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Author: Scott Belair

# Comparison Chart – 2014 And Previous CSA Standard(s)

| 2014 edition | Previous edition(s) | Rationale |
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| Clause 1.3 (additional/revised text to second sentence) - The specifications laid out in this Standard are intended to minimize the likelihood of serious and/or life-threatening injuries. | Clause 1.3 from 2007 and previous editions - The specifications laid out in this Standard are intended to minimize the likelihood of debilitating and/or life-threatening injuries. | *serious* is a new word in place of “debilitating” in previous editions). In clause 3 (definitions) there is no definition of the word serious.<br><br>Unsure what (if any) impact this change will have. It is understood that this was part of an effort to harmonize CSA Z614 with other ISO standards involving child safety. However, ISO documents do include a definition for the word serious. |
| Clause 3 – Definitions - Swing — an element or seat suspended from an elevated support structure so as to allow users to move freely in one or more planes and possesses a pivot point greater than 610 mm (24 in) when measured vertically from the top of the suspended element to the pivot point.<br><br>Swings include the following types: single axis (to-fro), multiple axis (rotating), or swings with multiple motions consisting of a combination of single axis and multiple axis (combination swings). | To-fro swing — a playstructure with at least one suspended component designed for swinging by the user in a single vertical plane. | This may allow some items that are low to the ground that provide some swinging and motion to be permitted in a playspace without providing the spacing that a swing would require (provided the pivot height of the swinging activity is less than 610mm (24 in). These types of activities activities may look like a traditional swing, but often the length of chain in extremely short, the swinging element is often only a few centimeters or inches above the ground and is often physically attached to a composite structure. The types of activities are often used to promote balancing on an object with some minor amount of motion and movement. |

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| Clause 3 Definitions - Embankment slide (also referred to as a hill slide) — an elevated or embedded slide that generally follows the contour of the ground and at no point is the slide bedway greater than 300mm (11.81 in) above the underlying ground surface. See Figure 33 and Clauses 14.1, 14.6 and 15.5.9<br><br>To meet the criteria of an embankment slide a slide must meet the following criteria:<br>• Slide bedway must be no greater than 300mm (11.81 in) above the underlying ground surface<br>• Starting platform / sitting section must be 550mm in depth and approximately horizontal and be at least as wide as the slide bedway<br>• Slide entry must have a means to channel the user into a sitting position (i.e. hood, canopy, etc.)<br>• Embankment slides are exempt from the lateral discharge requirements<br>• Slide must exit onto protective surfacing that is not part of the embankment with a critical height rating of at least 1.0-meter (39.37 in)<br>• An embankment slide that is elevated above the underlying ground surface shall have no hard surface or sharp object inside the slide clearance zone of 525-mm (20.67 in) as defined in 15.5.7.<br>• Protective surfacing and no-encroachment zone requirements in the directions of descent will be the same as any other elevated slide.<br>• Calculations for determining the slide height will be done using figure 37 | Previous editions of CSA Z614 did not contain specific information regarding embankment slides. | A new section to provide some credibility and testing criteria to this increasingly popular area. Embankment slides now has some specific criteria provided the sliding surface does not exceed 300mm above the ground surface.<br><br>NOTE 1: Protective surfacing is not a requirement during descent if the slide is counter-sunk with the surface of the ground (i.e. no elevation). Protective surfacing is always required in the direction of descent at the slide exit.<br><br>NOTE 2: It is believed the maximum height of 300mm (11.81 in) eliminates the hazard of falls from elevated heights.<br><br>NOTE 3: Most of the embankment slide protocol adopted is from the CPSC Handbook For Playground Safety (U.S.) and/or EN 1176 (Europe). |

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| 10.2 Critical height<br><br>All playground equipment with a fall height above the finished grade shall be located on a protective surface that extends around it to cover the protective surfacing zone. The surfacing material used within the protective surfacing zone of the piece of playground equipment shall have a critical height of at least the defined fall height.<br><br>Manufacturers and/or owner-operators should have available three temperature critical height values for specified surfacing products. The test methods specified in ASTM F1292 may be used for three temperature testing. | 10.2 Critical height<br><br>All playground equipment with a fall height above the finished grade shall be located on a protective surface that extends around it to cover the protective surfacing zone. The surfacing material used within the protective surfacing zone of the piece of playground equipment shall have a critical height of at least the defined fall height. | An attempt to re-inforce that surfacing material and its impact absorption properties vary over different temperature ranges (from very cold, to very hot). The three temperatures (-6 deg C, 23 deg C, and 49 deg C) were previously a requirement vis-à-vis a reference to ASTM F1292 in section 2, but now specifically stated in CSA Z614.<br><br>The end result of this is that owner/operators should only buying from suppliers that have completed the three temperature testing as prescribed in ASTM F1292. Correspondingly, any suppliers of protective surfacing should have the three temperature testing available upon request. |

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| Toggle test – Applicable clauses include: 12.4.6.2, 12.4.6.3, 12.4.7 (for slides, slide enclosures and sliding poles). Highlighted changes include:<br>• Cord only (no chain permitted)<br>• Entanglement must occur during 1 of 2 attempts (previously was 2 of 3)<br>• Narrower testing range (as shown in figure 17)<br>• Different test methods for "narrow" (i.e. single use) vs "wide" (i.e. multiple users) slides<br>• Cord length shortened to 400mm (15.75 in) from 600mm (23.62 in)<br>• Maximum post diameter now specified<br>• Grasping of the cord only (never to manually manipulate the toggle and no swinging of the cord)<br>• Specified rate of speed for the test procedure in direction of descent<br>If the test device becomes obstructed apply 50 N (11.24 lbs) for up to 10 seconds in an attempt to signify the weight of an entangled user (similar to our use of the 222.41 N (50 lbs) gauge | Previous editions permitted:<br>• Cord or chain<br>• Entanglement required to occur during 2 of 3 attempts<br>• Wider testing range<br>• Protocol for testing "narrow" vs "wide" slides was poorly defined<br>• Cord or chain length of 600mm (23.62 in)<br>• No maximum post diameter<br>• Not specified to grasp cord/chain, post, or toggle<br>• No rate of speed<br>• No weight attached to signify a potentially entangled user | An effort to provide some reproducibility to the toggle test and give this test more credibility.<br>Most of the testing protocol adopted is from EN 1176 (Europe) or the failed attempt to adopt the toggle test into ASTM F1487 (U.S.). |
| 13.4.5.4 - Consideration should be given to guard against inadvertent falls from upper platforms onto lower platforms or over the protective barrier/guardrail on the lower platforms. | Not present in previous editions | An additional clause for manufacturers and "prior to first use" inspectors to consider areas where children on upper platforms standing near a lower platform may loose their balance and fall. If they fall in the direction of the lower platform there is a risk of falling over a protective barrier style enclosure that may not be high enough to hit their "centre of gravity", leading to falls over the containment device and onto the protective surfacing or onto other play elements.<br>NOTE: This is not a specific requirement and there are no specifics given on how to evaluate compliance and/or safety in this respect. Future editions may contain more information on specifics for evaluation purposes. |

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| Clause 14.3 – Rotating equipment<br><br>14.3.1<br><br>The protective surfacing zone for equipment with a maximum diameter of less than or equal to 1 m (39.37 in) and an axis of rotation within 45 from vertical shall not be less than 1.8 m (70.87 in) from the perimeter of the playstructure.<br><br>14.3.2<br><br>The protective surfacing zone for equipment with a maximum diameter greater than 1 m (39.37 in) and rotates with an axis of rotation within 45° from vertical shall not be less than 2.7 m (106.30 in) from the perimeter of the playstructure, including a 1.8 m (70.87 in) clearance zone that shall not overlap any other zone (see Figure 26).<br><br>14.3.3<br><br>The protective surfacing zone for equipment with an axis of rotation within 45° from horizontal shall not be not less than 1.8 m (70.87 in) from the perimeter of the playstructure. Equipment with an axis of rotation within 45° from horizontal may be attached to a composite playstructure.<br><br>14.3.4<br><br>Free-standing play equipment with an axis of rotation within 45°from horizontal can overlap the protective surfacing zones of other play equipment but not in the direction of motion. | 14.3 Rotating equipment<br><br>14.3.1<br><br>The protective surfacing zone for equipment that rotates around a vertical axis shall be not less than 1.8 m (70.87 in) from the perimeter of the playstructure.<br><br>14.3.2<br><br>The protective surfacing zone for equipment that rotates around a horizontal axis shall be not less than 1.8 m (70.87 in) from the perimeter of the playstructure. Rotating equipment with a horizontal axis may be attached to a composite playstructure.<br><br>14.3.3<br><br>Free-standing play equipment that rotates around a horizontal axis can overlap the protective surfacing zones of other play equipment but not in the direction of motion.<br><br>14.3.4<br><br>A no-encroachment zone, not less than 1.8 m (70.87 in), shall be provided for equipment that rotates around a vertical axis. Rotating equipment with a platform having a diameter less than 500 mm (19.69 in) is exempt from this requirement, and the protective surfacing zone may overlap. | Previous editions of CSA Z614 only provided criteria for “vertical” (i.e. vertical only) and “horizontal” (i.e. horizontal only) and no criteria for rotating devices with an axis of any other angle.<br><br>Now the defining criteria is the size (i.e. greater than or less than 1.0m/39.37in) and the axis of rotation being within 45-degrees of vertical or 45-degrees of horizontal. The end result is that now every rotating device is covered by CSA Z614.<br><br>Some confusion may arise regarding the protective surfacing zone for rotating devices with diameter greater than 1.0m (39.37 in) and an axis of rotation within 45-degrees from vertical. The protective surfacing zone now required will be 2.7-m (106.30 in), with the first 1.8-m (70.87 in) being a clearance zone and no possibility of overlap. Whilst the remaining 900-mm (35.43 in) may overlap another protective surfacing zone.<br><br>NOTE 1: There is no longer a requirement for a no-encroachment zone (just the expanded protective surfacing zone).<br><br>NOTE 2: Protective surfacing zones for rotating devices with an axis of rotation within 45-degrees of horizontal (i.e. log rolls) will be measured as they have been previously. |

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| Clause 15.8 - Rotating Equipment (cont'd)<br><br>Equipment within the scope of Clause 15.8 is used for sitting, standing, or gripping/grasping and rotates with an axis of rotation within 45° from vertical.<br><br>15.8.4 Handgrips<br><br>Children shall be provided with a secure means of holding on. Where handgrips are provided, they shall conform to the requirements of Clause 13.1.4.4. Where hand grasps are provided they shall conform to the requirements of Clause 15.8.9.<br><br>15.8.5 Clearance between moving parts<br><br>15.8.5.1 Attached to a composite structure<br><br>Vertical rotating equipment attached to a composite structure shall have a clearance zone of 1.8 m (70.87 in), measured from the outermost perimeter of the rotating equipment. Vertical rotating equipment attached to a composite structure with a maximum diameter less than or equal to 1 m (39.37 in) and designed for overhead use shall be exempt from the 1.8 m (70.87 in) clearance zone requirement.<br><br>15.8.9 Handgrasps<br><br>The cross section of any support designed to be grasped shall have a width not exceeding 61 mm (2.40 in). | Previous editions of CSA Z614 only provided criteria for "vertical" (i.e. vertical only) and "horizontal" (i.e. horizontal only) and no criteria for rotating devices with an axis of any other angle. | These changes part of a general overhaul of the rotating equipment sections throughout CSA Z614.<br><br>The clearance zone requirement (from 15.8.5.1) for all devices with an axis of rotation within 45-degrees from vertical of a minimum of 1.8-meter (70.87 in) will be a major change for many manufacturers moving forward.<br><br>Current text indicates the clearance zone is only required around vertical rotating devices attached to a composite structure. But general understanding is that this is intended to be applied on all installations (i.e. the text "composite structure" seems to be an error/oversight that may be corrected through addendum, etc.).<br><br>Also, owner/operators of existing inventories will need to review existing installations and decide if existing rotating devices that do not comply pose a significant hazard in present configuration and potentially require removal or relocation.<br><br>NOTE 1: Rotating equipment with a diameter less than 1.0-meter (39.37 in) and designed for overhead use can be attached to a composite playstructure and is exempt from the clearance zone requirements of 15.8.5.<br><br>NOTE 2: Clause 15.8.9 permits larger than previously permits hand-graps of up to and including 61-mm (2.40 in). |

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| Clause - 15.8.7.1 - Rotating equipment designed for users 18 months to 5 years old and with a maximum diameter greater than 1 m (39.37 in) shall have a speed-limiting device.<br><br>Rotating equipment designed for users 18 months to 5 years old with a maximum diameter less than or equal to 1 m (39.37 in) does not require a speed limiting device.<br><br>Rotating equipment designed for users 5 to 12 years old does not require a speed limiting device. | Clause 15.8.7.2 (from 2007) - Rotating equipment with a platform diameter less than 500 mm (19.69 in) shall be exempt from the speed-limitation requirement. | Speed limited devices now (in 2014 and moving forward) distinguished by intended age range. Previously, this had been accomplished by size (i.e. diameter) of the device. |
| 15.5.3.2<br><br>The slope of the sitting section shall not exceed 18° from horizontal.<br><br>15.5.4.2<br><br>Within the sitting section there shall be a means to channel the user into a sitting position within 125 mm (4.92 in) prior to the point at which the slide exceeds 18° from horizontal.<br><br>15.5.4.4<br><br>All slides shall have protection to prevent lateral discharge from the starting platform to within 125 mm (4.92 in) prior to the point at which the slide exceeds 18° from horizontal. | 15.5.3.2<br><br>The slope of the sitting section shall not exceed 5° from horizontal.<br><br>15.5.4.2<br><br>At the sliding section entrance, there shall be a means to channel the user into a sitting position.<br><br>15.5.4.4<br><br>All slides shall have protection to prevent lateral discharge at the beginning, and extending partly into the sliding section. | This should be viewed as a minor change for clarification. The “sliding motion” does not start until approximately 18-degrees (or thereabouts) and does not occur at 5-degrees.<br><br>It is believed this is an effort to encourage slide enclosures to be installed beyond the 18$^{th}$-degree (and therefore where the sliding actually begins). |

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| Clause 15.5.5.4 - A change to the slope of the slide bedway shall have a radius of curvature of at least 750 mm (29.53 in) (see Figure 40). These limits shall not apply to the start of the sliding section. | Clause 15.5.5.4 (from 2007) - If the angle of declination of the slide exceeds 30° from horizontal, changes in these angles shall have a radius of curvature of at least 1.0 m (39.37 in). Angles of declination up to 30° from horizontal shall have a radius of curvature of at least 750 mm (29.53 in) (see Figure 38). These limits shall not apply to the start of the sliding section. | A minor change intended to allow more flexibility in contouring the shapes of slides. |
| Clause 15.5.7.2 - Spiral slides with open bedways shall maintain a clear area (e.g., free of equipment) as defined by Figure 43. The clear area shall extend the entire length of the slide and through the end of the exit section.<br><br>Portions of slides containing hoods or other devices to channel the user into a seated position and enclosed tube slides exempted). | Clause 15.5.7.2 (from 2007) - Spiral slides shall maintain a clear area 525 mm (20.67 in) wide, when measured from the inside face of the sidewall along the outer edge of the slide, for the entire length of the slide (portions of slides containing hoods or other devices to channel the user into a seated position and tube slides excepted).<br><br>The clear area shall extend through the exit section. | A minor change to provide clarification of intent. Previous wording and figures were clear for all slides other than spiral. The wording of the slide clearance zone for spiral slides left some readers with the impression that the clearance zone applied horizontally only (and not in a radius), whilst others felt the intent was to have a clearance zone in a full radius. The previous text did not describe which situation was the correct one.<br><br>This change should have minimal to no impact on existing installation of spiral slides. |
| Clause 15.6 Swings - Swing seats must comply with an impact test of a GMAX not to exceed 100 and a HIC not to exceed 500 (similar to the existing protective surfacing test, but with lower thresholds) | Clause 15.6 (from 2007) Swings - Swing seats had to previously comply with a weight requirement. | This change is in place to harmonize with ASTM F1487 and also address the “real concern” with swing impact (which is the impact and not the material of which the swing is composed of). It is believed the previous weight requirement was in place as there was originally no practical method to evaluate the impact of the swing seat.<br><br>There is no a formal field test procedure as manufacturers will be required to undertake the responsibility for this test on all of their swing seats to evaluate the impact hazard prior to installation. Swings will need to meet a GMAX of 100 or less and HIC of 500 or less.<br><br>NOTE: This change should have minimal to no impact on existing inventories of swing seats. |

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| Clause 15.6.5.3 Combination swings - Dynamic motion of the suspended element(s) may be influenced by the movement of the frame or other suspended elements (that is, seat), or both. Dynamic motion of the suspended elements shall meet the following criteria when in use:<br><br>a) Underseat clearance — The vertical distance between the underside of the suspended element and the protective surfacing zone shall never be less than 305 mm (12 in).<br><br>b) Clearance zone — The suspended element shall not come within 762 mm (30 in) of any support structure or other suspended element through its dynamic range of motion during use. | Previously not addressed and/or contemplated by CSA Z614 | This new section will apply in very few instances, but would allow for the innovation of new swing types (i.e. those that move both in a to-fro fashion and also rotate to some degree). |
| Clause 15.14.2.6.2 - In the case of planar nets with a plane angle of inclination of 0 to 30° and a height greater than 450 mm (17.72 in) above the protective surfacing, the opening size shall be a maximum of 400 mm (15.75 in) in diameter when measured in the unloaded condition (see Figure 48). | Clause 15.14.2.6.2 (from 2007) - In the case of planar nets designed for use as a bridge with a plane angle of inclination of 0 to 30° and a height greater than 450 mm (17.72 in) above the protective surfacing, the net shall create a vertical envelope to a height of 800 mm (31.50 in) from the lowest point in the horizontal net plane when measured in the unloaded condition (see Figure 45).<br><br>15.14.2.6.3 - In the case of planar nets with a plane angle of inclination of 0 to 30° and a height greater than 450 mm (17.72 in) above the protective surfacing, the opening size shall be a maximum of 400 mm (15.75 in) in diameter when measured in the unloaded condition (see Figure 45). | A deletion from 2007 to exclude the section with details regarding the “bridge” and also deletion of the “vertical envelope” requirement.<br><br>This is likely to be a minor change. But may see an evolution of flatter net products that may get installed as the restrictions have been eased.<br><br>NOTE: The term “planar” refers to running close to the “plane” of the ground. As compared to spatial net climbers that tend to be more of a vertical climb with hands and feet climbing vertically, rather than planar nets that encourage more vertical movement potentially with only feet and minimal hand involvement. |

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| Clause 15.15.1 - Roofs or shade elements that are an integral part of a play structure may be any angle, provided that the roof line (i.e., the lowest edge), excluding support members, is at least 2.1-meters (82.68 in) above the underlying designated play surface.<br><br>15.15.2<br><br>Roofs or shade elements that are an integral part of a play structure that are less than 2.1-meters (82.68 in) above the designated play surface shall contain no designated play surfaces. | Clause 15.15 Roofs (from 2007) - Roofs shall contain no designated play surface.<br><br>15.15.3<br><br>Support members shall be designed to discourage climbing and have no designated play surfaces.<br><br>15.15.4<br><br>Roofs or shade elements are exempt from fall height requirements. | As shade shelters, shade structures, shade elements and roofs become more important in playspaces to limit sun exposure this section received an overhaul in order to permit larger and/or flattered designs provided that the shade providing elements are high enough (i.e. 2.1m or greater) to not provide an attractive and/or accessible play feature. Low shade opportunities below 2.1-m will still be required to comply with the previous roof criteria of no "designated play surface" to be present. |
| Clause 16 Identification and information<br><br>16.1 General<br><br>All playstructures and composite playstructures shall have a permanently attached manufacturer's identification label that includes but is not limited to the date manufactured and a means of contacting the manufacturer. The identification and contact information of the owner/operator shall be permanently located in the playspace or in a readily identifiable and visible location. Signage can be used along with labels for each playspace. | Clause 16 (from 2007) Identification and information<br><br>16.1 General<br><br>All playstructures and composite playstructures shall have a permanently attached manufacturer's identification label that includes a means of contacting the manufacturer. The identification and contact information of the owner/operator shall be permanently located in the playspace or in a readily identifiable and visible location. | The "date of manufacture" is now a specific requirement for the manufacturers label to go along with previous requirements of:<br><br>• Manufacturer name<br>• Means of contact for the manufacturer<br>• Date of manufacture **(NEW)**<br><br>And owner/operators requirements of:<br><br>• Owner/operator name<br>• Owner/operator contact information<br><br>NOTE: The age appropriate designation is still the manufacturers responsibility under a separate clause that has not changed. |
| Table 2 through table 4 | Not present or not present in the level of detail that is present in the 2014 Standard. | This will be a great "short-cut" guide for many users of CSA Z614 who would like quick reference guides to the information contained in the Standard. |