

Types of face masks

Under the generic concept of 'face mask', there are actually different types of products.

- a) **PPE (personal protective equipment). Also called filtering facepieces** ([UNE EN 149:2001 +A1](#)). They serve as protection from external agents (suspended particles) from the outside in and also from the inside out. They filter particles of ≥ 0.3 microns (the percentage depends on the model). FFP1s filter 78% (not aerosols), FFP2s (N95, KN95) filter 92% (including aerosols) and FFP3s (N99, KN99) filter 98% of particles of that size and aerosols. They are intended for use by healthcare professionals who are in direct contact with patients with COVID-19. They may or may not have an exhalation valve. If they have this type of valve the exhaled air is not filtered and therefore they do not protect the people around the user. Because of this, they are not recommended. To filter the exhaled air, some people put a surgical face mask over this face mask. They provide sufficient breathability. They are made of non-woven fabrics, typically polypropylene.
- b) **Surgical face masks** ([UNE EN 14683:2019 +AC](#)). They serve as protection from the inside out but not completely from the outside in. They do not protect against aerosol particles. They filter particles of ≥ 3 microns. They were initially designed for health professionals who work in an operating theatre, to prevent the spread of virus and bacteria to patients and also to protect them from any splash of fluid that may occur during surgery, so they have a hydrophobic finish. They are suitable for health workers, people with COVID-19 or who are suspected of having it, vulnerable workers and the general population. They are made of non-woven fabrics, typically polypropylene. There are three types of protection depending on the model:

	Type I	Type II	Type IIR
Bacterial filtration efficiency, BFE (%)	≥ 95	≥ 98	≥ 98
Breathability (differential pressure) (Pa/cm ²)	< 40	< 40	< 60
Splash resistance pressure (kPa)	Not required	Not required	≥ 16
Microbial cleaning (CFU/g)	≤ 30	≤ 30	≤ 30

- c) **Cloth face masks.** They serve as protection from the inside out but not from the outside in. They filter particles of ≥ 3 microns. They are suitable for a general healthy population, but an interpersonal distance of 1–2 metres must still be observed by the wearer. They are recommended by the Ministry of Health for the general population. They may be made of different types of fibres, fabrics and combinations of layers and finishes. There are two types:

- a. Non-reusable ([UNE 0064-2020](#))

b. Reusable ([UNE 0065-2020](#))

	Non-reusable UNE 0064-2020	Reusable UNE 0065-2020
Bacterial filtration efficiency, BFE (%)	≥ 95	≥ 90
Breathability (differential pressure) (Pa/cm ²)	< 60	< 60