Ohio Administrative Code

Rule 901:9-1-29 Bungee cord specifications.

Effective: December 28, 1992

(A) The performance criteria and system requirements contained in these rules are for both types of bungee cords currently in use in the United States.

(B) The maximum G-force allowable on a jumper using waist and chest harness is four and one-half G's. The maximum G-force allowable on a jumper using an ankle harness is three and one-half G's.

(C) The minimum factor of safety (FS) for any cord configuration attached to a jumper whether "mil.spec." or "New Zealand" shall be no less than five. This means that the maximum dynamic load possible for a jumper to exert on a bungee cord configuration shall be no greater than twenty per cent of the cord configuration's minimum breaking strength.

	Minimum break strength	
fs =	----------	= five
	Maximum dynamic load for a jumper	

(D) Bungee cord design, manufacturing and testing is to be such that it meets the following specifications:

(1) In a single cord system, the binding shall hold the cord threads in the designed positions. The binding shall have the same characteristics as the cord itself. In a multiple cord system, the cord shall be bound together in a manner to prevent potential jumper entanglement. The bindings shall not damage or effect the performance of the cords.

(2) All bungee cords shall be designed and tested to perform within the prescribed limits of the maximum G force and factor of safety as stated.

(3) All bungee cord manufacturers must perform conclusive minimum break strength testing on a representative section of all manufactured bungee cords. The bungee cord samples must have been

constructed using the manufacturer's standard methods which shall include bungee cord loop end connections that meet the guidelines in this document. All tests shall be performed or supervised by an independent certified testing authority or a independent certified engineer. Test results must be readily available to purchasers of the bungee cords, or regulating authorities, upon request.

The testing authority shall determine the ultimate tensile strength of each test specimen and use the lowest failure value recorded as the ultimate tensile strength value for the corresponding lot of bungee cords tested. The ultimate tensile strength is reached when the applied load reaches a maximum before failure.

(4) A load verses elongation curve resulting from the aforementioned test shall be used to calculate the maximum G force and factor of safety of the corresponding lot of bungee cords tested. These test results must be readily available to purchasers or users of the bungee cords, or regulating authorities upon request.

(5) Operator testing: All commercial operators shall follow the inspection and testing recommendations set forth by the cord manufacturer or distributor. These tests shall be completed utilizing the maximum load the cords are designated for.

(6) All bungee cord manufacturers must provide specifications to purchasers on maximum allowable usage of bungee cords expressed in number of jumps.

(7) Bungee cord retirement: Bungee cords shall be retired when the cords exhibit deterioration or damage, do not react according to specifications, or have reached the maximum usage expressed in number of jumps as specified by the manufacturer. All commercial operators must have an auditable system for recording the number of jumps on each individual cord in use. This data must be readily available to the manufacturer and any regulating authority upon request.

(8) Bungee cord destruction: Bungee cords retired from use shall be destroyed by cutting the cord into five foot lengths.

(9) Bungee cords end connections: The end connections shall have a minimum safety factor of five times the maximum dynamic load for that bungee cord configuration. All end connections shall be of

a size and shape to allow easy attachment to the jumper harnesses and to the rigging. On multiple cord systems, each cord must meet its own independent end connection. All end attachment points subject to wear are to be retired when the cord is retired. On multiple cord systems, all end attachment points shall be bound together in a protective sheath that allows the individual ends to move with respect to each other. All cord ends shall be inspected every day for wear, slippage, or any other abnormalities, unless the manufacturer specifies more frequent inspections.