Face Masks and Respirators Explained

Given the array of PPE face masks on the market, what do the standards mean and how do you know which is appropriate for an environment? Below is an explanation of the standards and a guide to their use.

	FACE MASKS	
Standard	Description	Use
Type 1 (or Level 1)	Medical Face Mask. Bacterial Filtration Efficiency – 95% Differential pressure (Pa/cm²)* < 29.4 Microbial (cfu/g)*** ≤ 30	Single use - maximum of 2-3 hours. Protect others from the wearer transmitting infection. To be worn by patients and visitors to reduce spread of infections. Not effective at protecting from airborne diseases.
Type 1R	Medical Face Mask. Bacterial Filtration Efficiency – 95% Differential pressure (Pa/cm²)* < 29.4 Microbial (cfu/g)*** ≤ 30	Single use - maximum of 2-3 hours. Protect others from the wearer transmitting infection. To be worn by patients and visitors to reduce spread of infections. Not effective at protecting from airborne diseases.
Type II (or Level 2) EN14683	Medical Face Mask. Bacterial Filtration Efficiency – 98% Differential pressure (Pa/cm²)* < 29.4 Microbial (cfu/g)*** ≤ 30 3 Ply Construction. Pleat style. Ear loops or ties.	Single use - maximum of 2-3 hours. Protect others from the wearer transmitting infection. To be worn by patients and visitors to reduce spread of infections. Prevent large particles Not effective when blood or bodily fluids are present.
Type IIR EN14683	Medical Face Mask. Bacterial Filtration Efficiency – 98% Differential pressure (Pa/cm²)* < 49.0 Microbial (cfu/g)*** ≤ 30 4 Ply Construction. Splash resistant** pressure (kPa) – 16.0 Pleat style. Ear loops or ties.	Single use - maximum of 2-3 hours. Protect others from the wearer transmitting infection. Prevent large particles. To be worn by patients and visitors to reduce spread of infections. Protect against blood and other bodily fluids.

^{*}Differential pressure (Pa/cm²) – determines the air permeability/ 'breathability' of the mask. The lower the delta P of the medical face mask, the better and easier it is for the wearer to breathe through it.



^{**} Splash Resistance (ISO22609) – fluid resistance of the mask.

^{***} Microbial Cleanliness (EN ISO 11737-1) – freedom from population of viable micro-organisms on a product and/ or package.

Face Masks and Respirators Explained

	RESPIRATORS		
Standard	Description	Use	
FFP1 EN149: 2001	Respirator. Bacterial Filtration Efficiency – minimum 80%. Max. permitted total inward leakage – 22% Max. permitted filter penetration – 20%	Not recommended as sufficient protection against viruses.	
FFP2 Equivalent to N95 EN149: 2001	Respirator. Bacterial Filtration Efficiency – minimum 94%. Max. permitted total inward leakage – 8% Max. permitted filter penetration – 6% Not shaped to your face. Elastic ear loop.	Effective at protecting the wearer from viral transmission. Lifespan of 3-8 hours.	
FFP3 EN149: 2001	Respirator. Bacterial Filtration Efficiency – minimum 99%. Max. permitted total inward leakage – 2% Max. permitted filter penetration – 1% Typically have a valve. Elastic ear loop.	Effective at protecting the wearer from viral transmission. Typically used for handling asbestos.	

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