

Valley Guard Supply | Design Review (per ASTM F3502-21)

April 2021; The Hero (a Barrier Face Covering; BFC)

Design Review:

Note that The Hero was designed to be used as a **source barrier** and no claim is made to its ability to protect the wearer from environmental or airborne particles. The one-size mask is designed to fit an average adult and is not designed or suitable for use on children under 2 years of age.

General Construction and material:

The Hero barrier face covering is a pleated, disposable, face mask formed of a three-ply composite laminate structure that snugly conforms to the shape of the wearer's face, covering the wearer's nose and mouth and is intended and designed to extend to below the chin. The perimeter makes consistent and snug contact with the user's face, maximizing airflow through the barrier's material and minimizing side leakage. The three-ply face mask has a first ply formed of a non-woven, spunbond material; a second ply formed of a non-woven, meltblown, polypropylene material; and a third ply formed of non-woven, spunbond material.

The non-toxic materials used in Valley Guard Supply barrier face coverings that touch the wearer's face have been thoroughly tested by the supplier of the materials and found to be non-irritating for both children and adults. The materials are soft and smooth against the skin.

Retention: The Hero BFC has ear loops attached on the right and left side that comfortably loop behind the wearer's ears and reduce gaps and air flow around the perimeter of the product and face.

Filtration and Breathability:

The test results performed by Intertek Testing Services are available at the Valley Guard Supply website (www.valleyguardsupply.com) Overall sub-micron particulate filtration efficiency was rated a Level 2; air flow resistance was rated a Level 1.

Flammability:

The Hero barrier face covering is made of non-flammable material (Intertek test results: class 1, Normal Flammability; see VGS website). However, The Hero was not designed and is not intended to be used/worn where flame, high heat, electrical arc, or other thermal hazards are present.

Barrier face covering features that minimize the flow of air around the product and enable retention on the face:

- **Nose wire:**
The Hero was designed to be shaped snugly to the wearer's face using a pliable, soft metal nose bridge (located between layers at the top edge of the mask). Once fitted, the nose bridge conforms to the wearer's nose and retains its shape to help reduce leakage and fogging of eyeglasses, if worn.
- **Ear loops:**
The barrier face covering is retained in position covering the nose, mouth, and chin by elasticized ear loops. The ear loops are made from a non-irritating, soft cord with mild elastic stretch that will keep the BFC firmly in place, fit snugly against the face, and be comfortable to the wearer for an extended period of time.

Leakage assessments:

Method: Placement of BFC on standardized head or head-torso forms and judging their respective areas of coverage and conformity to the head-torso form face showing conformance to the fit and sizing characterizations of AATCC M14-2020.

Valley Guard Supply Design Analysis Sizing Chart

	Description	The Hero (one size fits most <u>adults</u>)
A	Front (Menton-Sellion length)	3 5/8" extends to 6.0"
B	Side (Maxilla)	3 5/8"
C	Breadth (Bizygomatic)	7"
D*	Ear Loop	6" (adjust with knots)

