# BODY PROTECTION





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2018~2019

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#### EN1149-5: 2008 EN ISO 11611:2007 PROTECTIVE CLOTHING TO PROTECT PROTECTIVE CLOTHING TO THE SPATTER AND RADIANT HEAT DISSIPATE STATIC ELECTRICITY This standard is used to protect the This European Standard specifies requirements for materials and the wearer against the spatter (small design of protective electrostatic dissisplashes of molten metal)and minipation clothing used in conjunction mize the possibility of short-term elecwith a grounded system in order to trical shock and accidental contact prevent incendiary discharges. with live electrical conductors at voltages. EN ISO11612:2008 Class 1 is against less hazardous PROTECTIVE CLOTHING TO welding techniques and situations, PROTECT AGAINST HEAT AND FLAME causing lower levels of spatter and This European Standard specifies radiant heat. Class 2 is against more requirements for materials and the hazardous welding techniques and design of protective electrostatic dissisituations, causing higher levels of pation clothing used in conjunction spatter and radiant heat. with a grounded system in order to prevent incendiary discharges.

#### EN 14058:2004

## PROTECTIVE CLOTHING AGAINST COOL ENVIRONMENTS



This standard specifies the requirements and performance test methods for protective garments (vests, jackets, coats, trousers) against cool environments.

These garments are used in moderate low temperatures (-5°C and over) to protect against local body cooling and are not only used outdoors such as the construction industry, but also used indoors such as the food processing industry.

These garments don't have to be made of air impermeable or watertight materials. Therefore, these requirements are optional for European standard.



#### EN ISO 20471:2013

#### PROTECTIVE CLOTHING FOR HIGH VISIBILITY CLOTHING



EN ISO 20471:2013 is the harmonized European standard for high visibility clothing. It specifies the requirements for signaling the users presence day or night. High visibility clothing is divided into three classes related to risk assessment. The performance class applies to a single garment or a clothing ensemble, e,g. jacket and trousers.

CLASS 3:Highest level	CLASS 2: Medium level	CLASS 1: Lowest level
Minimum background Material 0.8m <sup>2</sup>	Minimum background Material 0.5m <sup>2</sup>	Minimum background Material 0.14m <sup>2</sup>
Minimum retro-reflective Material 0.2m <sup>2</sup>	Minimum retro-reflective Material 0.13m <sup>2</sup>	Minimum retro-reflective Material 0.1m <sup>2</sup>

#### EN ISO 13688:2013



#### TECHNICAL PROTECTIVE CLOTHING **GENERAL REQUIREMENTS**



This is the general requirements as a reference standard which cannot be applied on its own but is referred to in all specific protective clothing standards. E.g. EN ISO 20471, the European standard for high visibility clothing.

#### EN13356:2001



#### VISUAL ACCESSORIES FOR NON-PROFESSIONAL USE

This is the general requirements as a reference standard which cannot be applied on its own but is referred to in all specific protective clothing standards. E.g. EN ISO 20471, the European standard for high visibility clothing.

#### EN 343:2003+A1:2007

#### PROTECTIVE CLOTHING **AGAINST RAIN**



This European standard concerns protective clothing against rain, wind and cold at temperatures higher than -5 °C. This standard specifies the requirements and test methods applied to the materials and seams of the protective clothing against the effects of foul weather (for example: rain or snow), fog and humidity. The requirements of the EN343 include:

X: Water resistance.

Y: Moisture, vapour and perspiration or "breathability" of the garment Strength of garment components-tensile, tear, seam strength and shrinkage.

#### IEC61482-2:2009



IEC 61482 Protective clothing against the thermal hazards of electric arc.

EN61482-1-2:2007=Arc in the box test method	EN 61482-1-1:2009=Open Arc test method	
Class 1=4ka	ATPV(Arc Thermal Performance Value) cal/ m²	
Class 2=7ka		

#### EN13034:2005+A1:2009



### PROTECTIVE CLOTHING AGAINST LIQUID CHEMICALS

This standard sets out the general requirements for protective clothing against liquid chemicals. Materials shall not cause shim irritation or have any adverse effect to health, including garment sizing, labeling etc.

#### EN14605

#### PROTECTIVE CLOTHING AGAINST LIQUID CHEMICALS



This standard sets out the minimum requirement for the limited use and re-useable chemical protective clothing of the following types:

- Full body protection with liquid-proof design in each clothing joint(Type3: liquid-proof clothing)
- •Full body protection with anti-spray design in each clothing joint(Type4: anti-spray clothing)

#### ANSI/ISEA 107-2010

#### GARMENT DESIGN REQUIREMENTS

	Class 1	Class 2	Class 3
Minimum area of background material	217 in²(0.14 m²)	775 in²(0.50 m²)	1240 in²(0.80 m²)
Composite material used with background material	155 in²(0.10 m²)	201 in <sup>2</sup> (0.13 m <sup>2</sup> )	310 in <sup>2</sup> (0.20 m <sup>2</sup> )
Composite material used without background material	310 in²(0.20 m²)	NA	NA
Minimum width of reflective band	In(25mm) or 2 In(50mm)     composite performance material     (without background material)	1.375 in (30mm)	2 in (50mm)
Minimum yard of different widths of reflective band	4.3 yards - 1-inch-width band (25mm) 3.1 yards - 1.375-inch-width band(30mm) 2.15 yards - 2-inch-width band(50mm)	4 yards- 1.375-inch-width band(30mm) 2.8 yards -2-inch-width band(50mm)	4.3 yds of 2 in yards - 2-inch-width band(50mm)
Reflective Photometric Performance	Level 2 or Level 1	Level 2 or Level 1	Level 2 or Level 1



#### ANSI/ISEA 207-2006T

#### STANDARD FOR PUBLIC SAFETY VEST

This public safety vest standard was created in response to public safety users demand in 2005 for a high visibility safety vest which is different from the garments based on ANSI/ISEA 10-2004. The primary concern is the flexibility design of tactical capability which is not owned by the garments based on ANSI107. Additionally, users want to have a high visibility garment standard intended for law enforcement and emergency responders that would distinguish ANSI 107. Therefore, it will avoid confusion.

# ANSI/ISEA 207-2006 1. Reflective performance requirements are almost the same as ANSI 107,except for the Level 2 (330 RA table). ANSI 207 is not intended to replace, or be interchangeable with ANSI 207 Class 2 garment. Law enforcement officers of traffic are still need to execute according to ANSI 107 Class 2 or Class 3. The new standard adopt to many design schemes, such as separation, colored identification, loops, pockets, badge holders, and ID panels. The innovative design schemes are intended to meet the need of functional design and to offer an effective high visibility safety garment.

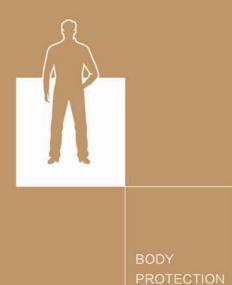
#### **CAN/CSA Z96-09**

#### HIGH VISIBILITY SAFETY STANDARD SUMMARY

The Canadian Standards (CSA) exists to produce standards that help to protect Canadians from hazards in almost every aspect of daily living.

The CAN/CSA Z96-09 addresses high visibility safety issue.

CAN/CSA Z96-02		
	HIGH VISIBILITY SAFETY APPAREL GARMENT CLASSES	
Class 1	Apparel is consists of basic harness or stripes/bands over the shoulder(s) and encircling the waist. The center portion of the front torso band between the two vertical bands is optional.	
Class 2	Apparel has full coverage of the upper torso(front, back, sides and over the shoulders). Stripes/bands shall be composed of retroreflective or combined performance materials.	
Class 3	Apparel meets the same requirements as Class 2 with the addition of bands encircling both arms and legs. These bands shall be composed of composite stripes/bands or a combination of reflective and background material.	







#### ▲ KGS0017

#### Thermal waterproof jacket

- · Surface: 300D 100% Polyester Oxford and inside the fabric is a PU coating waterproof cloth
- · Llining: 210T polyester taffeta
- Filler: 200gsm silk floss
- · High visibility reflective tapes
- · Thermal coefficient is medium

#### ▲ KPS0018

#### Two-piece suit warm jacket

- · Fabric: 260gsm polyester-cotton · Lining: 100% polyester, 210T polyester taffeta
- Filler: 200gsm silk floss
- · Lining is removable
- · High visibility reflective tapes
- · Thermal coefficient is medium

Standard: EN343 EN471 Standard: EN471 Size: M-XXL Size: M-XXL

#### ✓ KGS0006

#### ✓ KPF0022 T / C split working clothing

#### Thermal waterproof jacket

- 100% polyester fiber; coat adopts composite technology fabrics, waterproof and breathable. Liner with thicker composite polar fleece
- Inside the fabric is a PU coating waterproof cloth, all seams are rubberized
- · High quality resin zipper

- High-quality T/C, 245gsm, splicing color, can be customized
- Elastic belt on the waist; High-quality accessories

Standard: EN343 Size: M-XXL Size: M-XXL











#### ▲ KPF0002

#### T / C split working clothing

- High quality T/C, 245gsm
- · High quality accessories
- High visibility reflective tapes

#### T/C coverall

- High quality T/C, 245gsm
- · High quality accessories
- · High visibility reflective tapes

Standard: EN471 Size: M-3XL Standard: EN471 Size: M-3XL

#### ✓ KPF0010

#### Short-sleeved T/C split working clothing

- High quality T/C, 160-230gsm
- · High quality accessories
- · Summer clothing

#### ✓ KPL0026

#### High visibility T/C coverall

- Fluorescent yellow polyester, 240gsm
- · High quality accessories
- · High visibility reflective tapes

Size: M-3XL Standard: EN471 Size: M-3XL







# SAFETY CLOTHING /





#### High visibility poncho

- Material: PVC / polyester
- · High quality accessories
- · High visibility reflective tapes



#### ▲ KGS0003

#### High visibility warm jacket

- Surface: 600D polyester fiber oxford cloth (high visual fluorescence yellow + dark green) + PU coating
- · Lining: 210T polyester fiber
- Filler: 200gsm silk floss
- · High-quality accessories
- · High visibility reflective tapes

Standard: EN343 EN471 Size: Free size Standard: EN471 Size: M-3XL

#### ✓ KPS0028

#### High visible reflective vest

- Material: 100% polyester warp knitted fabric
- Gram weight: 110-120gsm / 60gsm
- High visibility reflective tapes
- · Zipper / Velcro on the placket

#### ✓ KGF0011

#### Leather welding clothing

- Made of cow split leather which is fire resistant and wear resistant.
- · Sewed by DuPont Kevlar fire resistant string
- Especially designed for the protection of front body, open back which can adjust the balance, practical and convenient.
- Fire-proof cotton collar which is safe, comfortable and absorbing sweat

Standard: EN471 Size: M-3XL







# SAFETY CLOTHING /





#### ▲ KPS0029

#### Short-sleeved shirt

- Fabric: high quality CVC
- · High quality accessories
- · Business casual

## ∧ KS0013 Knitted T-shirt

- High quality knitted cotton/ pique fabric
- · Function: breathable, absorb sweat

Size: M-3XL

Size: M-3XL

#### ✓ KP0030

#### Long-sleeved shirt

- Material: high quality CVC
- High quality accessory
- Business casual

#### ✓ KS0012

#### Knitted shirt

- Knitted high quality pure cotton fabric
- Function: breathable, absorb sweat

Size: 165/80-185/112

Size: M-3XL









## 

- · Face Mask Style: Head mounted;
- · Material for Mask Body: Silicone
- · Single filter half mask with twin exhalation valves.

#### ∧ KMF01012

#### Double filter half mask

- Face Mask Style: Head mounted
- Material for Mask Body: Rubber/Plastics
- Silicone Dual Filter Cartridge Half Face Mask not aging easily fits with face outline perfectly.

#### Grade: CE EN140

Full Mask

#### ✓ KMF01021

- · Face Mask Style: Head mounted
- · Material for Mask Body: Rubber/Plastics
- · Silicone Single Filter Cartridge not aging easily fits with face outline perfectly.

## ✓ KMF01022

Grade: CE EN140

#### Full Mask

- Face Mask Style: Head mounted
- Material for Mask Body: Rubber/Plastics
- · Silicone dual Filter Cartridge not aging easily fits with face outline perfectly.

#### Grade: CE EN140 Grade: CE EN140





# 100% COTTON FLAME-RETARDANT COVERALL

#### KGL0020









Size: M-3XL





Metal snap button



High visibility reflective tapes



Adjustable bottom of trousers leg

#### Standard: NFPA2112 EN471

- Fabric: 100% cotton, flame-retardant
- Back, armpit increase the knitted pique, with ventilation function
- Flame-retardant thread; High quality accessories







#### ∧ KPF0001

#### Airborne division style working cloth

- High quality anti-static T/C fabric, 200-260gsm.
- · Multi-function pocket
- · High quality accessories
- · Adjustable snap button
- Multi-pocket design makes storage more convenient and practical.

#### ▲ KPL0019

- The fabric is 100% cotton
- High visibility reflective tapes

100% cotton coverall

Size: M-3XL

Standard: EN471

Size: M-XXL

#### ✓ KPL0021

#### 100% cotton coveral

- High quality 100% cotton
- · High quality accessories
- High visibility reflective tapes

#### ✓ KGS0014

#### Cow leather welding apron

- Made of cow split leather which is fire resistant and wear resistant
- · Sewed by DuPont Kevlar fire resistant string
- Especially designed for the protection of front body, open back which can adjust the balance, practical and convenient.

Standard: EN471 Size: M-3XL





