



**CROWN MUTUAL MEDICAL GROUP**  
CERTIFIED PPE MADE IN CANADA

# 3 - PLY PROTECTION FOR PROFESSIONALS

**ASTM CERTIFIED PPE**  
SURGICAL FACE MASKS LEVEL 1 - 3



MADE IN CANADA | MADE FOR EVERYONE





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**Crown Mutual Medical Group is a Canadian manufacture of ASTM F2100 Surgical Face Masks for adults and children.**

## **Contents Includes:**

### **SURGICAL MASKS**

- ASTM Level 1
- ASTM Level 2
- ASTM Level 3
- ASTM Paediatric

### **FACE MASKS OVERVIEW**

- Face mask 3-ply layers explained
- Breaking Down Raw Material
- ASTM International Standards

### **TESTING AND MANUFACTURING**

- FDA and Health Canada
- Kinetrics Test Results
- Pricing Matrix
- Conclusion



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### ASTM LEVEL - 1 MINIMUM BARRIER PROTECTION

General use for short procedures and exams that don't involve aerosols, spray or fluids.\*

#### 3 - LAYERS OF PROTECTION

- 1) Inner layer (non-woven); skin friendly, tasteless and non-irritating.
- 2) Middle layer (high grade melt-blown); absorption and filtration of virus droplets.
- 3) Outer layer (non-woven); water resistant.



#### ASTM LEVEL ONE PRODUCT FEATURES

- BFE 95%+ \ PFE 99%+
- Ferrous nose piece
- Comfortable, secure fit
- Water resistant, breathable, soft on the face
- Exceeds ASTM F2100 standards
- Low Delta P factor for easy breathability



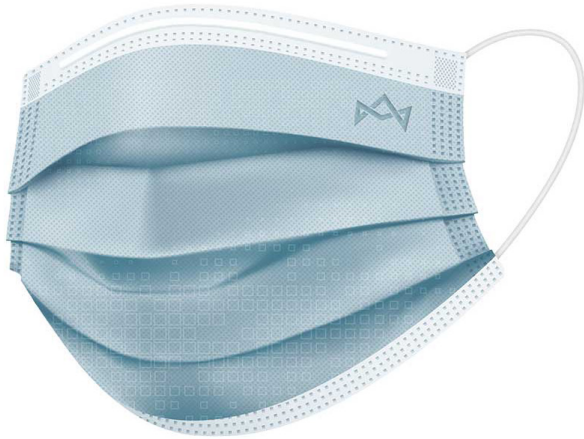
\*Please use as directed



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## *Not All Face Mask Are Created Equal*



### **What is the difference with 3ply?**

The 3-ply surgical mask is commonly used in the COVID-19 pandemic. The 3-ply surgical mask is made up of 3 different layers of non-woven fabric with each layer having a specific function.



The outermost layer (typically blue) is waterproof and helps to repel fluids such as mucosalivary droplets. The middle piece is the filter, which prevents particles or pathogens above a certain size from penetrating in either direction.

The innermost layer is made of absorbent materials to trap mucosalivary droplets from the user. This layer also absorbs the moisture from exhaled air, thus improving comfort.

Together, these 3 layers effectively protect both the user and the surrounding people by limiting the penetration of particles and pathogens in both directions.

## **ASTM N95 DISPOSABLE RESPIRATOR**

Provides at least 95% filtration efficiency against solids and liquid aerosols and is strongly resistant to oils.\*

### **4 - LAYERS OF PROTECTION**

- 1) The two outward protective layers of fabric, covering the inside and outside of the mask, are created using spun bonding*
- 2) Between the spun bond layers there's a pre-filtration layer, which can be as dense as 250 g/m<sup>2</sup>, and the filtration layer.*
- 3) The last layer is a high efficiency melt-blown electret (or polarized) nonwoven material, which determines the filtration efficiency.*



### **ASTM N95 PRODUCT FEATURES**

- Adjustable nose clip helps reduce fogging, helps ensure a better seal
- Non-valve, disposable respirator
- 2-strap design with 4-points staple provide a secure fit
- Soft nose foam reduces eyewear fogging
- Compatible with a variety of safety eyewear and hearing protection
- Cup-style respirator

\*Please use as directed



## Manufacturing

Several factors determine the quality of protection provided an ASTM surgical masks. These factors include, among other things, the source of the raw materials used to create medical-grade masks and how those materials are tested and certified for use in a professional environment.



## Breaking down Raw Material.

Raw materials used to make surgical masks are made from a fabricated material called **Spunbond** and **Melt-blown**. The fabric is made of felt, an ideal material for manufacturing surgical masks. The remainder of the mask consists of **rubber ear loops** and a **plastic nose bridge**.





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## CERTIFIED PPE MADE IN CANADA

### ASTM International Standards

ASTM International, formerly known as American Society for Testing and Materials, is an international standards organization that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems, and services.



ASTM INTERNATIONAL

Crown Mutual Medical is thrilled to be aligned with the Kinectrics testing facility in Toronto, Ont. Kinectrics offers testing of respiratory personal protective equipment (PPE) for industrial and medical applications.

### Click Below To Hyperlink To The Test Results

[Kinectrics ASTM Level 1 Testing Results](#)

[Kinectrics ASTM Level 2 Testing Results](#)

[Kinectrics ASTM Level 3 Testing Results](#)

[Kinectrics ASTM Paediatric](#)



ANALYTICAL REPORT ID: 20-PPE-00588  
 PRODUCT ID: LEVEL 3 MASKS  
 DESCRIPTION: Blue 3 Ply  
 MATERIAL: SMS  
 MANUFACTURER: Crown Mutual Medical Group LTD.  
 LOT IDENTIFICATION: 610  
 DATE RECEIVED: 29-Sep-2020  
 REPORT DATE: 9-Oct-2020

**MEDICAL MASK TEST SUMMARY**  
 ASTM F2100: Standard Specification for Performance of Materials used in Medical Face Masks

Test Method	AVERAGED RESULT	Not Rated	ASTM F2100		
			Level 1	Level 2	Level 3
Flammability 16 CFR 1610	Class 1	Class 3	Class 1		
Particulate Filtration Efficiency ASTM F2100	99.87	< 95%	≥ 95%	≥ 98%	
Differential Pressure EN 14683 Annex C	2.04	> 6.0 mm H <sub>2</sub> O/cm <sup>2</sup>	< 5.0 mm H <sub>2</sub> O/cm <sup>2</sup>	< 6.0 mm H <sub>2</sub> O/cm <sup>2</sup>	
Bacterial Filtration Efficiency ASTM F2100	99.83	< 95%	≥ 95%	≥ 98%	
Fluid Resistance to Synthetic Blood ASTM F2100	80 mmHg	Failure at 80 mmHg	80 mmHg	120 mmHg	160 mmHg

The samples tested meet the acceptance criteria for ASTM F2100 performance LEVEL 1  
 Test results only apply to the samples submitted for analysis. Samples are submitted for each test from the submitted batch. It is the responsibility of the distributor to ensure the tested batch is compliant to the required sampling methodology as per ASTM F2100. If a Additional test information is available upon request.

Reviewed By: Victoria Hisko 2020.10.09 12:29:11 -0400 Approved By: Rob Taylor 2020.10.09 13:07:59 -0400  
 Kinectrics Analytical and Environmental Services Laboratory  
 800 Kipling Ave. Unit 2, Toronto, ON, M2Z 5G5 Page 1 of 7

Tested for the following criteria	Typical Canada /US ASTM F2100-19		
	Level 1	Level 2	Level 3
Bacterial Filtration Efficiency, % ASTM F2101-19	≥95	≥98	≥98
Differential Pressure, mm H <sub>2</sub> O/cm <sup>2</sup> EN 14683:2019, Annex C or equivalent	<5.0	<6.0	<6.0
Submicron particulate filtration efficiency at 0.1 micron, % 0.1 Micron Silica Spheres tested at 5cm\sec or greater	≥95	≥98	≥98
Splash Resistance/Synthetic Blood Resistance mmHg ASTM F1862	80	120	160
Flame Spread 16 CFR Pat 1610	Class 1	Class 1	Class 1



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## Testing for Certification & Compliance

In the world of manufacturing surgical face masks, it's all about standards and producing a compliant product that can offer the maximum amount of protection. American Society of Material and Testing (ASTM) is the global authority for determining surgical masks' criteria for a professional environment.



Health Canada  
Santé Canada  
Approved / Approuvé



Licence Number **13806** Numéro de la licence  
**Medical Device Establishment Licence** Licence d'établissement pour les instruments médicaux  
**CROWN MUTUAL LTD. DBA CROWN MUTUAL GROUP OF COMPANIES**  
 6833 METRO ROAD  
 LANTZVILLE, BRITISH COLUMBIA  
 CANADA  
 V0R 2H0

This licence is issued in accordance with the Medical Devices Regulations of the Food and Drugs Act for the following activities: Cette licence est délivrée conformément à la Loi sur les aliments et drogues, règlement sur les instruments médicaux pour les activités qui suivent:

	Distributor / Distributeur	Importer / Importateur	Manufacture Devices for Distribution / Fabricant d'instruments médicaux pour distribution
Class I / Classe I	No / Non	Yes / Oui	Yes / Oui
Class II / Classe II	No / Non	No / Non	
Class III / Classe III	No / Non	No / Non	
Class IV / Classe IV	No / Non	No / Non	

Attestation made:	Attestations faites:
The establishment has documented procedures in place in respect of: <ul style="list-style-type: none"> <li>distribution records</li> <li>complaint handling</li> <li>recalls</li> <li>mandatory problem reporting</li> <li>handling, storage, delivery</li> <li>installation</li> <li>corrective action</li> <li>servicing</li> </ul>	L'établissement a mis en oeuvre une procédure écrite concernant: <ul style="list-style-type: none"> <li>les registres de distribution</li> <li>les plaintes</li> <li>les rappels</li> <li>rapports d'incident obligatoires</li> <li>la maintenance, le stockage, la livraison</li> <li>l'installation,</li> <li>les mesures correctives</li> <li>l'entretien</li> </ul>

Site listing begins on the back of this page / Liste des sites commence au verso de cette page

Issue Date, date de délivrance: 2020-07-31

Minister of Health / Ministre de la santé: Countersigned: Director, Medical Devices Compliance Program or delegated authority / Contresigné par: Directeur, Programme de conformité des matériels médicaux ou autorité déléguée. Signed by: Anik Michelle Chartrand, Registrar Corp.

This licence is the property of the Medical Devices Compliance Program and must be returned upon demand. Cette licence appartient au Programme de la conformité des matériels médicaux et doit être retournée sur demande.

Crown Mutual Group is a North American based FDA and Health Canada registered manufacturer of medical grade ASTM surgical masks. Our company established due to a shortage of PPE.

CROWN MUTUAL GROUP (CMG) manufacturers Surgical Masks certified ASTM Level 1, ASTM Level 2, ASTM Level 3, and Pediatric Mask ASTM Level 1.



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### CROWN MUTUAL GROUP MASK & FACE SHIELD PRICING TABLE

<b>Adult Level 1</b>	<b>Sample Order</b>	<b>Each Carton contains 2500 Masks</b>				
<b>Adult ASTM Level 1</b>	50 Pc Box	2500 -	10,000-	50,000-	250,000-	1M+
<b>Medical Mask CMG A-01</b>	100 - 2500	10000 Pc	50000 Pc	250000 PC	1M Pc	
Cost Per Unit	\$0.40	\$0.28	\$0.23	\$0.22	\$0.21	\$0.20
Cost Per Box	\$20.00	\$14.00	\$11.50	\$11.00	\$10.50	\$10.00
Cost Per Carton (50 boxes)		\$700.00	\$575.00	\$550.00	\$525.00	\$500.00

<b>Adult Level 2</b>	<b>Sample Order</b>	<b>Each Carton contains 2500 Masks</b>				
<b>Adult ASTM Level 2</b>	50 Pc Box	2500 -	11,000-	51,000-	251,000-	1M+
<b>Medical Mask CMG A-02</b>	100 - 2500	10000 Pc	50000 Pc	250000 PC	1M Pc	
Cost Per Unit	\$0.45	\$0.30	\$0.25	\$0.23	\$0.22	\$0.21
Cost Per Box	\$22.50	\$15.00	\$12.50	\$11.50	\$11.00	\$10.50
Cost Per Carton (50 boxes)		\$750.00	\$625.00	\$575.00	\$550.00	\$525.00

<b>Adult Level 3</b>	<b>Sample Order</b>	<b>Each Carton contains 2500 Masks</b>				
<b>Adult ASTM Level 3</b>	50 Pc Box	2500 -	10,000-	50,000-	250,000-	1M+
<b>Medical Mask CMG A-03</b>	100 - 2500	10000 Pc	50000 Pc	250000 PC	1M Pc	
Cost Per Unit	\$0.50	\$0.35	\$0.32	\$0.30	\$0.29	\$0.28
Cost Per Box	\$25.00	\$17.50	\$16.00	\$15.00	\$14.50	\$14.00
Cost Per Carton (50 boxes)		\$875.00	\$800.00	\$750.00	\$725.00	\$700.00

<b>Pediatric Level 1</b>	<b>Sample Order</b>	<b>Each Carton contains 2500 Masks</b>				
<b>Pediatric ASTM Level</b>	50 Pc Box	2500 -	10,000-	50,000-	250,000-	1M+
<b>Medical Mask CMG P-01</b>	100 - 2500	10000 Pc	50000 Pc	250000 PC	1M Pc	
Cost Per Unit	\$0.45	\$0.30	\$0.25	\$0.23	\$0.22	\$0.21
Cost Per Box	\$22.50	\$15.00	\$12.50	\$11.50	\$11.00	\$10.50
Cost Per Carton (50 boxes)		\$750.00	\$625.00	\$575.00	\$550.00	\$525.00

<b>Adult Face Shield</b>	<b>Sample Order</b>	<b>Each Carton contains 200 Masks</b>				
<b>WHO Standard</b>	200 Pc Carton	200 -	5,000 -	50,000 -	500,000 -	1M+
<b>Dual Sided Anti-Fog</b>	10 - 200	5,000 Pc	50,000 Pc	500,000 Pc	1M Pc	
Cost Per Unit	\$2.25	\$2.15	\$2.00	\$1.85	\$1.70	\$1.55
Cost Per Box	\$450.00	\$430.00	\$400.00	\$370.00	\$340.00	\$310.00