



POWDER-FREE



POWDERED

ATTRIBUTES OF

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SMG

STANDARD
MALAYSIAN GLOVE

What is SMG?

- A product quality certification scheme.
- Formulated by MRB and MARGMA, in consultation with regulatory bodies such as the US FDA.
- Provides assurance of quality for low-protein exam gloves that are lightly powdered or powder-free.
- Establishes standards for
 - barrier performance, the single most important function of gloves;
 - protein and powder contents.

Difference between SMG & Other Standards

SMG is a product certification scheme with:

- technical specifications at least as stringent as those in national standards such as ASTM and EN;

- quality built into its manufacturing process as well.

SMG Tagline



SMG - Your Choice for Quality

Properties of SMG



1. Consistent Quality

- ▶ All SMG-registered manufacturers must implement a Quality Management System conforming to ISO 9001 or its equivalent.
- ▶ All SMG gloves meet technical specifications, which are at least as stringent as those of other national and international standards.
- ▶ Product certification is undertaken by MRB, a body accredited to ISO/IEC Guide 65. MRB conducts periodic surveillance inspection and testing on SMG gloves. It ensures that product testing is undertaken by laboratories accredited to ISO/IEC 17025.



2. Environment Friendly

- ▶ **Renewable and sustainable** – SMG gloves are made from Natural Rubber latex. The most efficient source of rubber latex, rubber trees (*Hevea brasiliensis*) are a renewable and sustainable resource, widely grown in Malaysia.
- ▶ **Aid to atmospheric renewal** – Studies estimate that rubber trees planted worldwide replace as much as 363,000 tonnes of Carbon Dioxide with 264,000 tonnes of oxygen annually through photosynthesis, revitalizing the earth's atmosphere and helping to combat greenhouse emissions and global warming.
- ▶ **Biodegradable** – Natural rubber and its products are biodegradable, unlike synthetic rubber and plastics, such as polyvinyl chloride (PVC).



3. Excellent Barrier Performance

- ▶ SMG gloves are made from NR which has **higher barrier integrity** compared to vinyl gloves and provide very **effective barrier performance** against blood pathogens and harmful infections.
- ▶ **SMG gloves must meet the prescribed standard** for the water leak test. The AQL for SMG must not exceed 1.5, compared to the level of 2.5 under ASTM and US FDA requirements for exam gloves.
- ▶ SMG gloves are **sampled and inspected** in accordance with ISO 2589-1.



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4. High Strength and Elasticity

- ▶ SMG gloves are made from NR which has the ability to reseal when tiny punctures occur.
- ▶ **High strength and elasticity characteristics** of SMG gloves are measured on the basis of tensile strength and elongation-at-break before and after the accelerated aging process as described in ISO 188.
- ▶ Requirements on tensile properties for quality control purposes apply to new gloves only and they are measured in accordance with ISO 37.
- ▶ These requirements are **in line with ASTM and the US FDA specifications**.



5. Minimal Protein Content

- ▶ The upper protein limit for SMG powder-free gloves is significantly lower (**at 50 micrograms/square decimeter**) than recommended by ASTM (200 micrograms/square decimeter).
- ▶ Minimizes protein sensitization and reducing chances of getting allergic reactions.
- ▶ Protein and powder limits for **SMG powdered gloves** are generally consistent with levels recommended by the ASTM.



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6. Unequaled Comfort, Fit and Feel

- ▶ SMG gloves are made from **pliable Natural Rubber (NR)** allowing for natural molding over the hands for more exact fit. Comfortable gloves reduce hand tiredness.
- ▶ NR gloves can stretch in excess of **seven times their original size** without tearing, contributing to easy donning.





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