

**PERFORMANCE TEST RESULTS AGAINST DEPARTMENT OF TRADE, INDUSTRY AND
COMPETITION RECOMMENDED GUIDELINES FOR:**

FABRIC FACE MASKS

VERSION 24th APRIL 2020



PRODUCT DESCRIPTION

Industrial 2 Facemask

Part Number : D15™ CV19 MASKIND PVM & PVL



CUSTOMER Brits Nonwoven (Pty) Ltd

DATE 07th May 2020



FABRIC FACE MASK TEST INFORMATION

The recommended guidelines from the DTIC have been incorporated and interpreted to form the basis of the test requirements. Wherever possible, the vague statements of requirements in the guidelines, have been converted to minimum requirements to enable face masks to be tested against recognised standards.

The guidelines have not specified a definite requirement in terms of a number of mask characteristics and as a result various technical experts in the textile industry were consulted to obtain reasonable values that could be used as an interpretation of the DTIC requirements. Unless there is a minimum standard, it is difficult to develop a compliance standard for face masks.

Permeability – Section 3 (d) refers to ease of breathing. The mask must not restrict breathing. In order to measure ease of breathing an airflow reading is required. Using the average area of a mask at 0,02m² and an average of 8 litres of air breathed by an adult per minute, it would be fair to assume that the mask test result should be a permeability of at least 75% of this at 125Pa. The assumption is that there will be at least 15 -20% leakage in most textile masks. A minimum permeability level of 300 liter/second/m² (60cfm) is therefore reasonable to assume.

Breathability or Moisture vapour transmission rate – Section 3 (e) refers to comfort while wearing. Mask breathability and heat load on the face can be measured by recording the moisture vapour transmission rate. Most laminated or coated breathable rainwear products for workwear applications need a minimum of 3000g/m²/24hrs. As this is not a workwear or military item, it is believed that a value of 2500 g/m²/24hrs would be sufficient to maintain a manageable heat load on the face.

Inner layer requirement – Section 4.1.1 (c) refers that the fabric layer must not be water repellent. Using a spray test with a result of 2 or lower will indicate that the water repellence properties of the fabric is poor.

Outer layer requirement – Section 4.1.3 (c) refers that the fabric layer must display water repellent properties. Using a spray test with a result of 4 or higher will indicate that the water repellence properties of the fabric are very good.

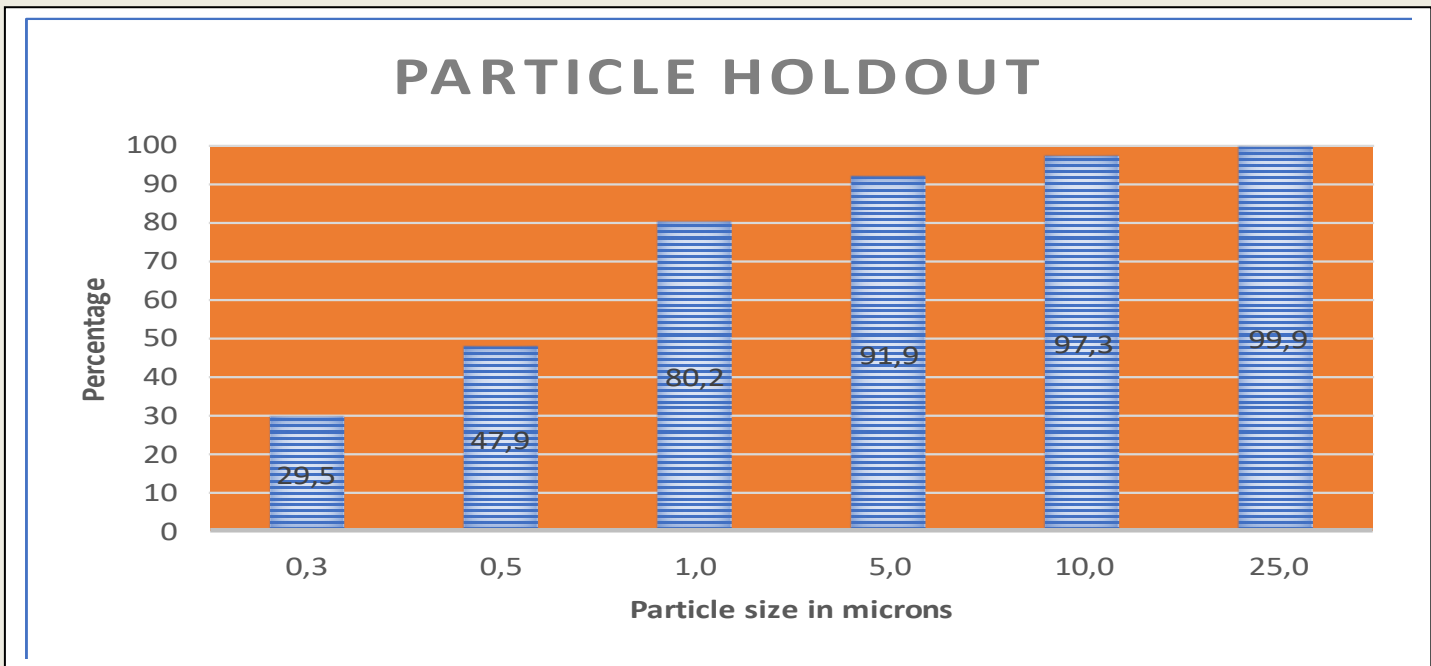
Particle Holdout – Section 3 (b and c) and Section 4.1.2 (a and b) and Section 4.1.4 (i) refer to a minimum requirement of 75% holdout of 5µm and upwards respiratory particle size. Section 3c refers to the higher the holdout capability of the mask, the better. Testing is done against the 5µm requirement, but there is also a graph that show mask holdout efficiency against 0,3µm particle size up to 10µm particle size.

Disclaimer

These test results are only applicable to Public Masks as indicated by the DTIC guidelines. Any masks tested under this specification are not qualified to be used for Medical Masks. Medical mask requirements are aligned to FFP2 and FFP3 or N95 standards. The test facilities used for the particle holdout results are a modified ISO 14644 method. This method is not suitable for the evaluation of medical masks. Medical PPE have much higher performance requirements that what can be achieved by public mask test facilities.



Test Characteristic	Method	Measurement	Requirement	Results	Pass/Fail
Number of Layers (Range)	Visual	Visual	2 or 3	3	Pass
Mask Air Permeability (Minimum)	ASTM D737	cfm @ 125Pa	60	128	Pass
Breathability (Minimum)	SANS 6163	Grms/m ² /24hrs	2500	4995	Pass
Inner layer Spray rating surface wetting	ISO 4920	Rating 1 - 5	? 2	1	Pass
Outer Layer Spray rating surface wetting	ISO 4920	Rating 1 - 5	? 4	4	Pass
Filter Airflow Restriction (Maximum)	ASTM D737	cfm @ 125Pa	<25%	14	Pass
Filter Pouch size (Minimum)	Measured	Visual using calibrated ruler	100mm X 120mm	100mm X 120mm	Pass
Mask Particle Holdout (Minimum)	Mod ISO 14644-1	Particle Holdout percentage 5,0µm	75%	91,9	Pass
User Guide	Visual	Instructions for use	Must be supplied	Supplied	Pass
Sizing Indication	Visual	Clear on mask or packaging	Must be supplied	Supplied	Pass



NOTES

Airflow and breathability are very good for high comfort in use and low heat load on face. Particle holdout results all indicate suitable for use in Public Environment. The D15 CV19 MASKIND PVM & PVL masks comply with the requirements of the DTIC Fabric Facemask Guidelines as published on 24th April 2020.

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