



# RECOMMENDED SPECIFICATIONS FOR NON-MEDICAL FACE MASKS FOR COMMUNITY USE

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Department of Science and Technology



**Public Health Services Team**  
Department of Health

Properties	Minimum specification (Test Method <sup>a</sup> )
1) Material+	
a) Composition	Cotton, Cotton-blends, Polyester, Polypropylene, PET, etc. No elastic material. (ISO 1833; AATCC 20A)
b) Fabric Type	Woven, knitted, non-woven or combinations
c) Filter Quality Factor (Q factor) <sup>b</sup>	≥ 3
2) Number of layers	≥ 3
3) Combination of materials	Inner- Water-absorbent: ≤5s AATCC 79  Middle- Water-repellent/water-absorbent (that may enhance filtration and/or retain droplets)  Outer- Water-repellent: at least 70 (ISO 4920; AATCC 22)
4) Mask shape	Flat-fold; duckbill; curved++
5) Coating/finishing	Generally not recommended but maybe applied with water-repellency, among other functionalities.

<sup>a</sup> latest available versions of the standard test methods will be used

<sup>b</sup> Q = -log (1-filtration efficiency/100)/breathability, where filtration efficiency and breathability are obtained from two separate tests

+ refer to Figure 1 attached for indicative materials; ++ included following Task Force meeting of 4 August 2020



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Properties	Minimum specification (Test Method <sup>a)</sup> )
1) Material+ a) Air permeability <sup>d</sup>	20-70 cm <sup>3</sup> /s/cm <sup>2</sup> ( ASTM D 737; ISO 9237)

<sup>c</sup> latest available versions of the standard test methods will be used

<sup>d</sup> suggested indicative test while working towards the availability of Q factor ratings in Table 1



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Properties	Minimum specification (Test Method <sup>e</sup> )
1) Breathability <sup>f</sup>	<100 Pa/cm <sup>2</sup> (EN 14683)
2) Filtration Efficiency <sup>f</sup>	>50% (ASTM F2299)
3) Filter Quality Factor (Q-factor)	≥ 3
4) Formaldehyde <sup>g</sup>	Not detectable (ISO 14184-1)
5) Flammability <sup>g</sup>	Class I (16 CFR 1610)
6) Maintenance <sup>g</sup>	Washable (≥ 1 laundering cycle). Retesting is required.
7) Bacterial Filtration Efficiency <sup>h</sup>	(EN 14683; ASTM F2101)
8) Splash Resistance: Synthetic Blood <sup>h</sup>	(ISO 22609; ASTM F1862)
9) Acute dermal toxicity <sup>h</sup>	(EN ISO 10993-5; OECD 402)
10) Acute dermal irritation <sup>h</sup>	(EN ISO 10993-10 OECD 404)
11) Acute inhalation toxicity <sup>h</sup>	(OECD 403)

<sup>e</sup> latest available versions of the standard test methods will be used

<sup>f</sup> suggested minimums to obtain a Q factor of at least 3

<sup>g</sup> recommended to provide additional safety

<sup>h</sup> recommended to determine level of protection