

Polymer Film vs. Woven-coated

Polymer film garments

Polymer film garments are made from material such as PVC (Poly Vinyl Chloride), PU (Polyurethane), and Neoprene. They excel in splash protection but are generally poor with puncture and abrasive protection.

Woven-coated fabrices

Woven-coated fabrics are made from nylon, or polyesters. They are tough, hard to rip or tear but offer limited protection against chemicals.

Understanding Each Material

PVC (Polyvinyl chloride)

PVC is the most economical material. It has good chemical resistance, which increases with thickness; has a low melting temperature of 160°C / 320°F which allows for heat welding seams to form unibody garments; has low tensile strength and is easy to tear and puncture if not impregnated with a supporting fabric. Rainwear described as "PVC" denotes an unsupported PVC fabric (generally disposable); "PVC/POLY" denotes a supported fabric backing that has been "Skimmed" (Pressed) onto the PVC film that gives tensile support to resist tearing; and "PVC/POLY/PVC denotes a supported fabric backing that is "Sandwiched" between two PVC film layers to give maximum tensile support as well as reduce risk of delamination from exposure to acids, fats, and oils. Produced in thicknesses from .20mm to .65mm, thicker garments offer superior durability and chemical protection, with industrial grade being .45mm. PVC rainwear offers the highest level of waterproof, windproof, and splash protection, and is easy to clean. PVC garments are designed for low to mild risk industries, and depending on garment thickness, can be used as a disposable garment or as a heavyduty garment.

The downside to PVC rainwear is that it is heavy, and rigid in feel. PVC rainwear should feel pliable to the touch. Hardness is an indicator that the material has fillers in it, which are cheaper but also significantly impact the durability (they will degrade faster from sun and chemical exposure), as well as their tensile strength (tearing and puncture). Backing fabrics should also be examined, with tighter woven fibers being superior to loose threads. If you can see through the backing, most likely it will tear easily.

PU (Polyurethane)

An alternative for PVC which is 100% waterproof and provides splash protection. Polyurethane is a more expensive material, PU has fair chemical resistance which increases with thickness, has a low melting point of 240°C / 464°F which allows for heat welding seams to form unibody garments, and its porous property gives it varying degrees of breathability. PU is a very soft material that requires a supportive fabric backing, is lighter in weight than PVC and stretches easily, but has low abrasion resistance.

The downside to PU rainwear is that it is very soft with low tensile strength, so it will tear easily. PU is a porous material, and when it stretches can open these pores allowing water to absorb through (most common on pant seat). PU garments are designed for low risk, light duty use. High quality fabric backing can be used to restrict stretching, increasing the fabric's waterproofness while also allowing for higher levels of breathability. Generally these fabrics are more than double the cost of basic PU garments.

Neoprene

Specialized fabrics produced with materials like Neoprene offer similar properties as PVC (above) with superior chemical, thermal, and abrasion resistance. These are uniquely designed for chemical plants, mining and oil refineries. These are generally the most expensive of the polymer film garments.

Nylor

Nylon is one of the strongest fibers, with high tensile, tear and puncture resistance. Fabrics with thread thicknesses of 300D – 420D (Denier) are used in high impact industries like forestry, lumber yards, metal shops due to their high resistance to tearing and puncture. Nylons are 20% - 25% more expensive than polyesters, are stiffer in feel, and classified as medium weight. Nylons do not hold dyes very well; as such they cannot meet the high visibility requirements of CSA or ANSI retroreflective materials.

Polyester

Polyester has excellent dye retention and is the fabric of choice in the high visibility market. Polyester is lighter in weight, with low tensile, tear and puncture resistance. Given the weakness of polyester fabric, Viking® designed our Tri-lobal fabric that more than quadruples the tensile, tear and puncture resistance of oxford polyester (flat weave). Tri-lobal polyester will meet the durability needs of construction, mining, and forestry industries.

How does it keep me dry and warm?

How does woven fabric become waterproof?

In order for a woven fabric to become waterproof, or waterproof/breathable, a spray coating or a laminated film of PU or PVC is applied to create a barrier that droplets of water cannot pass through (waterproof).

PVC-coated

PVC coating offers superior waterproofness as it is solid and non-porous (generally over $10,\!000$ mm w.c. (withstands 14 psi or 980 mbar of hydrostatic water pressure), with zero breathability. PVC coated wovens are typically designed for climates between -5°C to +18°C with high precipitation and winds, in heavy-duty applications.

PU-coated

PU-coated wovens are frequently mislabelled as Waterproof/Breathable, as PU is a porous film. All PU coatings will demonstrate some level of breathability when tested, however depending on the quality of PU, as well as the coating methodology, the Water Vapour Transmission level can be as low as 300 g/m2/24 hours, whereas the industry expectation for breathability is a minimum of 5,000 g/m2/24 hours. PU coatings are applied in layers with waterproofness increasing with the number of coatings, waterproof PU coated wovens should be able to resist water penetration under a Hydrostatic Water Pressure test of a minimum of 7 psi, or 490 mbar.

All coated wovens must be tape sealed on the seams to prevent water from penetrating through the sewn fabric layers.

www.vikingwear.com 17

Things to consider when looking for a waterproof woven-coated garment

All coated wovens must be tape sealed on the seams to prevent water from penetrating through the sewn fabric layers—this can be the weakest point in a waterproof garment where either taping is not 100%, or abrasion wear slowly delaminates or abrades the tape layer.

Collar seam line

The collar seam line has many seams joining into the neck, as well as being an area of open exposure during tempest conditions. (All Viking® hoods are built ½" longer in the backs to cover the collar seams when bending forward.)

Shoulder seams

This is an area of high abrasion and friction. (All Viking® jackets have been converted to "Raglan" shoulder designs to move the arm and shoulder seams to the chest front and back.)

Laminated Fabrics for Splash Protection



- Cost-effective design for low risk industries
- · Lightweight; low tensile strength
- 0.45mm offer high level chemical protection
- · Easy to clean
- Typical industries: agriculture, fishing, construction



- In addition to the above . . .
- Sandwich laminated fabrics offer superior resistance to delamination from exposure to fish oil or caustic acids
- Typical industries: fish and animal processing



- High level chemical splash protection
- Exceptional level of resistance to fuel oil, fats, and acid
- Superior tensile strength in puncture and abrasion
- Typical industries: mining, chemical manufacturing and oil industry

Woven Fabrics for Rugged Industries



- · Medium weight, lowest dye retention
- 100% Waterproof when coated with PVC or PU
- · Highest level of tensile strength
- · Difficult to tear, cut or puncture
- Typical industries: mining, forestry, and lumber yards



- · Lightweight, flexible, and soft
- 100% Waterproof when coated with PVC or PU
- · Low tensile strength
- Typical industries: traffic control, low contact risk industries for vest, shirts, and hoodies



- Lightweight, flexible, and durable
- 300D Trilobal has superior abrasion, puncture, and tear resistance
- Typical industries: traffic control, construction, forestry, mining

Viking Professional® & Extreme Weather

Viking Professional®

Viking Professional® garments are made with our Trilobal polyester fabrics, providing a higher level of abrasion, tear and puncture resistance expected from professional tradespeople looking for durability, lightweight, and comfort. We offer waterproof and waterproof/breathable versions of this fabric, with all garments embellished with extra pockets/zips, reinforced and bar-tacked seams, and most have our extreme weather Stormblaster® hood system.



Professional series

Extreme Weather

Professional series outerwear should not be confused with Extreme Weather outerwear as our 300 Trilobal fabrics are all PU-coated (polyurethane) and offer waterproof resistance in the 7 to 10 PSI range. In environments, mostly coastal, where wet weather can be accompanied by high winds (20 mph+), no PU coating can withstand the increased hydrostatic pressure brought on by the wind. For those workers facing extreme wind/rain elements, we highly recommend they use PVC-coated fabrics, as PVC has over double the hydrostatic pressure resistance and will keep the wearer dry. Throughout our catalogue you will see notations regarding options of PVC coating we offer on styles geared toward extreme wet conditions.



Extreme Weather



- Waterproof or waterproof/breathable
- Reinforced seams
- Lightweight and flexible
- Trilobal polyester fabric
- Highly resistant against abrasion, tear, and puncture



- 100% Waterproof material
- Designed for extreme weather conditions
- Light protection against abrasion, tear, and puncture





Open Road® Light Industrial

- Industrial quality 0.30mm PVC/Polyester/PVC material
- · Low-cost, lightweight, semi-disposable garment
- Fair chemical splash protection
- · Welded and stitched seams for durability
- · Waterproof and windproof
- Sold as a 3-piece suit

Jacket

- Detachable hood with adjustable drawstring
- · Cotton corduroy collar for comfort
- · Cooling vents behind jacket an underneath arms
- · 2 large storage pockets outside
- · Wrist snap adjustors

Bib Pants

- Elastic suspenders
- Adjustable waist snap panel
- · Snap fly access
- Boot cuff snap adjustors

Size S - 3XL









- For the convenience of wearing over shirts, pants and footwear providing full body protection from rain, industrial liquids such as chemicals, animal fats and
- motor oil with the ease of taking the coat off when finished

 Detachable hood with adjustable drawstring
- · Welded and stitched seams for durability
- Waterproof and windproof
- Cotton corduroy collar for comfort
- · Cooling vents behind coat and underneath arms
- 2 large storage pockets outside
- Adjustable wrist snaps
- 3/4 Length for superior foul weather protection
- Hood included; 2 pieces packaged in a clear pouch
- 2120BK has a slit at the back up to the waist with snap closure







Size S - 3XL

Viking Handyman®

- Industrial quality 0.35mm PVC/Polyester/PVC material
- · Light to medium risk chemical splash protection
- · Good chemical protection against acids, animal fats, and motor oils
- Reusable, durable construction
- · Welded and stitched seams for durability
- · Waterproof and windproof
- · Generous sizing for comfort and mobility
- · Sold as a 3-piece suit
- · Packaged in a clear pouch

Jacket

- Detachable hood with adjustable drawstring
- · Cotton corduroy collar for comfort
- · Cooling vents behind jacket and underneath arms on the side
- · 2 large storage pockets outside

Bib Pants

- · Elastic suspenders
- · Adjustable waist snap panel
- · Snap fly access
- · Snap adjustable boot cuffs



Size S - 3XL





Viking Journeyman®

- Premium 0.45mm PVC/polyester material
- Medium to heavy risk chemical splash protection
- Excellent chemical protection against acids, animal fats, and motor oils
- Solid construction provides maximum wind and water protection
- · Welded and stitched seams for durability
- · Waterproof and windproof

Jacket

- Multiple cooling vents
- Heavy-duty chrome plated brass snaps and a dual button snap closure system
- · Cotton corduroy collar for comfort
- · Hood sold separately

Hooded Jacket

- Heavy-duty chrome plated brass snaps and a dual button snap closure system
- Hood attached to jacket

Bib Pants

- Heavy-duty elastic suspenders and reversible bib
- · Adjustable waist panel
- · Large zip pocket and pen holder behind bib

4110J available in XS - 5XL 4110P available in XS - 4XL

Size S - 3XL







20 2016/17



3125J

Viking® Norseman® Jacket and Bib Pants

- Ideal for fish/food processing as tough, sandwich fabric will not delaminate with exposure to animal or fish oil
- Tough 0.45mm PVC/Polyester/PVC flexible fabric material providing superior resistance to delamination
- · Welded and stitched seams for durability
- · Waterproof and windproof
- Medium to heavy risk chemical splash protection
- Excellent chemical protection against acids, animal fats, and motor oils
- Good protection against foul weather wind and cold protection
- Adjustable hood attached to jacket
- Adjustable waist panel
- · Heavy-duty elastic suspenders, and reversible bib
- Heavy-duty chrome plated brass snaps and a dual button snap closure system









6210J

Viking Journeyman®

- Ideal for fish/food processing as tough, sandwich fabric will not delaminate with exposure to animal or fish oil
- Tough 0.45mm PVC/Polyester/PVC material; superior resistance to delamination
- Medium to heavy risk chemical splash protection
- Excellent chemical protection against acids, animal fats, and motor oils
- Good protection against foul weather wind, and cold protection
- · Waterproof and windproof
- 2" prism reflective safety stripes
- Generously sized for working comfort
- · Double welded and stitched seams for durability

Jacket

- Dual button snap closure system
- · Vented back for breathability
- · Cotton corduroy collar for comfort
- Hood (6212) sold separately

Bib Pants

- Heavy-duty elastic suspenders
- · Reversible bib design
- Adjustable waist panel for ease of entry
- Large zip pocket, and pen holder behind bib

6210P available in S - 3XI





WWW.VIKINGWEAR.COM

Viking® Bristol Bay

- · Heavy-duty 0.75mm PVC with 9 oz. cotton twill backing
- Excellent for chemical splash protection against acids, animal fats, and motor oils
- · Resistant to the effects of sunlight and seawater
- · Generous sizing for working comfort
- · Double welded and stitched seams for durability
- · Waterproof and windproof
- Heavy-duty chrome plated brass snaps

Jacket

- Double snap system on placket for extra rain and wind protection
- · Neoprene stretch storm cuffs with nylon reinforcement
- · Large visored hood with drawstring

Bib Pants

- Second 0.35mm layer of PVC/polyester welded on pants for extra wear resistance
- · Adjustable waist panel
- · Heavy-duty elastic suspenders

8125J, & 8110P available in S - 3XL









RUGGED INDUSTRIAL GARMENTS

Open Road® 150D

- Heavy-duty 150 denier recreational ripstop polyester with PVC backing
- · Sold as a 3-piece suit
- Double stitched, taped, and heat-sealed seams to maximize waterproofness
- · Waterproof and windproof

Jacket

- · Multiple front and back vents for breathability
- Adjustable wrists
- · Cotton corduroy collar
- · 2 large pockets
- · Detachable and adjustable hood

Bib Pants

- Adjustable quick release buckle on elastic suspenders
- · Fly access with hook-and-loop closure
- · Adjustable cuffs with hook-and-loop fasteners
- Generously sized protective bib with elastic waist

Also available in the US: Jacket and Bib Pants Sold Separately

- 2910JG and 2910JY: Jacket is attached with hood, and does not feature a corduroy collar
- 2910PG and 2910PY: Bib pants

US only: 2910J, 2910P, 2900G available in S - 4XL Size S - 3XL





22 2016/17



Viking Journeyman® 420D

- · Perfect for high abrasion, snagging industries. Nylon fabric is superior in tear resistance. Ideal for forestry/lumber yard
- Heavy-duty 420 denier nylon with PVC backing gives superior resistance to cuts and snags
- Toughest fabric to resist punctures, rips, snags, and abrasions
- Double-stitched, taped, and heat-sealed seams to maximize waterproofness
- · Waterproof and windproof

Jacket

- · Full mesh lining for breathability
- · Fully lined detachable hood can be stuffed into fleece-lined collar
- · Heavy-duty zipper covered with storm flap
- · Reflective safety piping on front and back
- 4 vents on the front, and 4 vents on the back for breathability
- · 2 large lined zipped pockets
- · 1 inner chest zipped pocket
- · Adjustable cuffs with hook-and-loop fasteners
- · Embroidery zipper included

Bib Pants

- · Detachable bib/waist design
- · Heavy-duty adjustable quick release elastic suspenders
- · Elasticized waist
- Zippered fly access with hook-and-loop flaps
- · Fully lined for comfort
- 13" Boot zipper featuring flap closure and adjustable cuff with hook-andloop fasteners for venting and easy access

3305J and 3307J available in S - 5XL

Size S - 4XL







Viking Journeyman® 300D Trilobal

- Heavy-duty 300 denier Trilobal ripstop polyester with PU backing
- 2" Reflective safety strips
- Double-stitched, taped, and heat-sealed seams to maximize waterproofness
- · Waterproof and windproof

Jacket

- Compliant with CSA Z96-15 Class 2 level 1
- Resistant to abrasion, puncture, rips, and snags
- Flexible in sub-zero conditions
- · Multiple vents, and full mesh lining
- 2 front pockets, and 1 chest cell pocket
- Fleece lined collar for comfort
- Detachable and adjustable lined hood
- Hood (3010H) sold separately

Bib Pants

- Compliant with CSA Z96-15 Class 2 level 1
- Detachable bib design
- Heavy-duty adjustable elastic suspenders with quick release buckle
- Elasticized waist
- · Zippered fly access with hook-and-loop flaps
- · Fully lined for comfort
- 13" Boot zipper featuring flap closure and adjustable cuff with hook-andloop fastener for venting and easy access



3010J

Size S - 4XL



Viking Professional® THOR 300D Trilobal

- Tough 300 denier Trilobal rip-stop polyester
- · Fully taped and heat-sealed seams
- · Lighter weight, with superior durability, abrasion- and tear-resistant ripstop fabric
- Double-stitched, taped, and heat-sealed seams to maximize waterproofness
- · Waterproof/breathable and windproof

Jacket

- · Waterproof pit zip vents with mesh lining
- Heavy-duty zipper with double overlapping storm flap for weather protection
- · Safety reflective piping in front and back
- · Adjustable wrist with hook-and-loop fasteners to seal out rain and wind
- Stormblaster® hood reduces wind and rain exposure up the back of the
 jacket, while orienting the front close to the chin and cheek area. It has a
 safety tear away design, making it easy to remove and attach.
- Embroidery zipper included
- 2 front pockets, 1 chest pocket, and 1 inner pocket
- 3-in-1 zipper and snaps system is compatible with Viking® 402NB or 408BK jacket and becomes 3-in-1 stroller jacket

Bib Pants

- Double layer kvelcronees with knee pad access/drain hole
- 7 assorted size tool pockets with rivets on corners for strength
- · Waterproof fly access zipper
- 2 storage pockets and pen holder on bib
- 13" boot zip featuring adjustable cuff with hook-and-loop fasteners for venting and easy access
- Heavy-duty adjustable elastic suspenders with quick release buckle
- Hammer/ tool hold loops on hip and rear pocket
- Adjustable waist
- Cargo pocket

Professional















3910JB

COVERALLS

Size S - 3XL

Open Road® Coveralls

- Lightweight 220 gsm (7oz/yd²) 65/35 poly/cotton fabric
- Designed with strong zippers and reinforced hemstitching to increase washing performance and wear resistance
- Constructed with a two-way breakaway front brass zipper and exterior storm flap closure for safety
- Back and crotch gusseted for ease of movement and maximum comfort
- · Back waist is elasticized
- Anti-Puncture Pocket (APP) technology with reinforced stitching to prevent sharp objects from puncturing through
- 2 front upper pockets, 2 large rear pockets, 2 lower front pockets, and 2 pass through pockets
- Tool pocket on right leg with hammer loop
- · Left sleeve pencil pocket
- Ultraviolet Protection Factor 50+ Rating (UPF)



Regular
Size XS - 4XL
Tall

Size LT - 3XLT





24

ORC10N



Viking[®] Coveralls

- Fully compliant with CSA Z96-15 Class 1, Level 2
- Fully compliant with ANSI/ISEA 107-2015 Type O, Class 1, not FR
- 2" Vi-brance® reflective material in 4" contrasting tape meets WCB/Worksafe/DOT configuration
- Durable 270 gsm (8 oz/yd²) 65/35 poly/cotton fabric provides superior abrasion and tear resistance
- Fully featured design with strong zippers and reinforced hemstitching to increase washing performance and wear resistance
- Constructed with a two-way breakaway front brass zipper and exterior storm flap closure for safety
- · Back and crotch gusseted for ease of movement and maximum comfort
- · Back waist is elasticized
- Anti-Puncture Pocket (APP) technology with reinforced stitching to prevent sharp objects from puncturing through
- 2 front upper pockets, 2 large rear pockets, 2 lower front pockets, and 2 pass through pockets
- · Dual reflective chest straps
- Tool pocket on right leg with hammer loop
- · Left sleeve pencil pocket
- Heavy-duty 18" brass boot zipper for venting and easy access
- Ultraviolet Protection Factor 50+ Rating (UPF)

Regular
Size XS - 4XL
Tall
Size LT - 3XLT





OVERALLS

Viking® Overalls

- Fully compliant with CSA Z96-15 Class 1, Level 2
- Fully compliant with ANSI/ISEA 107-2015 Type O, Class 1, not FR
- 2" Vi-brance® reflective material in 4" contrasting tape meets WCB/Worksafe/DOT configuration
- Durable 270 gsm (8 oz/yd²) 65/35 poly/cotton fabric provides superior abrasion and tear resistance
- Extra strong front brass #5 tooth self locking zipper
- Anti-Puncture Pocket (APP) technology with reinforced stitching to prevent sharp objects from puncturing through
- Fully hemstitched seams eliminates unravelling
- Gusseted crotch for added mobility and maximum comfort
- 2 Front upper pockets, 2 large back pockets with reinforced bartacked corners
- Tool pocket on right leg with hammer loop
- 2 lower front pockets and 2 pass-through pockets
- · Silver reflective suspender with quick release buckle
- · Heavy-duty 18" brass boot zipper for venting and easy access
- Ultraviolet Protection Factor 50+ Rating (UPF)



WWW.VIKINGWEAR.COM

Size S - 4XL





V0400

Viking® Insulated Coveralls

- Fully compliant with CSA Z96-15 Class 1, Level 2
- Fully compliant with ANSI/ISEA 107-2015 Type O, Class 1, not FR
- 2" Vi-brance® reflective material in 4" contrasting tape meets WCB/Worksafe/DOT configuration
- Lightweight 220 GSM ThermoMAXX® insulation provides warmth up to -30°C/-22°F
- 270 GSM (8 oz/yd²) 65/35 poly/cotton fabric provides superior abrasion and tear resistance
- · Insulated detachable hood
- Fully featured design with strong zippers and reinforced hemstitching to increase washing performance and wear resistance
- Constructed with a two-way breakaway front brass zipper and exterior storm flap closure for safety
- · Back and crotch gusseted for ease of movement and maximum comfort
- Anti-Puncture Pocket (APP) technology with reinforced stitching to prevent sharp objects from puncturing through
- · Back waist is elasticized
- · Dual reflective chest straps
- 2 Front upper pockets, 2 large lower front pockets, 2 large rear pockets
- Tool pocket on right leg with hammer loop
- Heavy duty 18" brass boot zipper for easy access, 7" internal kick panel

Vi-brance

- · Left sleeve pencil pocket
- Ultraviolet Protection Factor 50+ Rating (UPF)



Regular
Size S - 3XL
Tall
Size LT - 2XLT









INSULATED PARKA

Viking® Insulated Parka

- Fully compliant with CSA Z96-15 Class 1, Level 2
- Fully compliant with ANSI/ISEA 107-2015 Type O, Class 1, not FR
- 2" Vi-brance® reflective material in 4" contrasting tape meets WCB/Worksafe/DOT configuration
- 280 gsm ThermoMAXX® insulation provides warmth up to -50°C/-60°F
- 270 gsm (8 oz/yd²) 65/35 poly/cotton fabric provides superior abrasion and tear resistance
- Insulated detachable hood
- · Fully hemstitched seams eliminates unravelling
- Constructed with a two-way YKK® #8 front zipper and exterior storm flap closure
- Dual reflective chest straps
- 2 Front upper pockets, 2 large lower front pockets, and 1 inner chest pocket
- · Left sleeve pencil pocket
- Ultraviolet Protection Factor 50+ Rating (UPF)











26





Viking[®] Insulated Overalls

- Fully compliant with CSA Z96-15 Class 1, Level 2
- Fully compliant with ANSI/ISEA 107-2015 Type O, Class 1, not FR
- 2" Vi-brance® reflective material in 4" contrasting tape meets WCB/Worksafe/DOT configuration
- 280 gsm ThermoMAXX® insulation provides warmth up to -50°C/-60°F
- 270 gsm (8 oz/yd²) 65/35 poly/cotton fabric provides superior abrasion and tear resistance
- Extra strong front YKK® #8 zipper
- Anti-Puncture Pocket (APP) technology with reinforced stitching to prevent sharp objects from puncturing through
- Fully hemstitched seams eliminates unravelling
- Gusseted crotch for added mobility and maximum comfort
- 2 Front upper pockets, 2 lower front pockets, and 2 large back pockets with reinforced bartacked corners
- Tool pocket on right leg with hammer loop
- Silver reflective suspender with quick release buckle
- Heavy-duty 18" YKK® #8 boot zipper for venting, and easy access, with 7" internal kick panel
- Ultraviolet Protection Factor 50+ Rating (UPF)













