AFL-CIO

RESPIRATORS, MASKS AND FACE SHIELDS

Type	Description	Uses	Certification Requirements	OSHA Requirements
RESPIRATORS				
Filtering Facepiece N95, N99, N100 R95, R99, R100 (oil resistant) P95, P99, P100 (oil proof) 	An air-purifying respirator whose facepiece is constructed of filtering material. Half mask covering the mouth and nose. Forms a tight seal over the mouth and nose. Must be fit tested and user-seal checked by the individual wearer to ensure a tight seal. Facial hair must not interfere with the seal. Multiple sizes and styles must be available to fit all workers. Filters large and small harmful particles from the air, including aerosols, when the wearer inhales. Filter materials can provide different filtering efficiencies for capturing particles: N95 (95% efficient); N99 (99% efficient); N100 (99.97% efficient). Intended to be disposable and discarded after each use. Does not protect eyes against hazards or pathogens. A face shield or goggles also must be worn to protect the eyes.	Protects the person wearing the respirator when inhaling. Also provides a barrier to prevent exhalation of contamination by the wearer to others in the work environment. Some have exhalation valves that prevent steaming of the user's glasses, offer less breathing resistance, but do not block pathogens from coughs and sneezes of the wearer from escaping to the environment. R and P designations indicate that the filtration qualities of the material will continue to function in an oily environment.	The National Institute for Occupational Safety and Health (NIOSH) certifies all respirators that are to be worn by workers in the workplace. The manufacturer's name and "NIOSH approved" must be printed on the mask. Certification requirements for all respirators, including filter efficiency performance, are contained in 42 CFR Part 48.[1] NIOSH publishes a list of approved manufacturers and issues a rescission letter for manufacturers that fail their requirements.[2]	**YES** When workers are required to wear a respirator, 29 CFR Part 1910.134 requires employers to assess risks, select a NIOSH-certified respirator and establish a comprehensive respiratory protection program.[3] The employer's written respiratory protection program must include procedures for selecting appropriate respirators; training employees on proper use and maintenance of respirators; monitoring proper use; medically evaluating employees; fit testing; and cleaning, storing in a clean location, inspecting, repairing, removing from service or discarding respirators.

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RESPIRATORS				
Surgical N95 	Combination filtering facepiece respirator and surgical mask.	Protects the person wearing the respirator when inhaling and provides a barrier protecting the nose and mouth from large droplet sprays and splashes coming from patients. Also provides a barrier to help prevent exhalation of contamination by the wearer to others in the work environment.	Must comply with both NIOSH certification requirements as a respirator and the FDA clearance requirements as a surgical mask: NIOSH certification requirements for all respirators, including filter efficiency performance, are contained in 42 CFR Part 48.[1] As a medical device, surgical N95s must receive clearance from the Food and Drug Administration requirements in its 510(k) rules.[4] FDA tests that must be satisfactorily performed include: • Fluid resistance • Flammability • Biocompatibility • Filtration efficiency • Differential pressure NIOSH publishes a list of approved manufacturers and issues a rescission letter for manufacturers that fail their requirements.[2]	**YES** When workers are required to wear a respirator, 29 CFR Part 1910.134 requires employers to assess risks, select a NIOSH-certified respirator and establish a comprehensive respiratory protection program.[3] The employer's written respiratory protection program must include procedures for selecting appropriate respirators; training employees on proper use and maintenance of respirators; monitoring proper use; medically evaluating employees; fit testing; and cleaning, storing in a clean location, inspecting, repairing, removing from service or discarding respirators.

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RESPIRATORS				
Half-Mask Elastomeric 	An air-purifying respirator with a facepiece constructed of flexible rubber or silicone to which replaceable filters for particulates and other chemical hazards are attached. Forms a tight seal over the mouth and nose. Must be fit tested with multiple sizes and adjusted by the individual wearer to ensure a tight seal. Facial hair must not interfere with the seal. Filter removes harmful particles from the air, including aerosols and chemicals, when the wearer inhales. Unfiltered exhalation breath passes out through a valve in the facepiece. Filter material can have different filtering efficiencies for capturing particles from the inhaled air: N95 (95% efficient); N99 (99% efficient); N100 (99.97% efficient). Can be cleaned, decontaminated and reused. The filters can be replaced. Does not protect eyes against hazards or pathogens. A face shield or goggles also must be worn to protect the eyes.	Protects the person wearing the respirator when inhaling.	The National Institute for Occupational Safety and Health certifies all respirators that are to be worn by workers in the workplace. Certification requirements for all respirators, including filter efficiency performance, are contained in 42 CFR Part 48.[1] NIOSH publishes a list of approved manufacturers and issues a rescission letter for manufacturers that fail their requirements.[2]	**YES** When workers are required to wear a respirator, 29 CFR Part 1910.134 requires employers to assess risks, select a NIOSH-certified respirator and establish a comprehensive respiratory protection program.[3] The employer's written respiratory protection program must include procedures for selecting appropriate respirators; training employees on proper use and maintenance of respirators; monitoring proper use; medically evaluating employees; fit testing; and cleaning, storing in a clean location, inspecting, repairing, removing from service or discarding respirators.

Type	Description	Uses	Certification Requirements	OSHA Requirements
RESPIRATORS				
Full Facepiece Elastomeric 	An air-purifying respirator with a facepiece constructed of flexible rubber or silicone to which replaceable filters for particulates are attached. Forms a tight seal over the entire face—mouth, nose and eyes. This seal gives it a greater protection factor than respirators that cover only the mouth and nose. Must be fit tested with different sizes and adjusted by the individual wearer to ensure a tight seal. Facial hair must not interfere with the seal. Filter removes harmful particles from the air, including aerosols and chemicals, when the wearer inhales. Filter material can have different filtering efficiencies for capturing particles from the inhaled air: N95 (95% efficient); N99 (99% efficient); N100 (99.97% efficient). Can be cleaned, decontaminated and reused. The filters can be replaced. Protects against eye hazards, including splashes and sprays. It is more protective than a face shield. Ordinary eyeglasses interfere with the seal. Workers who need corrective lenses have to obtain a special kit that fits inside the facepiece. Contact lenses can trap contaminants and should not be used.	Protects the person wearing the respirator when inhaling. May have nose cup that captures exhalation to prevent fogging.	The National Institute for Occupational Safety and Health certifies all respirators that are to be worn by workers in the workplace. Certification requirements for all respirators, including filter efficiency performance, are contained in 42 CFR Part 48.[1] NIOSH publishes a list of approved manufacturers and issues a rescission letter for manufacturers that fail their requirements.[2]	**YES** When workers are required to wear a respirator, 29 CFR Part 1910.134 requires employers to assess risks, select a NIOSH-certified respirator and establish a comprehensive respiratory protection program.[3] The employer's written respiratory protection program must include procedures for selecting appropriate respirators; training employees on proper use and maintenance of respirators; monitoring proper use; medically evaluating employees; fit testing; and cleaning, storing in a clean location, inspecting, repairing, removing from service or discarding respirators.

Type	Description	Uses	Certification Requirements	OSHA Requirements
RESPIRATORS				
Powered Air-Purifying Respirator 	An air-purifying respirator with a loose-fitting facepiece, hood or helmet or a tight-fitting elastomeric full facepiece that has a blower that pulls air through attached particulate filters. The blower pushes the clean filtered air into the facepiece for the wearer to breathe. The facepiece covers the entire face of the wearer, including the eyes. Filter material can have different filtering efficiencies for capturing particles from the inhaled air: N95 (95% efficient); N99 (99% efficient); N100 (99.97% efficient). Can be cleaned, decontaminated and reused. Most PAPRs provide a higher level of protection than a half-mask elastomeric or filtering facepiece respirator. Hooded systems provide the user with a positive air pressure area that keeps filtered air in and pushes contaminated air out. Facepiece systems provide protection by directly sealing against the face of the user, and offer positive seal protection against contaminants. Protects against eye hazards, including splashes and sprays. A face shield is not necessary.	Protects the person wearing the respirator when inhaling. Can be worn by workers with health conditions (asthma, COPD, bad cough) or facial features that prevent them from wearing an air-purifying filter-type respirator. Provides the greatest level of protection during high-hazard aerosol-generating procedures.	The National Institute for Occupational Safety and Health certifies all respirators that are to be worn by workers in the workplace. Certification requirements for all respirators, including filter efficiency performance, are contained in 42 CFR Part 48.[1] NIOSH publishes a list of approved manufacturers and issues a rescission letter for manufacturers that fail their requirements.[2]	**YES** When workers are required to wear a respirator, 29 CFR Part 1910.134 requires employers to assess risks, select a NIOSH-certified respirator and establish a comprehensive respiratory protection program.[3] The employer's written respiratory protection program must include procedures for selecting appropriate respirators; training employees on proper use and maintenance of respirators; monitoring proper use; medically evaluating employees; fit testing; and cleaning, storing in a clean location, inspecting, repairing, removing from service or discarding respirators.

Type	Description	Uses	Certification Requirements	OSHA Requirements
MASKS				
Surgical Mask 	Intended for medical purposes. Covers Class II medical device masks labeled as surgical, isolation, medical procedure or laser. When worn by a patient, prevents contamination of their environment and infecting health care providers and other patients. When worn by a health care worker, provides a barrier protecting the nose and mouth from large droplet sprays and splashes coming from patients. Loose fitting. Does not provide a seal around the mouth and nose. Leaks around the edges, allowing particles to enter inside the mask of the wearer that can be inhaled.	A surgical mask is not respiratory protection that protects the wearer from inhaling harmful particles.[5] It provides a barrier that may help reduce exhalation of contamination by the wearer to others in the environment and may reduce the travel distance of contaminated breath.	As a medical device, surgical masks must receive clearance from the Food and Drug Administration (FDA) requirements in its 510(k) rules.[4] FDA tests that must be satisfactorily performed include: o Fluid resistance o Flammability o Biocompatibility o Filtration efficiency o Differential pressure During the coronavirus outbreak, an FDA Emergency Use Authorization (EUA) applies to non-FDA-approved surgical masks that are intended to provide liquid barrier protection.[6]	**Not respiratory protection covered by OSHA's respiratory protection standard 1910.134.** Use of surgical masks in the workplace must comply with OSHA's general PPE requirements in 29 CFR Part 1910.132.[7]
Face Mask: Intended for a Medical Purpose 	Covers the mouth and nose. May or may not provide liquid barrier protection. Does not provide a fluid barrier or filtration efficiency unit to prevent exposure to droplets and aerosols. Not required to provide protection against sprays or splashes. Loose fitting. Does not provide a seal around the mouth and nose. Leaks around the edges, allowing particles to enter inside the mask of the wearer that can be inhaled. May have the appearance of a filtering facepiece, but it does not have any filtering characteristics.	A face mask is not respiratory protection that protects the wearer from inhaling harmful particles.[5] It should not be used to protect the wearer from occupational exposure to respiratory hazards. Depending on the type of material, may help reduce exhalation of contamination by the wearer to others in the environment.	Face masks intended for a medical purpose are a medical device covered by FDA requirements. During the coronavirus outbreak, an FDA Emergency Use Authorization applies to face masks intended for a medical purpose that are NOT intended to provide liquid barrier protection.[6]	**Not respiratory protection covered by OSHA's respiratory protection standard 1910.134.** It is unclear whether the general OSHA PPE requirements in 29 CFR Part 1910.132 apply.[7]

Type	Description	Uses	Certification Requirements	OSHA Requirements
MASKS				
Face Mask: Not Intended for a Medical Purpose 	Covers the mouth and nose. May or may not provide liquid barrier protection. Does not provide a fluid barrier or filtration efficiency unit to prevent exposure to droplets and aerosols. Not required to provide protection against sprays or splashes. Loose fitting. Does not provide a seal around the mouth and nose. Leaks around the edges, allowing particles to enter inside the mask of the wearer that can be inhaled.	A face mask is not respiratory protection that protects the wearer from inhaling harmful particles.[5] It should not be used to protect the wearer from occupational exposure to respiratory hazards. Depending on the type of material, may help reduce exhalation of contamination by the wearer to others in the environment. No way to determine the effectiveness of a particular device. May reduce voluntary social distancing through a false sense of protection.	**NONE** No standards, no testing, certification or labeling requirements.	**Not respiratory protection covered by OSHA's respiratory protection standard 1910.134.** It is unclear whether the general OSHA PPE requirements in 29 CFR Part 1910.132 apply.[7]
Homemade Mask 	Does not provide a fluid barrier or filtration efficiency unit to prevent exposure to droplets and aerosols. Unlikely to provide protection against sprays or splashes. Loose fitting. Leaks around the edges, allowing particles to enter inside the mask of the wearer that can be inhaled. Highly variable in material and construction.	A homemade face mask is not respiratory protection that protects the wearer.[5] It should not be used to protect the wearer from occupational exposure. Depending on the type of material, may help reduce exhalation of contamination by the wearer to others in the environment. No way to determine the effectiveness of a particular device. May reduce voluntary social distancing through a false sense of protection.	**NONE** No standards, no testing, certification or labeling requirements.	**NO**

Type	Description	Uses	Certification Requirements	OSHA Requirements
FACE SHIELDS				
Face Shield 	Clear plastic covering of the face and eyes. Can be disposable or reusable. Many have anti-fog capability. In health care, a face shield should be used in conjunction with a worker's wearing a NIOSH-certified respirator, such as a surgical N95, an N95, or a half-mask elastomeric respirator.	Protects the eyes, nose, mouth and face from splashes and sprays of liquids and solids, including infectious materials.	Face shields should be constructed in compliance with ANSI/ISEA Z87.1, the American national standard for eye and face protection.[8]	**YES** Use of face shields in the workplace must comply with 1910.133(b)(2), OSHA's eye protection standard.[9] Only face shields constructed in compliance with ANSI/ISEA Z87.1, the American national standard for eye and face protection, can be used.

1 www.cdc.gov/niosh/npptl/RespApprovalInfo.html
2 www.cdc.gov/niosh/npptl/topics/respirators/cel/default.html
3 www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134; www.osha.gov/SLTC/covid-19/standards.html
4 www.fda.gov/regulatory-information/search-fda-guidance-documents/surgical-masks-premarket-notification-510k-submissions
5 www.cidrap.umn.edu/news-perspective/2020/04/commentary-masks-all-covid-19-not-based-sound-data
6 May need to comply with the March 2020 FDA Emergency Use Authorization (EUA): www.fda.gov/media/136449/download
7 www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.132; www.osha.gov/SLTC/covid-19/standards.html
8 https://safetyequipment.org/wp-content/uploads/2015/05/ISEA-EF-2016-Selection-and-Use-1.pdf
9 www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.133; www.osha.gov/SLTC/covid-19/standards.html