	CO-ORDINATION OF NOTIFIED BODIES **PPE Regulation 2016/425** **RECOMMENDATION FOR USE**	PPE-R/11.075 Version 1

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Question related to ☒ PPE Regulation ☒ EN/prEN: EN 353-2:2002 ☐ Other:

Article: Annex: Clause:

Key words:

EN 353-2, horizontal use; guided type fall arrester including flexible anchor line , edge test

Question:

What tests are necessary for guided type fall arrester including flexible anchor line intended for horizontal use over an edge?

Solution:

Preliminary remarks:

The test principles relate to the optional testing of the partial system guided type fall arrester including flexible anchorage line. The anchor point of this partial system may not be lower than the stand level of the user. An angle (measured between the two legs of the fastener / flexible anchorage line) of at least 90° is assumed for the deflection on an edge.

During horizontal use it is likely that the function of the guided type fall arrester may be affected when the user falls, for example through catching / blocking on edges or other structural features. This is why only devices that use an energy absorber as connection between the arrester and user should be used horizontally.

General requirements:

EN 353-2:2002

Additional requirements:

1. Dynamic performance with horizontal arrangement and stress over an edge
2. Dynamic and static strength with horizontal arrangement and stress over an edge

Additional test to be performed:

Preliminary remarks:	A drawn square steel bar pursuant to EN 10278:1999 (Material C 45 K / E 335 GC (ST60) pursuant to EN 10025) is to be used as a rest edge for the dynamic tests. The minimum dimensions of the steel bar must be 10 x 70 mm, the edge radius 0.5 mm. The drop weight (steel weight analogous to EN 364:1992) must correspond to the nominal load, though at least 100 kg. The nominal load to be used shall be the same as that claimed according to RfU 11.062 if applicable

To 1: dynamic performance /static strength

The partial system is dynamically stressed in a horizontal arrangement, as specified by the manufacturer, analogous to the test plan (Enclosure) through two drop tests. A new test sample may be used for each drop test.

One drop test is carried out at right angles to the edge, another with a lateral offset of 1.50m. The falling weight is dropped from a height of 1.50m and at a horizontal distance of 30cm from the edge. The braking force is measured at the mass and the arresting section determined.

- The braking force determined at the mass nay not exceed 6 kN
- The partial system must withstand the load

Note: If the flexible anchorage line is not stressed on the edge on account of the length of the connection, for example, a further set of tests should be performed. The distance between the falling weight and edge should be enlarged to a maximum of 50 cm so that the flexible anchorage line is st4rssed at the edge. If the flexible anchorage line is still not stressed at this max. distance the requirements have been fulfilled."

To 2: dynamic/static strength

Two drop tests each are performed with same test set-up as described in 1.). The drop height of the falling weight is, however, 2 m above the fall edge. A new test sample maybe used for each drop test.
The arresting section and braking force are not measured.

- The partial system must withstand the load

The minimum breaking force is then tested for the same test piece immediately after the drop test. This is carried out through a static test over a period of 3 minutes with a force corresponding to 3-times the nominal load, though at least 4.5 KN.

- The partial system must withstand the load

Additional information on marking:

- Note that a horizontal use of the guided type fall arrester including flexible anchorage line is possible (possibly pictogram).
- Note that the partial system should not be stressed over sharp edges.

Additional information in the instructions for use:

- Note: the guided type fall arrester including flexible anchorage line has been successfully tested for horizontal use and a resulting simulated fall over an edge.
  A steel bar with a radius of r = 0.5 mm with no burs was used in these tests. On the basis of this test, the equipment is suitable for use over similar edges such as rolled steel profiles, wooden beams or a clad, rounded proof parapet.
  Notwithstanding this test, the following must be taken into account with a horizontal or oblique use where there is a risk of falling over an edge:

  5. If the risk assessment carried out before the start of work shows that the fall edge is a particularly "sharp" and/or "not free from burs" edge (e.g. unclad proof parapet or sharp concrete edge), then

     – corresponding precautions must be taken before the start of work to rule out the risk of falling over the edge or

     – an edge protection should be mounted before the start of work or

     – you should contact the manufacturer.

  6. The anchor point for the flexible anchorage line may not be below the user's stand level (e.g. platform, flat roof).

  7. The deflection at the edge (measured between the two legs of the fastener / flexible anchorage line) must be at least 90°.

  8. The necessary free space beneath the edge

9. The partial system must always be used in such a way that there is no slack rope. The length may only be adjusted if the user is not moving in the direction of the fall edge

10. To prevent a pendulum fall, the working area and lateral movements from the median axis on both sides should be limited in each case to a max. of 1.50m. In other cases, no individual anchor points should be used but rather a Class C or D anchor device pursuant to EN 795:2012.

11. Note: If the partial system is used with a type C anchor device pursuant to EN 795:2012 with a horizontal flexible anchorage line, the deflection of the anchor device must also be taken into account when determining the necessary clearance beneath the user. Pay attention to the details in the instructions of use of the anchor device.

12. Note: After a fall over an edge there is a risk of injuries during capture if the falling person knocks against parts of the building or construction.

13. Special rescue measures are to be stipulated and trained in the event of a fall over an edge.