Date: 19 MAY 2020 Tel: +65 68851335 Fax: +65 67784301

Client's Ref: PO No.: PO20-00123 Email: Sihai.LI@tuv-sud-psb.sg

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SUBJECT

Synthetic Blood Penetration Test

CLIENT

MANN+HUMMEL FILTER TECHNOLOGY (S.E.A) Pte Ltd 2 International Business Park #02-36, The Strategy \$609930 Singapore

Attn: Mr Terence Wong

SAMPLE SUBMISSION DATE / TEST DATE

11 May 2020 / 18 May 2020

DESCRIPTION OF SAMPLE

One type of mask described as below was received:

Sample Description	Quantity
Community Face Mask	40 pieces



Laboratory: TÜV SÜD PSB Pte. Ltd. No.1 Science Park Drive Singapore 118221 Phone: +65-6885 1333 Fax: +65-6776 8670 E-mail: enquiries@tuv-sud-psb.sg www.tuv-sud-psb.sg

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19 MAY 2020



METHOD OF TEST

ASTM F1862-17

"Standard Test Method for Resistance of Medical Face Masks to Penetration by Synthetic Blood (Horizontal Projection of Fixed Volume at a Known Velocity)"

Distance of mask to the tip of cannula : 30.5 cm

Test volume : 2 mL
Test side : Outside

Pre-conditioning : Minimum of 4 hours at 21 ± 5 °C and 85 ± 5 % r.h.

<u>Test conditions</u>

Test temperature : $22 \pm 1^{\circ}$ C
Relative humidity : $76 \pm 5\%$ r.h.
Pressure : 80 mmHg (10.6 kPa)



19 MAY 2020



RESULT

Test article number	Results
1	Passed
2	Passed
3	Passed
4	Passed
5	Passed
6	Passed
7	Passed
8	Passed
9	Passed
10	Passed
11	Passed
12	Passed
13	Passed
14	Passed
15	Passed
16	Passed
17	Passed
18	Passed
19	Passed
20	Passed
21	Passed
22	Passed
23	Passed
24	Passed
25	Passed
26	Passed
27	Passed
28	Passed
29	Failed
30	Passed
31	Passed
32	Passed
No. of Passed	31 / 32

Note:

- 1) An acceptable quality limit of 4.0% is met for a single sampling plan when 29 or more of the 32 tested specimens show pass results.
- 2) Samples were randomly selected and identified for testing.

SEOW JIA YI CHEMIST for DR LI SIHAI

AVP / SENIOR CHEMIST

COATINGS & INDUSTRIAL CHEMICALS

CHEMICAL & MATERIALS

19 MAY 2020





Figure 1. "Community Face Mask" sample as received

SÜD

19 MAY 2020



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