

# CENOVUS

## SPECIFICATION FOR PPE COVERALLS, OUTERWEAR AND RELATED PPE

REFERENCE NUMBER 8.33.1.074

### 1.0 Purpose

The purpose of this spec is to ensure that Personal Protective Equipment (PPE) worn by personnel working on Cenovus installations is regulatory and organizationally compliant. All PPE shall provide the best possible protection against the hazards for which it is worn, without compromising comfort and usability.

### 2.0 Scope

General P.P.E. required for all Cenovus owned and operated facilities is as follows:

- Eye Protection (*CAN/CSA-Z94.3 Industrial Eye and Face Protectors & CSA Z94.3.1 "Selection, Use, & care of Protective Eyewear"*)
- Footwear (*Grade 1 Specification of CAN/CSA-Z195 (Green Triangle)*)
- Hand Protection
- Head Protection (*CAN/CSA-Z94 or ANSI/ISEA Z89.1 Type 2 Class G or E*)
- Hearing Protection (*CAN/CSA Z94*)
- Work Clothing (*see specific section for standard references*)

All Standards referenced must be most recent revision.

### 3.0 Limb & Body Protection

#### 3.1 Background Material & Fabric

The materials/Fabrics selected must provide;

Coveralls must meet the following at a minimum:

- Protection up to and including HRC-2 (minimum Arc rating (ATPV) of 8.7 cal/cm<sup>2</sup>), in a single layer garment (CSA Z462 or NFPA 70E).
- Protection against hydrocarbon flash fire, with proven independent test results indicating a Body Burn of less than 25% using ASTM F1930 as used in NFPA 2112 AMD 2.
- Comfort without compromising protection for the wearer.
- Reliability provided by the assurance of a Quality Management System that meets or exceeds the requirements of International Standard Organization (ISO) 9001-2008.
- FR durability provided by an Inherently FR or blended Inherent material/fabric or a treated product that has been tested and shown to meet performance requirements.
- Comply with the reflective striping and high visibility requirements outlined in CSA Z96 based on hazards present at the worksite where clothing is being worn

In addition to the requirements above;

- The manufacturer or supplier must be able to prove compliance to CGSB 155.20, NFPA 2112, ASTM 1506, and CSA Z96 by providing performance and testing certifications as requested.
- Completed garment (offshore) shall be compliant with CSA Z96 – Class 1, Level 2 compliance at a minimum and labelled in accordance with the standard.
- Background material shall be “bright” or “fluorescent” orange for all core Cenovus personnel. Outerwear for all personnel must meet CSA Z96 requirement for visibility.

At the time of manufacture, material/fabric must meet or exceed the requirements of the most current version of the standards listed below.

Standard	Description / Title
CAN/CGSB-155.20	Work-wear for Protection against Hydrocarbon Flash Fire.
CAN/CGSB -155.21	Recommended Practices for the provision and use of workwear for protection against hydrocarbon flash fires
NFPA 2112	Standard on Flame-Resistant Garments for Protection of Industrial Personnel against Flash Fire
NFPA 2113	Standard on selection, care, use, and maintenance of flame-resistant garments for protection of industrial personnel against flash fires
ASTM F1506	Performance Specification for Flame Resistant Textile Materials for Wearing Apparel for Use by Electrical Workers Exposed to Momentary Electric Arc and Related Thermal Hazards

Standard	Description / Title
ASTM F1930	Test method for evaluation of Flame-resistant clothing for protection against flash fire simulations using an instrumented Manikin
ASTM F1891	Standard specification for Arc Flash and Flame-resistant Rainwear
NFPA 70E	Standard for Electrical Safety in the Workplace, 2009Edition
CSA Z462 Standard	Electrical Safety in the Workplace, 2008 Edition
BSI BS EN ISO 9001	Quality Management Systems

## 3.2 Visibility

At time of manufacture, all garments must meet the requirements as set out in the most recent version of CSA Z96

### 3.2.1 Reflective Striping

Retro-reflective trim/striping shall meet the requirements of CSA Z96 – Class 1, Level 2 compliance at a minimum (offshore)

- Trim/striping shall include a fluorescent color meeting the CSA Z96 standard. This fluorescent color shall be in a contrasting color to the fluorescent or bright background material of the garment.

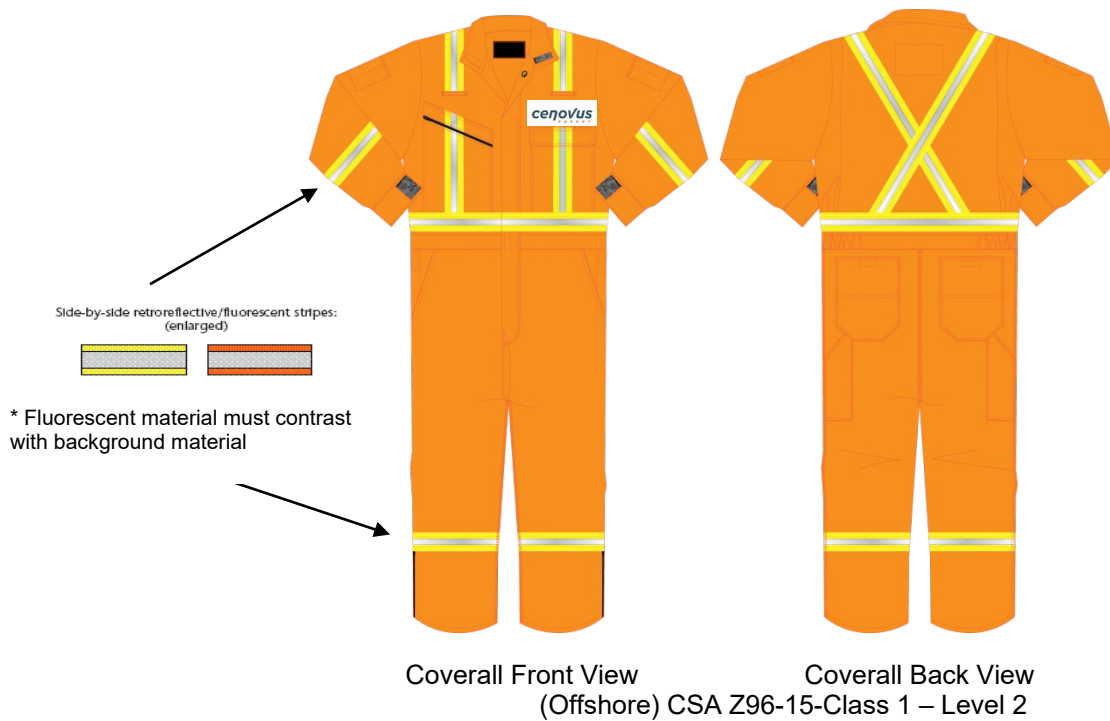
All striping will be sewn, not heat applied

Alternate trims meeting the CSA Z96 standard are acceptable where they exceed the minimum requirements as stated above.

### 3.2.2 Reflective Striping Placement

All striping and placement shall be in accordance to CSA Z96, Class 1, Level 2 at a minimum (offshore). This includes;

- Single horizontal stripe around torso and limbs, double vertical stripes on chest, continuous over the shoulder with an X on the back.



### 3.3 Garment labeling

3.3.1 All labeling shall be in accordance with CGSB 155.20 or NFPA 2112, and ASTM 1506, & CSA Z96 and will include the following at a minimum:

- Name, trademark or other means of identifying the manufacturer or representative;
- Designation of product type, commercial name, or code;
- Size;
- Description of FR fabric of the background material;
- Compliance to CSA Z96 along with class and level of compliance:
- Background material classification as per CSA Z96 (i.e. bright, fluorescent);
- Arc Rating (ATPV) in accordance with ASTM 1506
- Label must state CGSB listing number in accordance with CGSB 155.20 (where applicable)
- Laundering instructions

Any other labeling required as per the standard and certifying organization shall be included

### 3.4 Specific Design Criteria

The specific design requirements for coveralls for Cenovus core personnel are as follows;

- One-piece, long sleeve, bi-swing pleated back with zipper front closure and two pass-through side openings for easy access to under garments.
  - Pockets include;
    - Left & Right front patch pocket with closure's;
    - 2 front mic loops (1 on each side).
    - 2 lower front bag pockets; 2 side pass throughs with closure.
    - 2 rear pockets with closure; self fabric bottom pocket reinforcement.
    - Kneepad pockets to allow for insertion of kneepads. Pockets should be located inside the leg and have a method from preventing kneepads from slipping out.
    - Pen pocket on both sleeves;
    - 2 utility/tool leg pockets (1 on each leg)
    - Inseam shall have a comfort crotch
  - Zippers shall be made of nonconductive material with full length protective fly over zippers
    - Front zipper shall be two-way, tear away, full length;
    - Zipper in both legs, extending 12-14" from bottom of leg
- All thread used in manufacture of the garment, including any embroidery, shall be FR.
- All snaps on garment are to be covered.
- Waistband to be elasticized at sides to allow for a self-adjusting fit.
- Cenovus logo will be present on the left chest of the garment, with the employee's name located on the right chest. Neither will conflict with the high viz-stripping as per CSA Z96.

**NOTE:** A woman's cut coverall must also be proposed, including sizing options.

## 4.0 Outerwear

Outerwear will be required to meet the same specs as outlined for single layer coveralls with regards to FR requirements and reflectability and must meet the requirements of CGSB 155.20 or NFPA 2112.

Outerwear includes the following;

- Winter Parkas (*to have removable lining*)
- Bomber Jackets (*to have removable lining*)
- Bib Pants (*insulated, however removable lining where possible*)
- \*Rain Wear

Parka and bomber jacket to have a removable lining. Where possible, the garment should be waterproof to allow use in environments with excessive rain, snow, and fog.

\*Rainwear must meet the following;

Standard	Description / Title
ASTM F 2733	Standard Specification for Flame Resistant Rainwear for Protection against Flame Hazards
ASTM F1930	Standard Test Method for Evaluation of Flame-Resistant Clothing for Protection against Flash Fire Simulations Using an Instrumented Manikin

## 5.0 Compliance to Standards (Coveralls & Outerwear)

Manufacturer or supplier must be able to prove compliance to all aspects of CGSB 155.20 or NFPA 2112 as well as ASTM 1506, and CSA Z96 by providing performance and testing certifications when requested.

***Third party certified garments as per standards is preferred,*** however not mandatory if the above can be provided

## 6.0 Hearing Protection

- Hearing protection must meet and be worn in accordance with standard CAN/CSA Z94.2
- Ear defender and ear plug options shall be provided

## 7.0 Head Protection

- Minimum requirements on Cenovus owned and operated installations is CAN/CSA-Z94.1 or ANSI/ISEA Z89.1 Type 2 Class G or E head protection
- Metal hard hats are not acceptable.
- Hard hats must be able to accommodate accessories (i.e. ear defenders, head lamps, chin strap and/or lanyard)

**Note:** A hard hat fitted with a chin strap shall be provided as an option as well as standard hardhat meeting requirements above.

## **8.0 Protective Footwear**

- Grade 1 specified safety footwear that meets the standards set out in CSA Z195, Protective Footwear, must be worn when carrying out work at Cenovus owned or operated installations.
- Safety footwear proposed must have impact and compression strength toe protection and puncture resistant soles and must extend above the ankle (minimum 152 mm or 6 inches high).
- Rubber boots must meet the same CSA Standard, Z195, Protective Footwear

## **9.0 Eyewear**

- Minimum requirements on Cenovus owned and operated installations is CSA Standard Z94.3 - Eye & Face Protectors and CSA Z94.3.1 – Selection, Use, & Care of Protective Eyewear.
- Laboratory marks must be visible in the lenses and the frames must indicate the standard.
- Where full-face respiratory equipment is to be worn, the face piece must also meet or exceed the requirements of CSA Z94.3 or ISEA Z87.1.

## **10.0 Hand Protection**

The following types of gloves shall be proposed as part of bid (See table 11 for additional details):

- General purpose glove
- Leather rigger gloves for carrying out lifting or slinging work
- Chemical handling gloves
- Gloves providing cut protection when using a tool (i.e. knife) or by the nature of the task a cut risk exists.
- Electrical rubber gloves worn during electrical work (Natural Rubber-insulating gloves tested to appropriate voltage)
- Impact protection work where there is potential for impact to the hands.

## 11.0 Additional Items/Information

<b>Clothing</b>	
<b>Coveralls/Outerwear</b>	<p>Approved under:</p> <ul style="list-style-type: none"> <li>• CAN/CGSB 155.20 - Work wear for Protection against Hydrocarbon flash fires</li> <li>• CSA Z96 - High Visibility Safety Apparel</li> <li>• NFPA 2112 AMD 2 - Standard on Flame Resistant Garments for Protection of Industrial Personnel Against Flash Fire</li> <li>• ASTM F-1930-00 - Standard Test Method for Evaluation of Flame Resistant Clothing for Protection Against Flash Fire Simulations</li> <li>• ASTM F-1506 REV A - Arc Thermal Performance Value (ATPV)</li> </ul>
<b>Hand Protection and Gloves</b>	
Abrasion (Severe)	Reinforced heavy rubber or staple reinforced heavy leather.
Abrasion (Less Severe)	Rubber, plastic, leather, polyester, nylon or cotton.
Chemicals	Natural rubber, neoprene, nitrile, butyl rubber, viton, polyvinyl chloride, polyvinyl alcohol and others, depending on chemical.
Cold	Leather, insulated plastic or rubber, wool or cotton.
Electricity	Rubber-insulating gloves tested to appropriate voltage, CSA Z462-18
Heat (over 350°C)	Asbestos or neoprene-coated asbestos.
Heat (up to 350°C)	Nomex®, Kevlar, neoprene-coated asbestos or heat-resistant leather with linings.
Heat (up to 200°C)	Nomex®, Kevlar, heat-resistant leather or terry cloth.
Heat (up to 100°C)	Chrome-tanned leather or terry cloth.
Perspiration	Cotton.
Product Protection	Thin-filmed plastic, lightweight leather, cotton, polyester or nylon.
Radiation	Lead-lined rubber, plastic or leather.
Sharp Edges (Severe)	Metal mesh or staple-reinforced heavy leather.
Sharp Edges (Less Severe)	Leather or terry cloth.
Sharp Edges (Mild with Delicate Work)	Lightweight leather, polyester, nylon or cotton.
<b>Head Protection</b>	<p>All head protection shall be approved under CAN/CSA-Z94.1 “Industrial Protective Headgear”.</p> <p>No metal or aluminum head protection is to be worn at Cenovus facilities/sites.</p>
<b>Safety Footwear</b>	<p>All safety footwear shall be approved under CAN/CSA Standard Z195 ‘Protective Footwear’.</p> <ul style="list-style-type: none"> <li>• All operating locations shall require Grade 1 certified footwear. This shall be depicted by a green rectangular label inside the footwear or a green triangular label on the outside of the footwear.</li> </ul>

<b>Eye/Face Protection and Safety Glass Standards</b>	All eye and face protection required at the worksite based on the task being performed shall be approved under CSA Z94.3 “Industrial Eye and Face Protectors” & CSA Z94.3.1 “Selection, Use, & care of Protective Eyewear”.
<b>Hearing Protection</b>	All hearing protection shall be appropriate for the protection required and shall be approved under CSA Standard Z94.2 (Class A).
<b>Safety Lines and Harnesses</b>	<p>Specific reference shall be made to the following:</p> <ul style="list-style-type: none"> <li>• CSA Z259.11 - Energy Absorbers and Lanyards</li> <li>• CSA Z259.2.4 - Fall arresters and vertical rigid rails</li> <li>• CSA Z259.2.5 - Fall arresters and vertical lifelines</li> <li>• CSA Z259.10 - Full body harness</li> <li>• CSA Z259.12 - Connecting Components for Personnel Fall Arrest Systems</li> <li>• CSA Z259.2.2 - Self Retracting Devices – Second Edition</li> </ul>