R381-70-19: PLAY EQUIPMENT

Although active play is critical for children's health, the active play areas of a child care or other facility used by children are associated with frequent and severe injuries. The rules in this section are intended to prevent injuries related to indoor and outdoor play equipment. They are based on standards set by the Consumer Product Safety Commission (CPSC), the American Society for Testing and Materials (ASTM), the American Academy of Pediatrics (AAP), and the American Public Health Association (APHA).

These rules apply to indoor and outdoor stationary play equipment rather than moveable equipment (e.g. balls, riding toys, sensory table, sand/water toys, push/pull toys, hoops). Stationary play equipment has a base that is meant to keep the equipment fixed in one location when a child uses it. Examples of stationary play equipment include:

- Climbers (including plastic climbers and indoor vinyl-covered foam climbers)
- Slides
- Swings (except porch and patio swings)
- Spring rockers
- Inflatable bounce houses
- Raised tunnels and tunnels with handles children use for climbing
- Inner tube jumpers (they are not assessed as trampolines)
- Teeter-totters
- Roller coasters
- Climbing walls
- A merry-go-round (a revolving piece of equipment for children to ride on)
- A playhouse or treehouse that has an attached component such as a slide, swing, or climber unless the component is inaccessible
- A tree, if a component such as a rope or swing, is attached to the tree for the children to play on
- Multiple stumps, disks, boulders, or pillars that are installed in the ground and are intended for children to step on from one to the other

If a facility has stationary play equipment, the provider must ensure compliance with licensing rules or make the play equipment inaccessible to children in the program. All accessible play equipment and the associated use zones will be inspected.

When measuring play equipment for compliance with rule, licensors will use a wood or metal measuring device and other measuring tools designed for assessing playground equipment.

The following items are not assessed as stationary play equipment:

- Slides that exit into swimming pools
- Carpeted ramps
- A tunnel that sits on the ground or floor and is used only as a tunnel and has no handles for climbing
- A tunnel with a height of 18 inches or lower even if it has handles or holes for climbing
- A natural structure unless it has attached play equipment such as a slide or climber
- Stumps or similar objects that are used only for seating
- Portable stumps that children can move around

Refer to "Section 9: Facility" to review the rules and guidelines about play equipment maintenance.

(1) The provider shall ensure that children using play equipment use it safely and in the manner intended by the manufacturer.

Rationale / Explanation

Children like to test their skills and abilities. This is particularly true around play equipment. Constant active supervision is needed in order to ensure that even well-maintained equipment is not used in unsafe ways. Serious injuries can happen if children are left unsupervised and use play equipment inappropriately. *CFOC 3rd ed. Standard 2.2.0.1. pp. 64-66.*

Staff should ensure that children are using equipment that is appropriate for their age. *CPSC. Public Playground Safety Handbook. Standard 2.2.6. p. 6.*

The intent of this rule is not to prevent children from healthy risk-taking activities. Reasonable risk-taking allows children to explore their limits, improve strength and skills, develop safety awareness, and gain confidence in their abilities. Staff should help children learn the difference between safe and healthy risk-taking, and activities that may cause serious injury to themselves and others.

Compliance Guidelines

Staff must prevent children from engaging in activities such as:

- Going down a slide head first
- Playing or being on parts of the equipment not intended for use, such as:
  - Climbing on or walking across the top of a swing set
  - Climbing up the outside of covered slides or other equipment
  - Playing on the roof of a composite structure
  - Climbing or playing on a tunnel not meant for climbing
  - Climbing or walking on top of protective barriers
- Using equipment that is inappropriate for their age

Additional guidelines:

- If a staff member is actively preventing or immediately stopping children from using equipment in an inappropriate or unsafe manner, this rule is <u>not</u> out of compliance.
- It is a rule violation if children are allowed to use equipment unsafely or if a staff member does not quickly stop an unsafe practice.

Moderate Risk Rule Violation
Corrective Action for 1st Instance

Citation Warning

Use Zones

(2) With the exception of swings, stationary play equipment with any designated play surface higher than 30 inches shall have at least a 6-foot use zone measured from the outermost edge of the equipment.

Rationale / Explanation

The area under and around stationary play equipment is called the use zone. Use zones allow for unrestricted movement around the equipment and help prevent collisions between children using different pieces of equipment. When use zones are free of hard surfaces or objects, the risk of serious injury is reduced if children fall or jump from the play equipment. *CFOC 3rd ed. Standard 6.2.2.1. - 6.2.2.5. pp. 272-273.*

Compliance Guidelines

- When the use zone for play equipment is measured:
  - Each piece of play equipment must be placed where it is normally used by the children.
  - Measurements will be taken from the play equipment's outermost edge extending in all directions around and above the equipment.
  - A ½ inch allowance will be given to account for any uneven ground surfaces.
- Mats that are a component of foam climbers are considered cushioning and part of the use zone.
- A third supporting leg that is used to help stabilize the play equipment and extends beyond the equipment frame is not considered when determining the required use zone.
- Teeter-totters — To measure the height of a teeter-totter, push one end of the teeter-totter to the ground and then measure from the ground to the top of the teeter-totter seat that is raised to its highest position.
- Roller coasters – The height of a roller coaster is determined by moving the wheeled toy to the highest point on the track and then measuring from the ground to the top of the wheeled toy's seat.
- Tunnels — If a tunnel is used to climb on, then the tunnel must be in compliance with this rule. If the tunnel is used only as a tunnel to crawl through or if the tunnel's height is 18 inches or lower, then a use zone and cushioning are not required.
- Stumps, disks, or pillars — If they are meant for stepping from one to the other, they are considered one piece of equipment even though they are installed individually. A use zone is required around the group of stumps, disks, or pillars, and not around each individual component.
- Other equipment — Examples of other stationary play equipment that may require a use zone are listed in the introduction of this section.

A use zone is <u>not</u> required for:

- Stumps, boulders, disks, or pillars that are only used as seating.
- Portable stumps that children can move around.
- Sand diggers.
- Areas above the roof of a piece of play equipment.
- The back or side of a piece of equipment that is flush against a wall.
- An embankment slide except at the bottom of the slide chute. This use zone must be at least as wide as the slide chute.
- Tetherball poles.

Moderate Risk Rule Violation
Corrective Action for 1st Instance

Citation Warning

(3) The use zone in the front and rear of a single-axis swing shall extend at least twice the distance of the swing pivot point to the ground.

Rationale / Explanation

A single-axis swing (sometimes called a to-fro swing) is intended to only swing back and forth and generally has a seat suspended by at least two chains or ropes, each being connected to a separate pivot on an overhead structure. *CPSC. Public Playground Safety Handbook. Standard 5.3.8. p. 37.*

Moderate Risk Rule Violation
Corrective Action for 1st Instance

Citation Warning

(4) The use zone for the sides of a single-axis swing shall extend at least 6 feet from the outermost edge of the swing.

Moderate Risk Rule Violation
Corrective Action for 1st Instance
Citation Warning

(5) The use zone for a multi-axis swing, such as a tire swing, shall extend at least the measurement of the suspending rope or chain plus 6 feet.

Rationale / Explanation
A multi-axis swing consists of a seat (generally a tire or disk) that is suspended from a single pivot that permits it to swing in any direction.

Compliance Guidelines
- The use zone of a multi-axis swing is measured from the edges of the swing seat in all directions.

Moderate Risk Rule Violation
Corrective Action for 1st Instance
Citation Warning

(6) The use zone for a merry-go-round shall extend at least 6 feet in all directions from its outermost edge.

Moderate Risk Rule Violation
Corrective Action for 1st Instance
Citation Warning

(7) The use zone for a spring rocker shall extend at least 6 feet from the outermost edge of the rocker when at rest if the seat is higher than 20 inches.

Moderate Risk Rule Violation
Corrective Action for 1st Instance
Citation Warning

(8) The following use zones shall not overlap the use zone of any other piece of play equipment:
(a) the use zone in front of a slide,
(b) the use zone in the front and rear of any single-axis swing,
(c) the use zone of a multi-axis swing, and
(d) the use zone of a merry-go-round if the platform diameter measures 20 inches or more.

Rationale / Explanation
The use zones of some equipment may not overlap due to the added movement of the equipment and/or the children using the equipment. Collision and impact injuries are less likely to occur when equipment is appropriately positioned and there is adequate clearance. *CFOC 3rd ed. Standard 6.2.2.1. - 6.2.2.5. pp. 272-273.*

Moderate Risk Rule Violation
Corrective Action for 1st Instance
Citation Warning

(9) Unless prohibited in R381-70-19(8), the use zones of play equipment may overlap when:
(a) there is at least 6 feet between the pieces of equipment if the designated play surface is 30 inches or lower, or
(b) there is at least 9 feet between the pieces of equipment if the designated play surface is higher than 30 inches.

Moderate Risk Rule Violation
Corrective Action for 1st Instance
Citation Warning

Cushioning

(10) Stationary play equipment without moving parts children sit or stand on shall not be placed on concrete, asphalt, dirt, a bare floor, or any other hard surface, but may be placed on grass or other cushioning, if the highest designated play surface measures between 6 to 30 inches.

Rationale / Explanation
Cushioning is material that is placed under and in the use zones of stationary play equipment in order to cushion a child's fall from the equipment. There are two main types of cushioning for playgrounds: unitary and loose-fill materials. Unitary materials are generally rubber mats and tiles or a combination of energy-absorbing materials held or poured in place. Loose-fill materials include such products as shredded rubber or wood mulch.

Improper cushioning material under playground equipment is the leading cause of playground-related injuries. Over 70% of all accidents on playgrounds are from children falling. Hard surfaces such as concrete, blacktop, or packed dirt or sand are not acceptable under most play equipment. A fall onto one of these hard surfaces could be life-threatening. *CFOC 3rd ed. Standard 6.2.3.1. pp. 273-274.*

Compliance Guidelines
- A fully enclosed area on the play equipment, such as an elevated crawling tube, is not considered the highest designated play surface.
- Packed sand and/or dirt (it does not displace when walking on it) is considered a hard surface.
- Mats used for cushioning must be in place under and around play equipment when children use the equipment. If cushioning mats are removed when there are no children in the area, CCL staff may ask to see how the mats are placed before children use the play equipment.
- Cushioning material that is frozen is considered a hard surface. If the cushioning cannot be loosened due to weather conditions, children may not use the play equipment until the material can be loosened. Although the equipment does not need to be inaccessible, it is a rule violation if children use the equipment while the cushioning is frozen.

Moderate Risk Rule Violation
Corrective Action for 1st Instance
Citation Warning

(11) Protective cushioning shall cover the entire surface of each required use zone and its depth or thickness shall be determined by the highest designated play surface of the

equipment.

Rationale / Explanation

Head-impact and other injuries present a significant danger to children. Falls onto a shock-absorbing surface are less likely to cause serious injury because the surface is yielding, so the force of impact is reduced. Cushioning under and surrounding play equipment should receive careful attention. *CFOC 3rd ed. Standard 6.2.3.1. pp.273-274.*

Compliance Guidelines

- Cushioning must not have worn spots that are 5 by 5 inches or greater.
- Tile that is worn down ½ inch or more no longer provides cushioning. An area that is 5 by 5 inches or greater of worn tile is out of compliance. However, if the cones underneath the tile are visible, the cushioning is out of compliance regardless of the size of the area.
- When there are various cushioning materials used in the same use zone, the material that requires the greatest depth will be assessed.
- A fully enclosed area on the play equipment, such as an elevated crawling tube, is not considered the highest designated play surface.
- If grass or weeds have grown into loose-fill cushioning in a use zone or the cushioning is no longer soft enough to displace, this rule is out of compliance.
- An embankment slide does not require cushioning except at the bottom of the slide chute where the cushioning must extend at least as wide as the slide chute.
- Tetherball poles do not need cushioning.
- Pillows are allowed to be in the use zone of stationary play equipment, but may not be a substitute for approved cushioning.

Acceptable cushioning materials include the following:

- Any material tested to ASTM F1292 standards
- Sand (as long as it is not packed)
- Gravel
- Shredded rubber mulch, such as recycled shredded tires
- Shredded wood products, such as wood mulch or chips
- Unitary cushioning material, such as mats or playground tiles that meet ASTM standards

Moderate Risk Rule Violation
Corrective Action for 1st Instance

Citation Warning

(12) If sand, gravel, or shredded tires are used as protective cushioning, the depth of the material shall meet the CPSC guidelines in Table 1.

(a) the provider shall ensure that the cushioning is periodically checked for compaction and loosened to the depth listed in Table 1 if compacted; and

(b) if the material cannot be loosened due to extreme weather conditions, the provider shall not allow children to play on the equipment until the material can be loosened to the required depth.

TABLE 1 **Depths of Protective Cushioning Required for Sand, Gravel, and Shredded Tires**

Highest Designated Play Surface, Climbing Bar, or Swing Pivot Point	Fine Sand	Course Sand	Fine Gravel	Medium Gravel	Shredded Tires
4' high or less	6"	6"	6"	6"	6"
Over 4' up to 5'	6"	6"	6"	6"	6"
Over 5' up to 6'	6"	9"	6"	9"	6"
Over 6' up to 7'	9"	Not Allowed	9"	Not Allowed	6"
Over 7' up to 8'	9"	Not Allowed	9"	Not Allowed	6"
Over 8' up to 9'	9"	Not Allowed	9"	Not Allowed	6"
Over 9' up to 10'	Not Allowed	Not Allowed	9"	Not Allowed	6"
Over 10' up to 11'	Not Allowed	Not Allowed	Not Allowed	Not Allowed	6"
Over 11' up to 12'	Not Allowed	Not Allowed	Not Allowed	Not Allowed	6"

Rationale / Explanation

Field and laboratory tests are used to determine the depth of cushioning that is required to prevent life-threatening head injuries due to falls from various equipment heights. Providers must ensure that protective cushioning meets these ASTM standards.

Cushioning that is compacted means that it is packed and hard causing it to lose its shock-absorbing properties. Loose-fill materials will compress at least 25% over time due to use and weathering. Loose-fill cushioning requires frequent maintenance to ensure that surfacing levels never drop below the minimum depth requirement. Areas under swings and at slide exits are more likely to displace so special attention must be paid to the cushioning in these areas. *CPSC. Public Playground Safety Handbook. Standard 2.4. p. 8.*

Compliance Guidelines

- The required depth of sand, gravel, or shredded tires used as cushioning is determined by measuring from the floor or ground to the highest designated play surface, highest swing pivot point, or highest climbing bar.
- Refer to Table 1 above for the minimum required depths of the cushioning based on the height of the highest designated play surface and the cushioning type.

To measure the depth of cushioning in each use zone:

- Dig to the bottom of the cushioning in three spots.
- Place the bottom edge of a metal ruler at the bottom of the hole, and refill the hole with the cushioning.
- Do not take measurements directly under an at-rest swing seat, or directly at the bottom of the slide shoot where children exit.
- Document the depth of the cushioning at each of the three spots.

- If the cushioning is low at any of the three spots, average the three measurements to determine if the cushioning needs to be redistributed or if additional cushioning needs to be added. It is out of compliance if the average depth is low.
- If each of the three areas of cushioning are the required depth, it is in compliance with rule.
- If the three areas are not the required depth, but the average is okay, then cushioning has to be redistributed and cushioning is in compliance.

Additional guidelines:

- It is a rule violation if a cushioning product is used that is not allowed due to the height of the equipment (refer to Table 1).
- The cushioning is not compacted if the shovel slides easily into it when digging to assess its depth. If the shovel hits frozen cushioning, the depth of the cushioning is measured from the surface to the frozen layer.
- Cushioning material that is frozen is considered a hard surface. If the material cannot be loosened due to weather conditions, children are not to use the play equipment until the material can be loosened. The equipment does not need to be inaccessible. However, it is a rule violation if the children use the equipment while the cushioning is frozen.
- If according to manufacturer recommendations the depth of the cushioning is less than required by rule, documentation from the manufacturer must be available for CCL review.

Moderate Risk Rule Violation
Corrective Action for 1st Instance
Citation Warning

(13) If shredded wood products are used as protective cushioning:
(a) the provider shall keep on-site for review by the Department documentation from the manufacturer that the wood product meets ASTM Specification F1292,
(b) there shall be adequate drainage under the material, and
(c) the depth of the shredded wood shall meet the CPSC guidelines in Table 2.

TABLE 2
Depths of Protective Cushioning Required for Shredded Wood Products

Highest Designated Play Surface, Climbing Bar, or Swing Pivot Point	Engineered Wood Fibers	Wood Chips	Double Shredded Bark Mulch
4' high or less	6"	6"	6"
Over 4' up to 5'	6"	6"	6"
Over 5' up to 6'	6"	6"	6"
Over 6' up to 7'	9"	6"	9"
Over 7' up to 8'	9"	9"	9"
Over 8' up to 9'	9"	9"	9"
Over 9' up to 10'	9"	9"	9"
Over 10' up to 11'	9"	9"	9"
Over 11'	9"	Not Allowed	Not Allowed

Rationale / Explanation

Inadequate drainage under wood cushioning material can result in trapped water freezing, which makes the material unable to absorb the impact from falls. It can also lead to the growth of bacteria, mold, and the breeding of mosquitos.

A review of documentation helps CCL determine compliance with licensing rule.

Compliance Guidelines

- If a shredded wood product is used as cushioning, CCL will review ASTM documentation 1) at the first inspection of the cushioning, 2) if the cushioning has been changed or replaced, and 3) for verification during a complaint investigation. If the depth of the wood cushioning is 9 inches or deeper, ASTM documentation will not be required.
- It is a rule violation if a cushioning product is used that is not allowed due to the height of the equipment (refer to Table 2).
- Gardening bark mulch does not have the cushioning properties required by ASTM Specification F1292, and cannot be used as playground cushioning material.
- Compaction of shredded wood products is desirable, as it actually improves the cushioning ability of the material.
- Standing puddles of water on wood cushioning indicate inadequate drainage and is out of compliance. It is also inadequate drainage and out of compliance if, when digging to measure depth, the hole fills with water.

To determine the required depth of wood-product cushioning:

- Measure from the floor or ground to the highest designated play surface, highest swing pivot point, or highest climbing bar.
- Refer to Table 2 above for the minimum required depths of the cushioning based on the height of the highest designated play surface and the type of shredded wood cushioning.

Measure the depth of cushioning in each use zone according to the following guidelines.

- Dig to the bottom of the cushioning in three spots. Even if the first few inches of cushioning are loose, cushioning underneath could be frozen. In this case, stop digging because the frozen layer would be considered the bottom of the cushioning.
- Place the bottom edge of a metal ruler at the bottom of the hole, and refill the hole with the cushioning. If there is frozen cushioning, measure the depth of the cushioning from the frozen layer to the surface.
- Do not take measurements directly under an at-rest swing seat, or directly at the bottom of the slide shoot where children exit.
- Document the depth of the cushioning at each of the three spots.
- If the cushioning is low at any of the three spots, average the three measurements to determine if the cushioning needs to be redistributed or if additional cushioning needs to be added. It is out of compliance if the average depth is low.
- If each of the three areas of cushioning are the required depth, it is in compliance with rule.
- If the three areas are not the required depth, but the average is okay, then cushioning has to be redistributed and cushioning is in compliance.

Moderate Risk Rule Violation
Corrective Action for 1st Instance

Citation Warning

Low Risk Rule Violation
Corrective Action for 1st Instance

Warning when:
- Documentation is out of compliance.

(14) If a unitary cushioning is used, the provider shall ensure that the material meets the standard established in ASTM Specification F1292. The provider shall maintain on-site for review by the Department documentation from the manufacturer that the material meets these specifications.

Rationale / Explanation

Unitary cushioning is a manufactured material used for protective surfacing that may be rubber tiles, mats, or an energy-absorbing material that may be poured in place on-site and solidifies forming a unitary shock-absorbing surface. Unitary cushioning materials that meet ASTM standards have been tested for their shock-absorbing properties.

A review of documentation helps CCL determine compliance to licensing rule.

Compliance Guidelines

- There are several different types of ASTM-compliant cushioning that can be used under indoor and outdoor play equipment. These include certain mats, carpeting, playground tiles, rubber matting, and other unitary cushioning materials. For examples of ASTM-compliant cushioning materials, see:
  - www.safelandings.com
  - www.surfaceplay.com
  - www.daycaremall.com/softplay_3.html
- CCL will review ASTM documentation 1) at the first inspection of the cushioning, 2) if the cushioning has been changed or replaced, and 3) for verification during a complaint investigation.

Moderate Risk Rule Violation
Corrective Action for 1st Instance

Citation Warning

Low Risk Rule Violation
Corrective Action for 1st Instance

Warning when:
- Documentation is out of compliance.

(15) If a unitary cushioning is used, the provider shall ensure that the cushioning material is securely installed, so that it cannot become displaced when children jump, run, walk, land, or move on it, or be moved by children picking it up.

Rationale / Explanation

Appropriate cushioning must cover the entire use zone and be properly installed to lessen the risk of serious injuries from falling or slipping.

Compliance Guidelines

- Rubber mats or tiles are not required to be glued down when any of the following conditions are met:
  - The tiles are interlocking with no gaps between the tiles that are greater than 1 inch wide.
  - There is a border around the play area that holds the mats or tiles in place so they cannot be dislodged by children running or jumping on them.

- If tiles are used under equipment that is allowed to be placed on grass due to its low height. Refer to 70-19(10).

- Insulating foam sealant may be used to fill gaps in cushioning on condition that:
  - It is not used to fill gaps that are 5 by 5 inches or greater.
  - It is inaccessible to children until it dries. (The sealant is toxic in liquid form.)
  - Once dried, the foam sealant is level with the surrounding cushioning.

Moderate Risk Rule Violation
Corrective Action for 1st Instance
Citation Warning

Protective Barriers

(16) A play equipment platform that is more than 48 inches above the floor or ground shall have a protective barrier that is at least 38 inches high.

Rationale / Explanation
The purpose of this rule is to prevent children from falling from a platform, or from slipping through a barrier and becoming entrapped.

Compliance Guidelines
- A protective barrier can be made of any material as long as it accomplished its intended purpose.

Moderate Risk Rule Violation
Corrective Action for 1st Instance
Citation Warning

(17) There shall be no gap greater than 3-1/2 inches in or under a required protective barrier on a play equipment platform.

Rationale / Explanation
The purpose of this rule is to prevent children from falling from a platform, or from slipping through a barrier and becoming entrapped. A gap greater than 3-1/2 inches is a head entrapment hazard. *CFOC 3rd ed. Standard 5.1.6.6. p. 210.*

Moderate Risk Rule Violation
Corrective Action for 1st Instance
Citation Warning

(18) Stationary play equipment shall be stable ~~and~~ or securely anchored.

Rationale / Explanation
All pieces of stationary play equipment should be installed as directed by the manufacturer's instructions, and meet ASTM and CPSC standards. The equipment should be able to withstand maximum active use that might cause it to overturn, tip, slide, or move in any way. If active play equipment is installed indoors, the same requirements for installation and use apply as in the outdoor setting. *CFOC 3rd ed. Standard 6.2.1.4. p. 270.*

Compliance Guidelines
- To determine stability of play equipment:
  - If a child is not using the play equipment (such as a swing set or climbing wall), shake the

equipment to determine if it is stable and securely anchored. If a post (such as a swing set pole) or side of the equipment comes off or out of the ground, the equipment is not secure and it is a rule violation.

- If a child is using the equipment and the equipment post or side tips off the ground, it is a rule violation.

Moderate Risk Rule Violation
Corrective Action for 1st Instance
Citation Warning

(19) There shall be no trampolines on the premises that are accessible to any child in the program.

Rationale / Explanation
Trampolines pose serious safety hazards. CPSC estimates that each year there are almost 100,000 hospital emergency room visits for trampoline-related injuries. Both the American Academy of Pediatrics and the American Academy of Orthopedic Surgeons recommend the prohibition of trampolines in child care and similar programs. CPSC also supports this position. *CFOC 3rd ed. Standard 6.2.4.4. p.276.*

Licensing rule is based on AAP-recommended safety precautions and applies to any trampoline on the premises, including mini, exercise, and in-the-ground trampolines. The hazards that may result in injuries and deaths are from:

- Falling or jumping off the trampoline.
- Falling on the trampoline springs or frame.
- Colliding with another person on the trampoline.
- Landing improperly while jumping or doing stunts on the trampoline.

Compliance Guidelines

- This rule applies to any trampoline on the premises, including mini, exercise, and in-the-ground trampolines.

High Risk Rule Violation
Corrective Action for 1st Instance

Citation and CMP Warning

(20) There shall be no entrapment hazards on or within the use zone of any piece of stationary play equipment.

Rationale / Explanation
According to CPSC, an opening that is greater than 3½ by 6¼ inches and smaller than 9¼ inches is considered an entrapment hazard because it would allow a child's body to fit through, but not the child's head. Children often attempt to slide through openings feet first. In order to prevent entrapment and strangulation, openings in pieces of play equipment should be designed so they are too large for a child's head to get stuck in or too small for a child's body to fit into. *CFOC 3rd ed. Standard 6.2.1.9. p. 272.*

Compliance Guidelines

- This rule only applies to entrapment hazards where a child's feet cannot touch the floor, ground, or designated play surface (with the exception of ladders).

- On play equipment ladders, there shall be no entrapment hazards where a child's feet cannot touch the floor or ground.
- An opening directly under a platform and higher than 48 inches from any surface a child could climb on will not be considered an entrapment hazard.

To determine compliance with this rule:

- Measure from the floor or ground (or other play surface) to the bottom of the opening to determine whether a child's feet could touch the ground. A school-age child's feet could not touch the ground if the bottom of the opening is higher than 33 inches above the ground.
- If the opening is at a height where a child's feet could not touch the ground, measure the size of the opening to determine if it is an entrapment hazard.
- A licensor will use the torso and head probes to determine if an opening is an entrapment hazard. (When possible, the bottom, middle, and top of each opening will be assessed.)
  - When the torso probe passes freely and straight through an opening, then the licensor will use the head probe.
  - If the head probe also passes through the opening, it is not an entrapment hazard.
  - If the head probe cannot pass through the opening, it is an entrapment hazard.

High Risk Rule Violation
Corrective Action for 1st Instance
Citation and CMP Warning

(21) There shall be no strangulation hazards on or within the use zone of any piece of stationary play equipment.

Rationale / Explanation

A strangulation hazard is something on which a child's clothes or drawstrings could become caught, or something in which a child could become entangled.

Strangulation is the leading cause of playground fatalities. Some of these deaths occur when drawstrings on sweatshirts, coats, and other clothing get caught in gaps in the equipment. The area on top of a slide is one potential trouble spot. *CFOC 3rd ed. Appendix EE. p. 485.*

Compliance Guidelines

- Strangulation hazards are typically caused by 1) hardware or small equipment components that protrude out from a surface, 2) hardware that forms a hook or leaves a gap or space between components, and 3) hanging ropes, cords, wire, or chains that are long enough to encircle a child's neck.
- Since the use zone surrounds the play equipment including the area above the equipment, there cannot be tree branches or another object that creates a strangulation hazard in the use zone above the equipment.

Protrusions

Strangulation hazards caused by protrusions include:

- Bolt ends that extend more than two threads beyond the face of the nut unless the bolt end is facing straight down.
- A bolt, screw, or other protrusion which increases in size or diameter as it moves away from the surface (e.g. a bolt with a large bolt head that is not flush with the surface).
- A bolt, screw, or other protrusion angled upward from a horizontal plane that fails the protrusion gauge test.
- Loose handholds on climbing walls.

To assess protruding elements on pieces of playground equipment a licensor will use gauges designed for inspecting playground equipment.

Gaps or Openings

Strangulation hazards caused by hardware gaps or space between components include:

- A hardware connector, such as an S- or C-hook, that has a gap or opening greater than .04 of an inch (the edge of a dime) and the opening does not face downward.

Image from CPSC

To assess gaps on play equipment:

- All connectors such as S- and C-hooks must be checked, no matter where they are located on a piece of equipment, except those that are:
  - At the top of a free standing swing higher than 8 feet.
  - At the top of a swing with a crossbar that is higher than 8 feet.
- Use a dime or the wire hook tool to measure the width of the gap or space.
  - When the dime or tool does not fit in the gap, it is not a strangulation hazard.
  - When the dime or wire tool fits into the gap and the gap angles upward, it is a strangulation hazard.
- CCL does not assess gaps at the top of slide chutes.

Hanging Ropes, Cords, Chains

Strangulation hazards caused by ropes, cords, chains, etc. include:

- Hanging ropes, cords, wires, or chains that are 12 inches or longer and can make a loop 5 inches in diameter, except ropes, cords, wires, or chains with swings or tetherballs attached to the bottoms of them.
- Ropes, cords, twine, etc. that hang into the use zone of a piece of playground equipment and are attached to something solid.
- Ropes that are not anchored securely at both ends, and/or are capable of forming a loop or a noose.

To assess ropes, cords, chains, twine, etc. for possible strangulation hazards:

- Measure the rope, cord, or chain to determine if it is 12 inches or longer.
- Determine if it can make a loop that is 5 inches in diameter.
  - When the rope is not 12 inches or longer and cannot make a 5-inch loop, it is <u>not</u> a strangulation hazard.
  - When the rope is 12 inches or longer and can make a 5-inch loop, it is a strangulation hazard if attached to a solid structure or other object.

The following equipment components are <u>not</u> out of compliance:

- Protrusion or strangulation hazards on the underside of platforms that are 48 inches or higher.
- Protrusions on the top crossbar of free standing swings when the top of the swing is higher than 8 feet tall and there is not a horizontal bar between the support poles, nor is the swing attached to any other component or platform.
- Protruding parts that are molded as a part of the design for dramatic play, such as the eyepiece of a telescope or the ear of an animal (as long as the part is in good repair and no parts are missing).
- Handholds and foot bars that are designed for that purpose, such as those found on spring rockers.
- A bolt end or other protruding hardware in recessed areas unless it extends past the recessed

area.
- Ropes or cords suspending a tetherball or swing.

High Risk Rule Violation
Corrective Action for 1st Instance
Citation and CMP Warning

(22) There shall be no crush, shearing, or sharp edge hazards on or within the use zone of any piece of stationary play equipment.

Rationale / Explanation
A crush hazard is created when parts of play equipment move together in such a way that they could crush a child's fingers, toes, or other body parts. A crush hazard could result in contusion, laceration, abrasion, amputation, or fracture. All pieces of play equipment should be designed so moving parts are shielded or enclosed. *CFOC 3rd ed. Standard 6.2.1.7. p. 271.*

A shearing hazard is created when parts of play equipment move against each other in such a way that they could sever a child's fingers or other body parts. Anything that could crush or shear limbs should not be accessible to children on a playground. *CPSC Standard 3.1. p. 14.*

A sharp edge hazard is created when there is a sharp point or edge on a piece of play equipment that could cut or puncture a child's skin. *CFOC 3rd ed. Standard 6.2.1.8. p. 271.*

Compliance Guidelines
For crush hazards, it is a rule violation if:
- A disc swing hanging from a tree or frame touches the trunk of the tree or the frame when the swing is stretched to its full length.
- Two moving parts on a piece of equipment come together is such a way that they could crush a child's fingers, toes, or other body part.

For shearing hazards, it is a rule violation if:
- There are two pieces of equipment or two parts of a piece of equipment that move against each other in such a way that they could sever a child's fingers, toes, or other body parts.

For sharp edge hazards, it is a rule violation if:
- There is a sharp point or edge that could cut or puncture a child's skin on a piece of equipment's play surface or in a use zone. This includes any play surface that the children usually come in contact with, for example, a platform, an equipment part commonly touched by the children, the hand rail on a slide, the slide surface, etc.

Additional guidelines:
- Since the use zone surrounds the play equipment including above the equipment, there cannot be hard or inflexible tree branches or any other object that creates a crush, shearing, or sharp edge hazard in the use zone above the equipment.
- A molded plastic steering wheel that is part of a piece of play equipment will not be assessed as a crush hazard.
- It is not out of compliance when the movement between two pieces of equipment or two parts of a piece of equipment is minimal and would be unlikely to cause contusions, lacerations, abrasions, amputations, or fractures during use.

High Risk Rule Violation

Corrective Action for 1st Instance
Citation and CMP Warning

(23) There shall be no tripping hazards such as concrete footings, tree stumps, tree roots, or rocks within the use zone of any piece of stationary play equipment.

Rationale / Explanation
Tripping is one of the hazards listed by CPSC to be most commonly associated with injury.
CFOC 3rd ed. Standard 5.3.1.1. pp. 237-238.

Compliance Guidelines
In addition to those listed in rule, other tripping hazards include:
- Weed barrier that is pulled up.
- An object such as a tire used to cushion an equipment footing unless the object is flush to the ground.
- The leash or rope of a tethered animal if it can reach into the use zone of a piece of play equipment.
- Metal rods in horse shoe pits that are in the use zone of outdoor play equipment.
- Equipment frames or supports that are not part of the original equipment or are not directly under a platform.

The following are not considered tripping hazards:
- Mats that are placed under equipment as cushioning.
- Poles on a tent-type sandbox or canopy unless the poles are in the use zone of another piece of equipment.
- Equipment frames or supports that are part of the original equipment or are directly under a platform.
- Moveable objects (e.g. tricycles, toys, and other hard objects) that are left in the use zone of stationary play equipment when the equipment is not being used.
- Moveable objects that are left in a use zone by children, but are immediately removed from the area.

Moderate Risk Rule Violation
Corrective Action for 1st Instance
Citation Warning