



WAHSA PGN08

Practical Guidance Note 08

GUIDANCE ON PERSONAL FALL PROTECTION EQUIPMENT AND USER BODY MASS

A series of informative notes for all industries involved with work at height or rescue.

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INTRODUCTION

This guidance note gives guidance on the use of Personal Fall Protection Equipment (PFPE) in relation to the body mass of the user.

The information contained in this material has been compiled by the Working at Height Safety Association from information that is already in the public domain. The material is intended to provide guidance but does not interpret and apply the law to particular circumstances and cannot be relied upon as advice.

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01 WHAT TESTING IS PFPE SUBJECTED TO?

The standards published in Europe for certification of personal fall protection equipment (PFPE) require that equipment is subject to both dynamic and static strength testing.

During dynamic testing a surrogate is used to represent the user of the system. Harness testing requires a rigid torso with a mass of 100kg. During the test of a lanyard, retractable type fall arrest device, guided type arrester etc. a 100kg cylindrical steel mass is used.

When conducting these dynamic tests force measurement equipment is used to monitor and record the forces the system and the user would be exposed to during the arrest phase of the fall. European standards require that the forces placed upon the body do not exceed 6kN.

02 SAFETY CONCERNS

The limitations of the test requirements raises the question and concern as to the suitability of PFPE in terms of its strength and energy absorbing abilities when used by persons with a body mass greater than 100kg. Will it fail in use? Will they overload the components? Will they be subject to deceleration forces greater than 6kN, will this hurt them?

It is fair to suggest that a 100kg steel mass or rigid torso does not react in the same manner as a human body in the event of a fall. Additionally, there is some conjecture over the ability of heavier users to withstand higher deceleration forces than lighter weight users. The lack of detailed research in this field means it cannot be inferred that the persons with a greater body mass than 100kg will be effectively protected by “standard” fall protection equipment.

As a result, many manufacturers have conducted additional testing to verify the suitability of their equipment for larger body mass users.

03 PURCHASING CONSIDERATIONS

When selecting and purchasing PFPE for use by larger users, the following should be assessed and if necessary, advise obtained from the manufacturer.

- Establish the mass of the user. This should include clothing and any equipment they carry.
- Check that all components of the system are compatible with the users mass.
 - There may be restrictions placed on the use of a manufacturers equipment by heavier users, such as the use of a shorter energy absorbing lanyard.
 - Check that the harness is rated for the user’s mass and that it fits them correctly.
 - Check that the anchor device is adequate for the user’s mass.
- If using rescue equipment, check it is capable of taking the mass of the casualty and the rescuer.
- Check that the user is physically capable of conducting the work activity.
- Check whether the user has any medical issues that may be a hazard to themselves or colleagues.