

This is a brief summary of the contents of the relevant SANS standard. The intention of the summary is to make easily understandable to product users and management the otherwise complex contents of the standard. Only a selection of content that may be useful to the user or management is included here. A complete copy of the relevant standard can be purchased at www.sabs.co.za

Summary

1. Scope: Specifies material requirements and testing of energy absorbers used as elements or components either integrated in a lanyard or full body harness or in combination with one of them.
2. The combination of an energy absorber and a lanyard constitute a fall arrest system as covered by SANS 50363 (when combined with a full body harness as specified in SANS 50361).
3. Definition of an energy absorber: An element or component of a fall arrest system specifically designed to dissipate the kinetic energy developed during a fall from a height.
4. Definition of braking force: The maximum force measured in kilonewtons exerted on a fall arrest system during the braking period of a dynamic performance test (or fall scenario), measured at the anchor point of the system.
5. The energy absorber must limit the braking force on the fall arrest system to 6kN (or approximately 600kg) of force during a dynamic performance test (or fall scenario).
6. Definition of arrest distance: The vertical distance in metres that the harness attachment point (D-ring connecting harness to lanyard set) travels from the initial position at the onset of free fall to the final rest position after the fall. The calculation excludes any stretch displacement of the harness webbing and lanyard set webbing.
7. Static preload test (energy absorber must not deploy too easily): When tested the permanent extension caused by activation of the energy absorber after preloading with 2kN (approximately 200kg) must not exceed 50mm measured at the point of activation of the energy absorber.
8. Dynamic performance test (energy absorber must absorb enough energy within prescribed arrest distance): In a drop test with dummy of 100kg mass, the braking force must not exceed 6kN (approximately 600kg) and the measured arrest distance must not be greater than twice the lanyard length plus 1.75 metres.
9. As lanyard length including energy absorber may not exceed 2 metres, the absolute maximum measured arrest distance therefore cannot exceed 5.75 metres.
10. Static strength test: When load tested to 1.5kN (approximately 1500kg) the deployed energy absorber components must not tear or rupture.

Reference: SANS 50355:2003 Personal protective equipment against falls from a height – Energy absorbers