booths or ducts? [29 CFR 1910.107(d)(5)] Y N N/A DK

50. Are belts and pulleys in ducts used to drive the fan blades thoroughly enclosed? [29 CFR 1910.107(d)(6)] Y N N/A DK

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| 51.   | Are spray booth exhaust duct terminals located at least six feet from any combustible exterior wall or roof and prevented from discharging in the direction of any combustible construction? [29 CFR 1910.107(d)(8)] | Y N N/A DK |
| 52.   | Is spray booth exhaust air directed so that it will not contaminate make-up air or create a nuisance? [29 CFR 1910.107(d)(9)]  | Y N N/A DK |
| 53.   | Are exhaust ducts fitted with access doors where needed for cleaning? [29 CFR 1910.107(d)(10)]   | Y N N/A DK |
| 54.   | Are areas used to dry freshly spray-finished articles adequately ventilated and if not, are those areas treated as spraying areas? [29 CFR 1910.107(d)(12)]  | Y N N/A DK |
| 55.*☞ | Does the ventilation system comply with the New Jersey Department of Environment and Energy regulations on air pollution? (See "Air Pollution Control" checklist)  | Y N N/A DK |

Drying

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| 56. | Are drying operations which might cause a material increase in surface or room temperature prohibited in spray booths, rooms or other enclosures used for spraying operations? [N.J.A.C. 5:70-3.2{BOCA F-1304.10.1} and 29 CFR 1910.107(j)(2)] | Y N N/A DK |
| 57. | Are portable infrared drying apparatus only permitted in automobile refinishing booths or enclosures when all of the following conditions have been met? [N.J.A.C. 5:70- 3.2{BOCA F-1304.10.3} and 29 CFR 1910.107(j)(4)]                      | Y N N/A DK |
|     | a) The procedure is restricted to low-volume, occasional spray application;  |            |

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- b) The interior of spray enclosures is kept free of overspray deposits;
- c) During spray operations, the drying apparatus and electrical connections and wiring must not be located within the spray enclosure nor in any other location where spray residues may be deposited;
- d) Spraying apparatus, drying apparatus and the ventilating system of the spray enclosure are equipped with suitable interlocks so that 1) The spraying apparatus cannot be operated while drying apparatus is inside the spray enclosure; 2) The spray enclosure is purged of spray vapors for a period of not less than 3 minutes before drying apparatus can be energized; and 3) The ventilating system will maintain a safe atmosphere within the enclosure during the drying process and drying apparatus will automatically shut off in the event of failure of the ventilating system; and
- e) Electrical wiring and equipment is appropriate for area and all metallic parts of the drying apparatus is electrically bonded and grounded.

#### Electrostatic Apparatus

58. Are only approved electrostatic equipment used in connection with paint spraying operations? [N.J.A.C. 5:70- 3.2{BOCA F-1306.1} and 29 CFR 1910.107(h) and (i)] Y N N/A DK

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59. Are transformers, power packs, control apparatus and all other electrical portions of the equipment, with the exception of high voltage grids and electrostatic atomizing heads and their connection, located outside of the spraying or vapor areas? [N.J.A.C. 5:70-3.2{BOCA F-1306.2} and 29 CFR 1910.107(h) and (i)] Y N N/A DK

60. Is a space of at least twice the sparking distance maintained between goods painted and fixed electrodes, electrostatic atomizing head or conductors? [N.J.A.C. 5:70-3.2{BOCA F-1306.3} and 29 CFR 1910.107(h)] Y N N/A DK

Note: A suitable sign stating the sparking distance is to be posted near the assembly.

61. Are fixed electrostatic apparatus equipped with automatic controls which operate without time delay to disconnect the power supply to the high voltage transformer and to signal the operator under any of the following conditions? [N.J.A.C. 5:70-3.2{BOCA F-1306.4} and 29 CFR 1910.107(h)] Y N N/A DK

- a) Stoppage of ventilating fans or failure of ventilation equipment from any cause;
- b) Stoppage of the conveyor carrying goods past the high voltage grid;
- c) Occurrence of a ground or of an imminent ground at any point of the high voltage system; or
- d) Reduction of clearance below that specified in question 60.

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| 62. | Are hand electrostatic equipment interlocked with the ventilation system for the spraying area so that the equipment cannot be operated unless the ventilating system is in operation? [N.J.A.C. 5:70-3.2{BOCA F-1306.4.1} and 29 CFR 1910.107(i)] | Y N N/A DK |
| 63. | Is the handle of hand spraying equipment electrically connected to ground by a metallic connection? [29 CFR 1910.107(i)]   | Y N N/A DK |
| 64. | Are all electrically conductive objects in the spraying area grounded where electrostatic hand spraying equipment is being used? [29 CFR 1910.107(i)]  | Y N N/A DK |
| 65. | Are adequate booths, fencing, railings or guards placed about equipment that safely isolate the process from storage and individuals? [N.J.A.C. 5:70-3.2{BOCA F-1306.5} and 29 CFR 1910.107(h)]  | Y N N/A DK |
|     | Note: Such railings, fencing and guards shall be of conducting material, adequately grounded and shall be at least five feet from processing equipment.  |            |
| 66. | Are signs posted designated the process zone as dangerous with respect to fire and accident? [N.J.A.C. 5:70-3.2{BOCA F-1306.6} and 29 CFR 1910.107(h)]   | Y N N/A DK |
| 67. | Are all insulators kept clean and dry? [N.J.A.C. 5:70-3.2{BOCA F-1306.7}]  | Y N N/A DK |

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## Definitions:

*Approved* means approved and listed by a nationally recognized testing laboratory.

*Bonded* means the permanent joining of metallic parts to form an electrically conductive path which will assure electrical continuity and the capacity to conduct safely any current likely to be imposed.

*Combustible* means any liquid having a flashpoint at or above 100 °F but below 200 °F.

*Flammable* means any liquid having a flashpoint below 100 °F.

*Grounded* means connected to earth or to some conducting body that serves in place of the earth.

*Spraying area* means any area in which dangerous quantities of flammable vapors or mists, or combustible residues, dusts, or deposits are present due to the operation of spraying processes. This shall include the interior of spray booths, the interior of ducts exhausting from spraying processes, and any area in the direct path of spray.

*Spray booth* means a power-ventilated structure provided to enclose or accommodate a spraying operation to confine and limit the escape of spray, vapor, and residue, and to safely conduct or direct them to an exhaust system.

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