

RESPIRATORY PROTECTION AND COMMUNITY FACE COVERINGS

Masks are masks are masks – aren't they?

Mike Clayton
Past President, ISRP
Senior Respiratory Protection Research & Application Specialist, 3M

Masks are masks are
masks – aren't they?

NO

What type of mask?



What type of mask?

**Barrier
masks**

**Face
masks**

FFPs

FFPs

FFPs

?

**Medical
masks**

**Face
covering**

Medical Masks Vs. Respirators



Medical Masks



Primary function: Source control
Intended to help protect the surgical environment and individuals in the vicinity from substances expelled by the wearer (May not be subject to compliance testing)



Secondary function (some tested and certified models): Also reduces the chance of blood and droplets of other bodily fluids entering the wearer's mouth and nose. (Compliant to MDR, e.g. Type IIR)

Fit: not designed to fit tightly and leaves gaps between the mask and the face

Respirators



Primary function: Wearer protection
Intended to help protect the wearer from substances (airborne particles) in the work environment (Compliant to PPER)



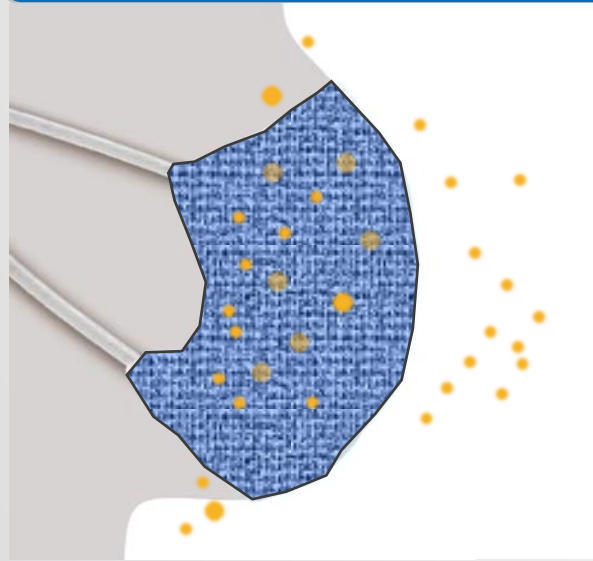
Secondary function – (specific certified models):
Also reduces the chance of blood and other bodily fluids entering the wearer's mouth and nose. (Compliant to PPER and MDR)



Fit: designed to fit tightly and create a seal between the face and the respirator forcing air to pass through the filter

Community Face Coverings/Barrier Masks

Face coverings/Barrier masks

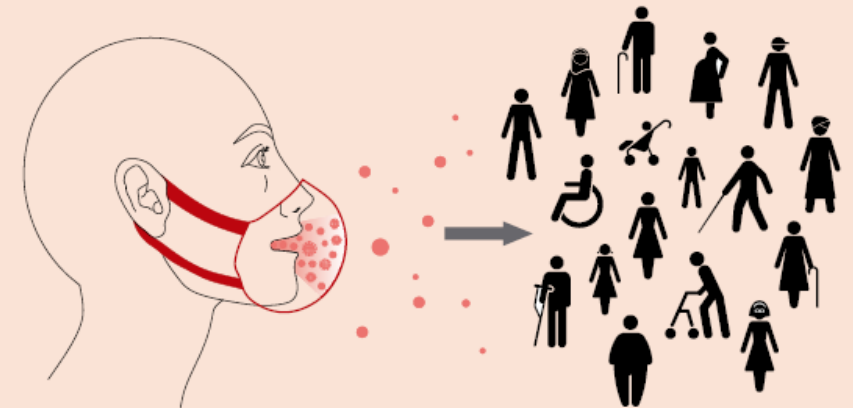


Primary function: Source control
Intended to reduce particles expelled from the wearer to the immediate vicinity (May not be subject to performance testing)

Direction

Fit: not designed to fit tightly and leaves gaps between the mask and the face

Figure 1 – Limitation of the projection of respiratory droplets to the environment



BS Flex 5555

Intended Users

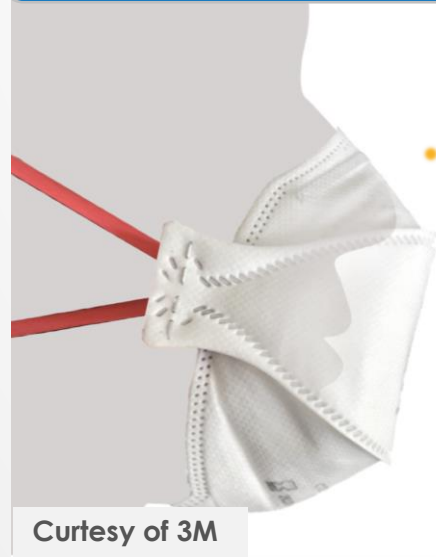


Medical Masks



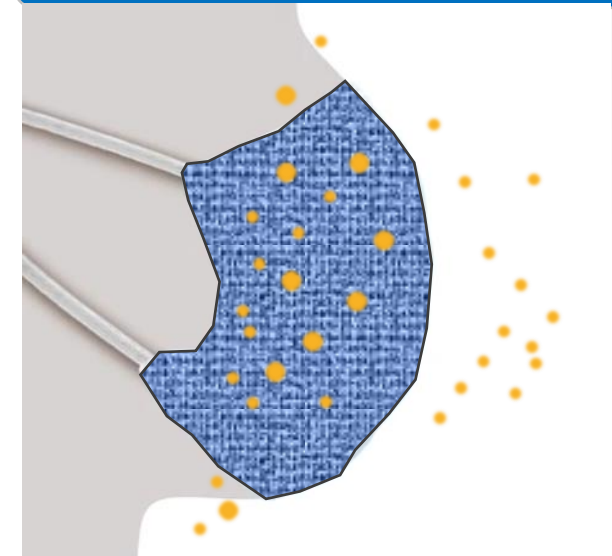
Healthcare workers
e.g. source control to protect
patients and surgical
environment

Respirators



Healthcare workers
& industrial workers
e.g. wearer protection against
airborne inhalation hazard

CFC/Barrier Masks



General public
e.g. source control where social
distancing is not possible

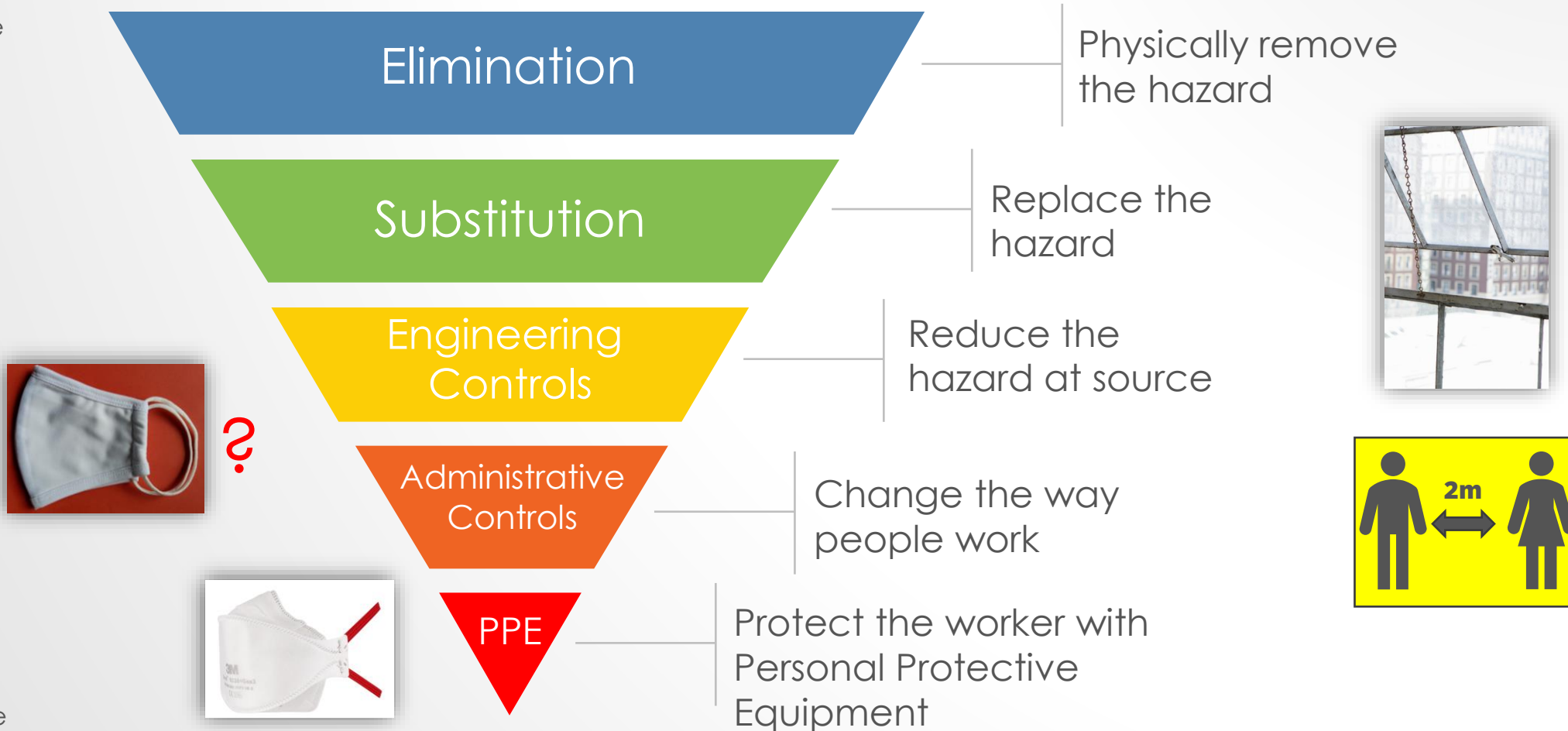
HIERARCHY OF CONTROLS



Most effective



Least effective



CFC/BARRIER MASKS



- Differentiate from medical face masks and respiratory protection
- Filtration level(s)
- Fit – outward leakage
- Fit – size – children
- Usage – single vs reusable
- Reusable – washing

BS FLEX 5555 V2 COMMUNITY FACE COVERINGS - SPECIFICATION



'A community face covering is not PPE and is not a medical face mask.'

BS FLEX 5555 V2 COMMUNITY FACE COVERINGS - SPECIFICATION



a) Design

- No valves; one or multiple fabric layers
- **to enable a close fit for the intended user population**

b) Performance

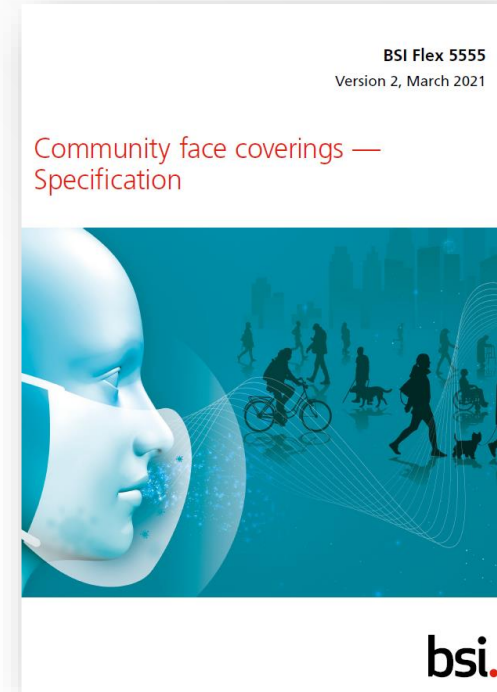
- Filtration efficiency >70% @95l/min / EN 13274-7 or EN14683
- Breathing resistance inh 2.4mbar/exh 3mbar @95 l/min / BS EN 13274-3

c) Test methods

d) Packaging

e) Labelling

f) Information for use



'A community face covering is not PPE and is not a medical face mask.'

CEN/TS 17553: COMMUNITY FACE COVERINGS

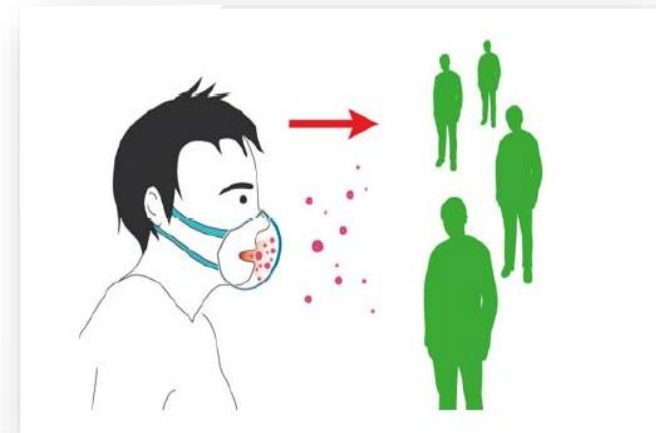


CEN/TS 17553: Community face coverings — Textile-based community face coverings — Guide to minimum requirements, methods of testing and instructions for use

IN DRAFT

- CEN TC248/WG38 (Textiles) developing a technical specification (TS) based on the face covering CEN workshop agreement CWA 17553
- Intended for use by people in areas of SARS-CoV-2 transmission
- Design
 - No fit nor TIL requirement maintained over nose, cheeks and chin
 - Transparent window to be included
- Performance - filtration efficiency @3µm proposed
- Test methods
- Packaging, labelling, cleaning and instructions for use

'.. community face coverings ... are not MD ... nor PPE'



ASTM F3502–2:1 BARRIER FACE COVERINGS



ASTM F3502–21 Standard Specification for Barrier Face Coverings

- General public and workers
- Design
 - The barrier face covering designed to cover at least the wearer's nose and mouth and fit snugly
 - includes leakage assessment (outward leakage assessment QNFT)
- Construction
- Performance
 - sub-micron particle filtration efficiency (two levels)
 - Airflow resistance
- Sizing
- Labelling instructions, guidance on cleaning and recommended periods of use

'this standard ... is
neither a medical
face mask ... nor
a respirator ...'

STANDARDS

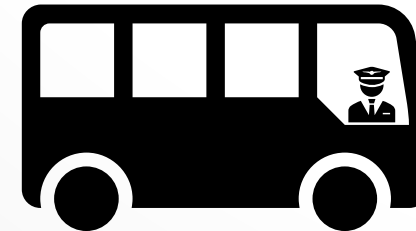


ISO/TS 16975-4: Respiratory Protective Devices - Selection, Use and Maintenance - Part 4: Selection and usage guideline for respiratory protective devices under pandemic / epidemic / outbreak of infectious respiratory disease

IN DRAFT

- All workplaces including healthcare
- Risk assessment
- Training
- Selection
- Use
- Cleaning, reuse & maintenance

'specifies... select, use and maintain respiratory protective devices (RPD) in the context of a pandemic.... of infectious respiratory disease...'





THANK YOU

QUESTIONS?