ARMSCOR
Armaments Corporation of South Africa SOC Ltd



COVID-19 TRAINING PROGRAM
Testing of Respiratory Protection Equipment

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GATEWAY TO DEFENCE SOLUTIONS

Introduction

ROLL-PLAYERS IN APPROVAL PROCESS

DIFFERENT STANDARDS

PRODUCT DESCRIPTION

TEST METHODS

Roll-players in Approval process

- Protechnik Laboratories
- NRCS
- SAHPRA
- SABS

MASK STANDARDS

- SANS 50149
- SANS 1866
  - SANS 1866:2008
  - SANS 1866:2018 Part 1
  - SANS 1866:2018 Part 2
- SANS 51827
- SANS 50140

MASK STANDARDS

Other standards:

- EN 14683: Bacteria filtration efficiency
- ASTM F2100: Bacteria and particle filtration efficiency
- G2626: Particle filtration efficiency (NaCl)
- NIOSH: Particle filtration efficiency (NaCl)

Respiratory Protection Products

A. Surgical mask

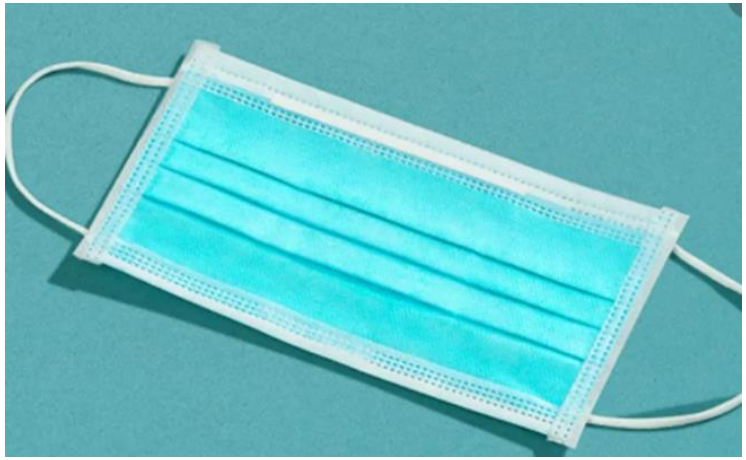
B. Medical Respirator

C. Particle Filtering mask

D. Half mask (reusable)

A. Surgical mask

- Also known as 3-ply masks, **medical face mask**;
- Loose-fitting and only barrier protection against large droplets;



- Can be sterile or non sterile masks;
- Should give protection against bacteria and be splash resistant;
- Sterile mask: Class A medical device – need SAHPRA licence;
- Comply with SANS 1866:2018 Part 1.

B. Medical respirator

- Also known as Medical KN95, surgical N95 respirator;
- Tight-fitting, barrier against submicron particles;
- Pre-approval from NRCS;
- Need SAHPRA licence;
- Comply with

  SANS 1866:2018 Part 2.

C. Particle filtering mask

- Also known as FFP2, FFP3, N95, N99, KN95
- Tight-fitting, barrier against submicron particles;
- Approval from NRCS;
- Will be accepted by SAHPRA;
- Comply with SANS 50149.

D. Half mask

- Reusable, but filters need to be replaced
- Tight-fitting, barrier against submicron particles;
- Approval from NRCS;
- Comply with SANS 51827 or

  SANS 50140.

E. Cloth mask

- Also known as fabric masks
- Reusable
- Loose-fitting, barrier against large drplets;
- Not regulated.
- Follow published guidelines.

Test methods

SANS 1866 Part 1

Medical face mask, “close fitting” mask.

- Submicron particle penetration (using sodium chloride as stated in SANS1866:2008);
- Flame resistance;
- Water repellence (SANS1866:2008);
- Flow (breathing) resistance (SANS1866:2018).

Test methods

SANS 1866 Part 2

Medical respirator, “close fitting” mask.

- Submicron particle penetration (using sodium chloride as stated in SANS50149);
- Flame resistance;
- Flow (breathing) resistance;

(Do not perform the Latex particle penetration test)

Test methods

SANS 50149

Particle Filtering mask, “tight fitting” mask.

- Particle penetration (sodium chloride and paraffin oil particle penetration);
- Flow (breathing) resistance;
- Flammability;
- Practical performance (comfortability)
- Total inward leakage (check face seal)

Test methods

SANS 51827

Similar than for SANS 50149 masks

Cloth mask

Not official tests methods yet, if requested, perform the following:

- Particle penetration (sodium chloride particle penetration);
- Flow (breathing) resistance;
- Flammability;
- Water repellence.

Conclusion

Current COVID-19 mask testing aim to ensure good quality products to reach the HCW;

Partial testing of standards to submit test reports quickly.

Thank you