MINISTRY OF LABOR, WAR INVALIDS AND SOCIAL AFFAIRS **--------**	**SOCIALIST REPUBLIC OF VIETNAM** **Independence - Freedom - Happiness** **----------**
No: 36/2014/TT-BLDTBXH	*Hanoi, December 30, 2014*

CIRCULAR

INTRODUCTION OF NATIONAL TECHNICAL REGULATION ON PERSONAL FALL ARREST SYSTEMS

Pursuant to the Law on Technical Regulations and Standards dated June 29, 2006;

Pursuant to the Government's Decree No. 127/2007/ND-CP dated August 01, 2007 detailing the implementation of a number of articles of the Law on Technical regulations and standards;

Pursuant to the Government's Decree No. 132/2008/ND-CP dated December 31, 2008, detailing the implementation of a number of articles of the Law on Product and goods quality;

Pursuant to the Government's Decree No. 106/2012/ND-CP dated December 20, 2012, defining the functions, tasks, powers and organizational structure of the Ministry of Labor, War Invalids and Social Affairs;

At request of the Director of Bureau of Work Safety;

The Minister of Labor, War Invalids and Social Affairs hereby issues this Circular providing National Technical Regulation on personal fall arrest systems.

Article 1. The national technical regulation on personal fall arrest systems (QCVN 23:2014/BLDTBXH) is issued together with this Circular**.**

Article 2. This Circular enters into force from June 30, 2015**.**

Article 3. Ministers, ministerial-level agencies, Governmental agencies, People's Committees of provinces and centrally-affiliated cities and relevant entities shall be responsible for the implementation of this Circular. /.

PP. MINISTER
DEPUTY MINISTER

Doan Mau Diep

QCVN 23: 2014/BLDTBXH

NATIONAL TECHNICAL REGULATION ON PERSONAL FALL ARREST SYSTEMS

Foreword

QCVN23:2014/BLDTBXH is compiled by the Bureau of Work Safety and issued together with the Circular No.36/2014/TT-BLDTBXH dated December 30, 2014 by the Ministry of Labor, War Invalids and Social Affairs after it is approved by the Ministry of Science and Technology.

NATIONAL TECHNICAL REGULATION ON PERSONAL FALL ARREST SYSTEMS (PFAS)

1. GENERAL PROVISIONS

Scope

1.1.1. This Regulation stipulates safety requirements, test methods, instructions on labeling, packaging, use and maintenance of:

- Full body harness which is a body support device for the single person use of the total mass not exceeding 100 kg.

- Lanyards and energy absorbers categorized into two classes of following energy absorbers:

+ Class 1: used in PFAS where, due to installation, the potential free-fall distance can be limited to a maximum of 1,8 m and, if a fall takes place, the arresting force is limited to a maximum of 4,0 kN;.

+ Class 2: used in PFAS where, due to installation, the potential free-fall distance can be limited to a maximum of 4,0 m and, if a fall takes place, the arresting force is limited to a maximum of 6,0 kN. Each lanyard and energy absorber is designed for single-person of a total mass not exceeding 100 kg.

- Self-retracting lifelines to which the integral-rescue facility is integral designed for single-person use of a total mass not exceeding 100 kg.

- Vertical rails and vertical lifelines which incorporate a sliding-type fall arrester designed for single-person use of total mass not exceeding 100 kg.

- Connectors with self-closing and self-locking gates which are made from metallic materials and designed for the single-person use of a total mass not exceeding 100kg.

Where the aforesaid lines, components and connectors of the personal fall arrest systems (hereinafter referred to as “PFAS component”) are subject to special conditions of use (where, for example, there exist unusual limitations concerning access to workplaces or particular environmental factors), users shall comply with relevant regulations, in addition to provisions hereof.

1.1.2. This Regulation specifies requirements and test methods applicable to integral personal fall arrest systems which are limited to single-person use of the total mass not exceeding 100kg and the maximum arrest force of 6 kN.

1.1.3. This Regulation shall not apply to:

1.1.3.1. For Full body harnesses

- Waist belts or chest harnesses.

- All other types of harnesses that are not designed primarily for use in PFAS.

- Any special requirement for full body harnesses, peculiarly used in descent or ascend systems or confined-space access systems.

1.1.3.2. For lanyards and energy absorbers:

- PFAS that incorporate lanyards without energy absorbers or without means of energy dissipation.

- Special lanyards and energy absorbers which are integral (can only be separated by mutilation or by special tools) to the PFAS components.

1.1.3.3. For vertical rails and vertical lifelines which incorporate a sliding-type fall arrester

- Inclined rails and lifelines (those which are installed at an angle between the true vertical and the lifeline or rail of more than 15° when viewed from the side elevation).

- Horizontally-installed elements of compound rails or lifelines (those which have both vertically and horizontally-installed elements linked by junctions).

1.1.3.4. For connectors and self-closing and self-locking gates

- Attachment elements, fastening buckles, adjusting buckles and other metallic fittings used in the manufacture of full-body harnesses specified in TCVN 7802-6: 2008 (ISO 10333-6) - Personal Fall Arrest Systems – System Performance Tests.

- Connectors used for material-lifting purposes.

- Connectors used in special techniques or situations, e.g. rescue, or rope access.

1.1.3.5. For integral PFAS

- PFAS that use waist belts or chest harnesses as the only body-holding device.

- PFAS that incorporate lanyards without energy absorbers or without means of energy dissipation.

- Any sub-system and components beyond the scope of TCVN 7802.

- Equipment used for material-lifting purposes.

1.2. Regulated entities

1.2.1. Organizations and individuals producing, importing, trading and using PFAS lines and components specified in item 1.1.

1.2.2. Quality inspection agencies, State regulatory authorities and relevant entities.

1.3. Interpretation

For the purpose of this Regulation, terms herein shall be construed as follows:

- Full body harness refers to a component of the body-holding device which connects a person into the PFAS.

- Primary strap refers to a strap of a full-body harness that is designed to transmit load, and support the body or exert pressure on the body during a fall of the person and after the arrest of a fall.

- Secondary strap refers to a strap from which the full body harness is constructed, other than primary straps.

- Fastening buckle refers to a two-part fitting which is designed to facilitate the donning and doffing of full body harnesses.

- Adjusting buckle refers to a fitting which is designed to facilitate the lengthening and shortening straps of full body harnesses, to provide adjustments to different body sizes and shapes.

- Fall-arrest attachment element refers to a mandatory fitting designed as the point of attachment for the connection into a fall-arrest system.

- Work-positioning attachment element refers to a compulsory fitting exclusively designed as the point of attachment for the connection into a work-positioning system.

- Controlled descent/ascent attachment element refers to an optional fitting exclusively designed as the point of attachment for the connection into a controlled descent/ascent system.

- Confined-space access attachment element refers to an optional fitting exclusively designed as the point of attachment for the connection into a confined-space access system.

- Collector plate refers to a slotted plate which allows individual straps to intersect one another, and to be held in this position without being joined.

- Cleat refers to a retainer which when fitted to straps is designed to gather excess strap length after the process of adjustment has taken place.

- Comfort pat refers to an extra support fitted to any of the primary straps which locally increases the strap's width and thickness.

- Work-positioning back support refers to a rigid or semi-rigid back support which can be incorporated into full body harnesses.

- Tool loop refers to an accessory which usually fitted integrally to the waist strap of a full body harness used for temporarily attaching tools to the harness while working.

- Total mass refers to a sum of the user's mass plus all attached clothing and equipment.

- PFAS refer to a system which is designed to arrest a fall from a height, to minimize the fall-arrest forces, to control the total fall distance in order to prevent collision with the ground or other obstacles, and to maintain the faller in a suitable post-fall attitude.

- Work-positioning system refers to a system which enables workers to work with the support of personal protective equipment in tension in such a way that fall is prevented.

- Controlled descent system refers to a system whereby the worker can descend from one level to another by rappelling or other methods while (s)he is suspended in the appropriate harness

- Confined-space access system refers to a system which is used in a work situation where the worker has to enter into a narrow or confined space using a ladder or by being suspended in a harness, and where emergency evacuation can only be carried out with the worker in a near upright position.

- Lanyard refers to a finished length of flexible material, which is in conjunction with an energy absorber as a connecting subsystem in PFAS.

- Adjustable lanyard refers to a lanyard which incorporates a mechanism that allows its length to be shortened or lengthened.

- Energy absorber refers to a component which is designed to dissipate the kinetic energy generated during the fall, to limit the arresting forces applied to the PFAS, anchor device and user.

- Energy-absorbing lanyard refers to a lanyard with an integral energy absorber.

- Full body harness with energy absorber refers to a full body harness having an integral energy absorber.

- Permanent extension refers to a difference in the pin centre length of an energy absorber before and after deployment.

- Pin centre length refers to a straight line distance measured between the bearing points of one energy absorber termination to the other with the absorber under tension.

- Deployment refers to when the energy absorber begins and continues to permanently extend in order to dissipate the energy applied to it, it is said deployment.

- Free fall distance refers to a total vertical displacement through which the worker falls under the forces of gravity and air resistance only from the start of the fall to the onset of the arresting force.

- Component refers to constituent parts of the PFAS or subsystem that has been completed by the manufacturer and is available for purchase.

- Subsystem refers to a constituent part of the PFAS which may consist of one or more components and used and is used to connect the user from a fall-arrest attachment element of the full body harness to anchor devices.

- PFAS is an a assembly of interconnected components and subsystem, including a full body harness which is worn by the user and connected to an anchor device to arrest people in a fall from working level.

- Self-retracting lifeline refers to a connecting subsystem which is anchored above the work place, incorporating a tensioned lifeline which is extracted and automatically retracted in response to the normal movements of a worker, and a braking means which automatically locks and holds the lifeline in response to the sudden motion of a fall, in a similar fashion to the operation of a motor car inertia reel seat belt.

- Integral-rescue facility refers to a complete mechanism which is integral to the self-retracting lifelines and cannot be separated without dismantling the self-retracting lifelines.

- Energy absorber integral to lifeline refers to a component which is designed dissipate the kinetic energy generated during the fall which limits the arresting force applied to the self-retracting lifeline, anchor device and faller. This component is completely integral to the lifeline and cannot be separated without dismantling the product.

- Fall indicator refers to a mechanism which gives visual indicators to users whether or not the self-retracting lifeline has been subjected to arrest a fall.

- Maximum working length means the maximum length of extracted lifeline available, when measured from the lifeline connector to the self-retracting lifeline housing anchor attachment point.

- Swivel connector refers to a connector and a swivel facility that allows the connector to rotate around its major axis.

- Post fall-arrest suspension refers to the state in which, after having been brought to a complete stop by a fall-arresting means, the faller remains suspended in the full-body harness.

- Total mass refers to the sum of the user's mass plus all attached clothing and equipment.

- Minimum locking test mass refers to the smallest mass, which when attached to the external termination of a fully retracted self-retracting lifeline and then released will cause the internal locking mechanism of the self-retracting lifeline to engage and to stay engaged.

- Displacement "H" refers to the total fall distance of the 100 kg test mass, measured from the attachment point of the mass at its pre-release position to its post-arrest equilibrium position during the dynamic performance test.

- PFAS is an assembly of interconnected components and subsystem, including a full body harness worn by the user when connected to the appropriate anchor device.

- Component refers to a constituent part of the PFAS or subsystem that has been completed by the manufacturer and is available for purchase.

- Subsystem refers to a constituent part of the PFAS which may consist of one or more components and used and is used for connecting the user from a fall-arrest attachment element of the full body harness to anchor devices and performs to essential functions: connecting and arresting and energy absorbing.

- Vertical rail refers to a rigid track which is permanently fastened by a number of brackets at intervals along its length to a fixed ladder or other structure, and to which a sliding-type fall arrester can be attached.

- Vertical lifeline refers to a flexible line which is either temporarily or permanently installed.

- Permanent vertical lifeline refers to a tensioned line which is permanently fastened to at least one position at its upper end, to act as a reliable anchor point.

- Temporary vertical lifeline refers to a suspended line which is temporarily fastened at its upper extremity to an overhead anchor point to which a sliding-type fall arrester can be attached.

- Sliding-type fall arrester refers to a device which is designed to be attached to and to slide up and down the vertical rail or vertical lifeline in response to climbing movements, but locks automatically onto the vertical rail or vertical lifeline in response to the sudden motion of a fall.

- Connecting line refers to a line which is designed to link the sliding-type fall arrester to a fall-arrest connecting point of the full body harness.

- Connecting line length means the shortest distance between the bearing points of a connecting-line extremity to the other of the connecting line as it is held taut.

- Lanyard refers to a line made from flexible materials which may be utilized as a part or the whole of the connecting line.

- Connecting-line energy absorber refers to a component which may be utilized as a part or the whole of the connecting line designed to dissipate the kinetic energy generated during a fall and limit the arresting forces exerted on the vertical rail or vertical lifeline and faller.

- Connector refers to a component which may be utilized as a part or the whole of the connecting line and is used to link the connecting line to the fall-arrest attachment point on the full-body harness.

- Anchor connector refers to any component which is utilized to directly link a temporary vertical lifeline to an overhead anchor point.

- Vertical lifeline energy absorber refers to a component which may or may not be included at the upper fastening point of a permanent vertical lifeline, or at the overhead anchor point of a temporary vertical lifeline, designed to dissipate the kinetic energy generated during a fall and limit the arresting forces exerted on the lifeline, upper fastening/anchoring point and faller.

- Opening point refers to a specially-designed point on a vertical rail or permanent vertical lifeline, other than the extremities, where a sliding-type fall arrester may be attached or detached.

- Opening device refers to any device on a sliding-type fall arrester which allows the arrester to be attached and detached at any intermediate point on a vertical rail or vertical lifeline.

- Post fall-arrest suspension refers to the state in which, after having been brought to a complete stop by a fall-arresting means, the faller remains suspended in the full-body harness.

- Minimum locking test mass means the smallest mass, to the nearest whole kilogram, which, when attached to the raised free end of the connecting line and then released, will cause the fall arrester to lock on to the vertical rail or vertical lifeline and stay locked.

- Component refers to a constituent part of the PFAS or subsystem that has been completed by the manufacturer and is available for purchase.

- Subsystem refers to a constituent part of the PFAS which may consist of one or more components and is used to connect the user from a fall-arrest attachment element of the full body harness to anchor devices.

- PFAS is an assembly of components and subsystems, including a full-body harness worn by the user, which when linked together in series and when connected to a suitable anchor device will arrest a fall from a height.

- Connector refers to a device which is used to assemble a PFAS by enabling two other components or subsystems to be physically connected.

- Gate refers to a self-closing, sliding or hinged mechanism which, when opened, allows passage of the components or sub-systems to be coupled into the connector.

- Self-locking feature refers to any mechanism which operates automatically upon closure of the gate and is opened by at least two consecutive, deliberate actions.

- Opening refers to the maximum gap for the passage of a component or subsystem into the connector with a fully opened gate.

- Retention pin refers to a pin which, when inserted across one end of a connector, maintains the position of a lanyard termination, so that the termination is constrained to bear on a part of the connector which has been designed to sustain a fall-arrest force.

- Retention eye refers to an eye or hole which is similar in function to a retention pin, but which becomes integral to the connector during manufacture

- Latch refers to a part of the connector which engages with the free end of the gate

- Manufacturer means any facility that manufacture either components or subsystems or both for the use in a PFAS.

- Assembler refers to any business concern or individual specialized in fitting components or subsystems into complete systems ready for use.

- Required free space refers to a distance required beneath he faller to prevent collision with the ground or other structure.

2. TECHNICAL PROVISIONS

PFAS components shall be conformable to the following technical standards:

2.1. Full body harness shall meet technical requirements in section 4 and shall be tested in accordance with section 5 and shall be labeled, packaged, maintained and applied in accordance with Section 6 of TCVN 7802-1:2007 (ISO 10333-1) -Personal Fall Arrest Systems – Full Body Harness.

2.2. Lanyards and energy absorbers shall meet technical requirements in section 4 and shall be tested in accordance with section 5 and shall be labeled, packaged, maintained and applied in accordance with Section 6 of TCVN 7802-2:2007 (ISO 10333-2)-Personal Fall Arrest Systems – Lanyards and energy absorbers.

2.3. Self-retracting lifelines shall meet technical requirements in section 4 and 5, shall be tested in accordance with section 6 and shall be labeled, packaged, maintained and used in accordance with Section 7 of TCVN 7802- 3:2007 (ISO 10333-3) -Personal Fall Arrest Systems – Self-Retracting Lifelines.

2.4. Vertical rails and vertical lifelines which incorporate with sliding-type fall arresters shall meet technical requirements in section 4 , shall be tested in accordance with section 5 and shall be labeled, packaged, maintained and applied in accordance with Section 6 of TCVN 7802-4:2008 (ISO 10333-4) -Personal Fall Arrest Systems – Vertical rails and vertical lifelines incorporating a sliding-type fall arrester.

2.5. Connectors and self-closing and self-locking gates shall meet technical requirements in section 4 , shall be tested in accordance with section 5 and shall be labeled, packaged, maintained and applied in accordance with Section 6 of TCVN 7802-5:2008 (ISO 10333-5):Personal Fall Arrest Systems – Connectors and Self-Closing and Self-Locking Gates .

2.6. Integral PFAS shall conform to requirements in Sections 4, 5 and 6 of TCVN 7802-6:2008 (ISO 10333-6): Personal Fall Arrest Systems -System Performance Tests.

3. MANAGEMENT PROVISIONS

3.1. With respect to domestically-manufactured PFAS components

3.1.1. Every domestically-manufactured PFAS component shall undergo a certification of conformity and declaration of conformity in accordance with Section2 of this Regulation.

Conformity certification bodies designated by the Ministry of Labor, War Invalids and Social Affairs shall carry out conformity certification by testing typical samples and assessing manufacturing processes; testing samples taken from the manufacturer and assessing manufacturing processes (Testing method 03 prescribed in Circular No.28/2012/TT-BKHCN dated December 12, 2012 by the Minister of Science and Technology).

3.1.2. Domestically-manufactured PFAS components shall be marked “conformity” and labeled in accordance with Part 2 of this Regulation prior to being sold on the market.

3.2. With respect to imported PFAS components

3.1.1. Every imported PFAS component shall be certified conformable in accordance with Part 2 of this Regulation.

3.2.2. The certification of conformity shall be carried out by certifying bodies designated by the Ministry of Labor, War Invalids and Social Affairs or accredited overseas entities.

3.2.3. Imported PFAS components shall undergo conformity assessment under form of testing and assessing their shipment (Testing method 07 prescribed in the Circular No. 28/2012/TT-BKHCN dated December 12, 2012 by the Minister of Science and Technology)

3.2.4. In the event that imported PFAS components are prescribed in the scope of bilateral or multilateral agreements by the Socialist Republic of Vietnam and importing countries under which such imported components are exempted from quality inspection as they are imported, such imported components shall be freed from quality inspection.

3.2.5. Imported PFAS components shall be marked "conformity" and labeled in accordance with this Regulation prior to being sold on the market.

3.3. With respect to PFAS components sold on the market

3.3.1. Only PFAS components marked "conformity" and labeled in conformity with this Regulation are eligible to be **sold** on the market.

3.3.2. The State competent authority has the power to carry out inspection of quality of PFAS components sold on the market, where necessary, as the same as to import or domestically-manufactured PFAS components.

3.4. Management of PFAS components in use

3.4.1. PFAS components must be maintained and used in right manner in accordance with Part 2 of this Regulation and manufacturer's manual.

3.4.2. PFAS components must be used in right manner in accordance with this Regulation and manufacturer's manual.

3.4.3. PFAS components shall be tested in accordance with TCVN 7802 and shall undergo performance tests in accordance with TCVN 7802-6:2008 (ISO 10333-6) at least once every 06 months. Periodic testing shall be carried out by conformity certification bodies.

The testing results and the follow-up test shall be recorded if the component is satisfactory. Unsatisfactory components shall not be used.

3.4.4. Users shall follow manufacturer's manuals, daily carry out performance tests prior to use, provide workers with instructions on PFAS performance test and designate favorable position to PFAS component tests by workers.

3.4.5. Before using PFAS, workers shall carry out required tests according to the manual put up at their workplace.

3.4.6. PFAS daily tests shall be supervised and recorded in writing.

4. RESPONSIBILITIES OF RELEVANT ENTITIES

4.1. Entities producing, importing, trading and using PFAS components shall comply with this Regulation.

4.2. This Regulation lays the foundation for the inspection of PFAS components by inspecting bodies and certification of conformity by conformity assessment bodies.

5. IMPLEMENTATION

5.1. The Bureau of Work Safety and Ministry of Labor, War Invalids and Social Affairs shall take charge of and cooperate with functional agencies to provide instructions on implementation of this Regulation.

5.2. Local labor relations authorities shall inspect and provide instructions on the implementation of this Regulation within the administration.

5.3. Any issue arising in connection to the implementation of this Regulation should be promptly reported to the Ministry of Labor, War Invalids and Social Affairs. /.