31 January 2020

NOVEL CORONAVIRUS (2019-NCOV)

GreenLine Respirator Selection Chart

Which Mask?

- In South Africa
  - FFP2
  - FFP3
- South African Specification
  - SANS50149:2003
  - EN149:2001

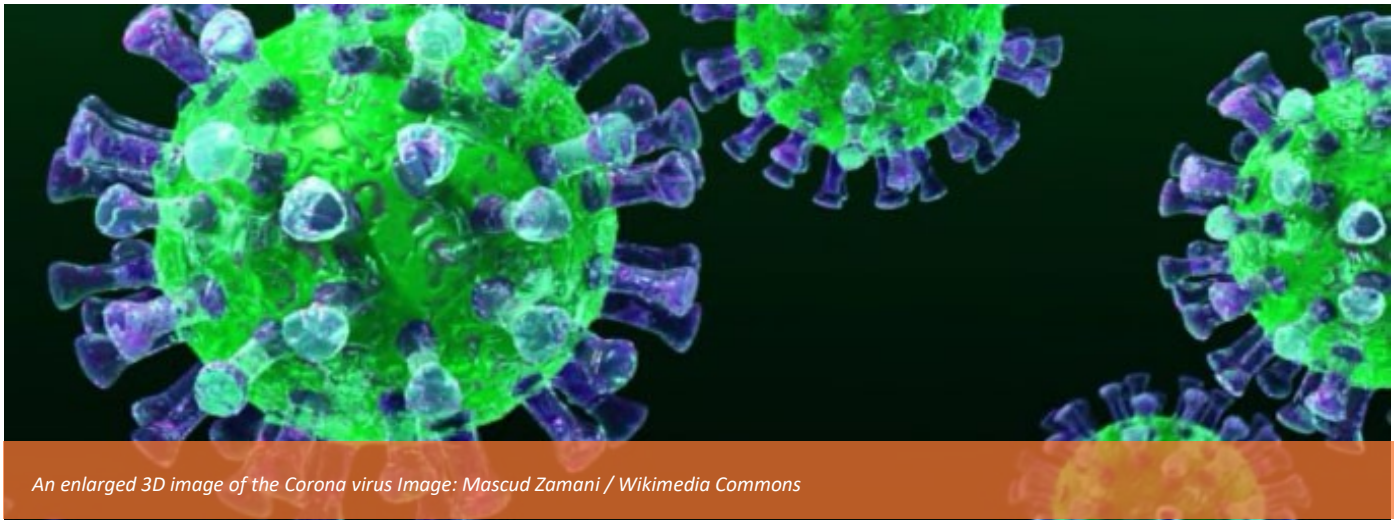
Model Selection

The new coronavirus is officially called 2019-nCoV, and it's part of a group of coronaviruses that includes both the common cold and the deadly SARS. The novel virus is spread through coughing, sneezing or contact with a sick person.

The World Health Organisation recommend the use of an FFP2 or equivalent respirator for use in combatting 2019nCoV.

All GreenLine Ranges contain respirators certified as FFP2 the 1000/3000/5000 series respirators all have a hydrophobic outer layer and can be offered individually packaged for infection control

Region	Specification	Type	Filter performance (must be ≥ X% efficient)	Test agent	Flow rate	Total inward leakage (TIL) * – (tested on human subjects)
USA	NIOSH CFR	N95	≥ 95%	NaCl	85 L/min	Not Tested
Europe	EN149:2001	FFP2	≥ 94%	NaCl and paraffin oil	95 L/min	≤ 8% leakage
South Africa	EN149:2001	FFP2	≥ 94%	NaCl and paraffin oil	95 L/min	≤ 8% leakage
China	GB2626-20 06	KN95	≥ 95%	NaCl	85 L/min	≤ 8% leakage
Japan	DS (Japan JMHLW- Notification 214, 2018)	DS	≥ 95%	NaCl	85 L/min	Tested
Korea	Korea 1st Class (KMOEL - 2017 -64	1st Class	≥ 94%	NaCl and paraffin oil	95 L/min	≤ 8% leakage
Australia & New Zealand	P2 (AS/NZ 1716:2012)	FFP2	≥ 94%	NaCl	95 L/min	≤ 8% leakage



An enlarged 3D image of the Corona virus Image: Mascud Zamani / Wikimedia Commons

For certification of particulate respirators, NIOSH and EC notified bodies or test houses conduct filtration tests using different protocols.

NIOSH regulations for N-series respirator testing require a polydisperse distribution of NaCl particles with a count median diameter (CMD) of 0.075 ± 0.020 µm and a geometric standard deviation (GSD) of <1.86 (NIOSH, 2005a)

On the other hand, CE-marked particulate respirators are tested with non-neutralized polydisperse NaCl as well as paraffin oil particles at 95 l min^{-1} according to EN standards (BS EN 2000, 2002) and SANS:50149-2003. For NaCl aerosol, the diameter of the particles varies from 40 to 1200 nm with a MMD of 600 nm. NaCl aerosol particles upstream and downstream of respirators are passed through a hydrogen flame and vaporized. The intensity of light emitted at 589 nm is measured, which is proportional to sodium concentration. For polydisperse oil aerosol production, paraffin oil is atomized at 100°C and diluted with filtered air. The particle size distribution is a log-normal distribution with a number median Stokes diameter of 400 nm and a GSD of 1.82. The aerosol concentration is measured before and after the test filter by a light scattering photometer.

*** **A respirator can assist in mitigating the risk from contracting illness but is not a guarantee of safety. Please ensure all other WHO/CDC protocols are observed**