

RUGGED & TOUGH



What's in the fabric?

Polymer film vs Woven coated

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 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 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 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 heavy duty garment.

The downside to PVC rainwear is that it is heavy, and boardy 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 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 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 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.

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 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.

Quick summary

Laminated Fabrics

Application: **Splash protection**

Material:

PU • 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

2 x Coated PVC • In addition to the above...
• Sandwich laminated fabrics offer superior resistance to delamination from exposure to fish oil or caustic acids
Typical industries: Fish & animal processing

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

Woven Fabrics

Application: **Rugged industries**

Material:

Nylon • 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 lumber yards

Polyester • Lightweight, flexible & soft
• 100% waterproof when coated with PVC or PU
• Low tensile strength
Typical industries: Traffic control, low contact risk industries for vest, shirts & hoodies

Trilobal polyester • Lightweight, flexible & durable
• 300D Trilobal has superior abrasion, puncture, and tear resistance
Typical industries: Traffic control, construction, forestry, mining

SPLASH PROTECTION GARMENTS

How does it keep me dry & 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 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 to +18 degrees C with high precipitation and winds, in heavy duty applications.

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.

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.

Key areas of concern are:

#1) 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)

#2) the **shoulder seams** as 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)

Open Road Light Industrial Features

- Industrial quality 0.30mm PVC/Polyester/PVC material
- Low cost, light weight, semi disposable garment
- Fair chemical splash protection

Jacket Features

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

Bib Pant Features

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

L 2 x Coated PVC

SIZE S - 3XL

35100



Open Road Light Industrial Long Coat Features

- Industrial quality 0.35mm PVC/Polyester/PVC material
- 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 (Hoods included)
- Cotton corduroy collar for comfort
- Cooling vents behind coat and underneath arms
- Two large storage pockets outside
- Adjustable wrist snaps
- 3/4 Length for superior foul weather protection

L 2 x Coated PVC

SIZE S - 3XL

*2120BK has slit at the back up to the waist with snap closure



2337

2120BK

Handyman Features

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

Jacket Features

- Detachable hood with adjustable drawstring
- Cotton corduroy collar for comfort
- Cooling vents behind jacket and underneath arms
- Two large storage pockets outside

Pant Features

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

L 2 x Coated PVC

SIZE S - 3XL

2110Y

2110BK



Available in:

 **4110J**

 **5110J**

 **6110J**
(US ONLY)



Journeyman Features

- Premium .45mm PVC/Polyester material
- 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

Jacket Features

- Multiple cooling vents
- Double H.D. chrome plated brass snap system
- Hood sold separately

Hoods

- #4112 - Green
- #5112 - Yellow

Bib Pant Features

- H.D. elastic suspenders & reversible bib on pants
- Adjustable waist panel
- Large zip pocket & pen holder behind bib

Hooded Jacket Features

- Double H.D. chrome plated brass snap system
- Hood attached to jacket



 **4125J**

 **5125J**

 **6125J**
(US ONLY)



 **PVC**

 **4110P**

 **5110P**

 **6110P**
(US ONLY)



• welded seams provides protection against leaks

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

 **SIZE S - 3XL**

3125J

3110P

Norseman Jacket & Pant Features

- Tough 0.45mm PVC/Polyester/PVC flexible fabric material, superior resistance to delamination
- Medium to heavy risk chemical splash protection
- Excellent chemical protection against acids, animal fats, and motor oils
- Hood attached to jacket
- Adjustable waist panel
- Heavy duty elastic suspenders & reversible bib
- Large zip pocket & pen holder behind bib

 **2 x Coated PVC**



• welded seams provides protection against leaks

 **SIZE S - 3XL**

SPLASH PROTECTION GARMENTS

Journeyman Features

- 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
- 2" prism reflective safety stripes
- Generously sized for working comfort
- Durable double welded seams

Jacket Features

- Dual button snap closure system
- Vented back for breathability
- Cotton corduroy collar for comfort

Hood – 6212 sold separately



- welded seams provides protection against leaks

Bib Pant Features

- H.D. elastic suspenders meet ESR standards
- Reversible bib design
- Adjustable waist panel for ease of entry
- Large zip pocket & pen holder behind bib

6210J



6210P



L 2 x Coated PVC

6210P available in size S - 3XL

SIZE S - 4XL

Bristol Bay Features

- 100% Waterproof, Windproof, & Machine washable
- Heavy duty 0.75mm PVC with 9oz 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
- Durable double welded seams
- Heavy duty chrome plated brass snaps

Jacket Features

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

Bib Pant Features

- Second 0.35mm layer of PVC coated oxford nylon welded and riveted on pants for extra wear resistance
- Adjustable waist panel
- Heavy duty elastic suspenders
- Oxford nylon layer welded on bib

8125J



8125P



Also available in retail box



L 2 x Coated PVC

SIZE S - 3XL

USA ONLY

2900Y



Open Road 150D Features

- 150D Rip-stop Polyester
- Sold as a 3-piece suit

Jacket Features

- Multiple front and back vents for breathability
- Adjustable wrists & cuffs
- Cotton corduroy collar
- Two large pockets
- Detachable Hood

Bib Pant Features

- Adjustable quick release buckle on elastic suspenders
- Fly access with velcro closure
- Velcro adjustable cuff at lower leg

2910JG & 2910JY 2910PG & 2910PY

Also available in USA: 2910 Open Road 150D

- Hood is attached to jacket
- Jacket and bib sold separately in USA
- Jacket does not feature a corduroy collar



2900BK

2900G

Full length sleeve



SIZE S - 3XL

3305J



3305P



Journeyman 420D Features

- Heavy duty 420D nylon with PVC backing gives superior resistance to cuts and snags

Jacket Features

- 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 pocket
- 1 inner chest zipped pocket
- Adjustable velcro cuff

Bib Pant Features

- Detachable bib/waist design
- Heavy duty adjustable quick release elastic suspenders
- Elasticized waist
- Zippered fly access with Velcro flaps
- Fully lined for comfort
- 13" Boot zipper with flap closure and adjustable velcro



3300J



3300P



3307J



3307P

SIZE S - 4XL

W Nylon

RUGGED INDUSTRIAL GARMENTS

Journeyman 300D Trilobal Features

•Heavy duty 300D Trilobal Rip-stop polyester with PU backing

Jacket Features

- Compliant with CSA Z96-09 Class 2 level 1
- Resistant to abrasion, puncture, rips and snags
- Flexible in sub-zero conditions
- Multiple vents and full mesh lining
- Two front pockets & chest cell pocket

Hood – 3010H sold separately

Bib Pant Features

- Compliant with CSA Z96-09 Class 2 level 1
- Detachable bib design
- Heavy duty adjustable elastic suspenders with quick release buckle
- Elasticized waist
- Zippered fly access with Velcro flaps
- Fully lined for comfort
- 13" Boot zipper with flap closure and adjustable velcro cuff

3010J



Hood – 3010H sold separately

3010P



SIZE S - 4XL

Professional Thor 300D Trilobal Features

- Tough 300 denier Trilobal Rip-stop polyester; Waterproof/Breathable
- Fully taped and heat sealed seams
- Lighter weight, with superior abrasion and tear resistant Rip-stop fabric. Double sewn construction

Jacket Features

- Waterproof pit zip vents with mesh lining
- Front and back venting for extra breathability
- Heavy duty zipper with double over lapping storm flap for weather protection
- Safety reflective piping in front and back
- Adjustable velcro wrist snugs to seal out rain and wind
- Detachable hood and comfort fleece collar
- 14" embroidery access zip inside left chest
- 3 in 1 zipper and snaps system is compatible with Viking 402NB or 408BK jacket and becomes 3-in-1 stroller jacket

Bib Pant Features

- Double layer knees with knee pad access/drain hole
- Seven assorted size tool pockets with rivets on corners for strength
- Waterproof fly access zipper
- Zip storage pocket and pen holder behind bib
- 13" boot zip with velcro cover for venting and easy access
- Hammer/ tool hold loops on hip and rear pocket
- Adjustable waist
- Heavy duty adjustable elastic suspenders with quick release buckle
- Cargo pocket

3910JB



3910PB



Professional™

Waterproof 10200 mm

Breathability 8500 g/m² 24 hours breathable

V-TECH® Waterproof Breathable

TRI ZONE 3 IN 1 System



SIZE S - 3XL