



Southpaw swings

Working Loads

What does “Working Load” mean and why is it important?

To help our customers develop their own safety strategies, we use the term “Working Load” for all our suspended equipment.

- **What is Working Load?**

The Working Load is the maximum load the equipment can safely carry during use. This does not mean that the equipment will immediately fail if the weight exceeds this amount, but it indicates what is considered a safe and sustainable load.

- **Important to know:**

On our website, the Working Load is displayed in kilograms.

Working Load ≠ static load. The Working Load also takes into account dynamic forces, such as swinging or swaying, which put extra stress on the equipment.

By respecting the Working Load, you ensure safe and responsible use of the equipment.

How to calculate the Gross Weight

To correctly determine the Working Load, it is important to first calculate the Gross Weight. This is the total weight of everything resting on the equipment.

- How to calculate Gross Weight?

Add together the following:

1. Weight of the user and/or therapist
2. Weight of the equipment itself
3. Weight of any additional accessories or aids

Example calculation:

User: 55 kg

Southpaw Balance and Motion Swing - Mini: 11 kg

Gross Weight: 67 kg (55 kg + 11 kg)

Knowing this total weight allows you to check if it is within the maximum Working Load of the equipment, ensuring safe use.

Dynamic Forces

Once you have this Gross Weight, you can start calculating the “Dynamic Forces.” A simple example of this force can be tested at home: if a 55 kg user jumps onto a scale, they will see the reading momentarily increase above their normal 55 kg weight due to the dynamic forces. These forces must be considered when determining whether your therapy use remains within the recommended Working Loads.

Depending on the activity performed by the therapist and the user, these dynamic forces can vary significantly. For example, research into the forces applied to trapeze artists has shown that the ratio of the user’s weight to the maximum generated force can be more than four times





greater! Based on this, the total gross weight of the user and the swing (67 kg) could effectively feel like 268 kg. This would exceed the Working Load of the Southpaw Balance and Motion Swing - Mini.

How this applies to Sensory Integration Therapy

In sensory integration therapy, extreme forces are usually not generated. Therefore, in cooperation with experts, we recommend maintaining a safety margin of no more than twice the gross weight. This means that the final Working Load depends on the degree of movement — the less movement, the lower the required safety margin.

- Calculating the Working Load:
To calculate the Working Load, multiply the gross weight by a factor that accounts for dynamic forces.

Example calculation:

User: 55 kg

Southpaw Balance and Motion Swing - Mini: 11 kg

Dynamic force factor: 1.5

Working Load = (55 kg + 11 kg) × 1.5 = 99 kg

The Southpaw Balance and Motion Swing - Mini has a maximum Working Load of 180 kg, so in this example, the load is well within the recommended safety guidelines.

What should I do if I exceed the limit?

Many customers ask what happens if the Working Load is exceeded. Our advice is simple: try to avoid it. We offer a wide range of swings with different weight limits and are happy to help you choose the most suitable option for your situation.

However, a small exceedance of the Working Load does not mean the swing will fail immediately. All our products are mechanically tested under extreme conditions, and the actual load capacity is often far above the specified Working Load.

- Example:
The Glider Swing was tested for static load and only showed signs of failure at a weight of over 1000 kg. This means there is a generous safety margin, provided the weight is evenly distributed and no extreme swinging movements occur.

Our “Safety” factor

- When determining the Working Load of our products, we apply a safety factor of 5. This means that if a swing fails at a certain static load, we divide that figure by 5 to establish a safe Working Load. This ensures a generous safety margin and reliable performance in practice.
- Example calculation:
The Glider Swing shows signs of failure at a static load of 1,000 kg.
Dividing this number by the safety factor of 5 gives an official Working Load of 205 kg.
(Small rounding up or down may occur to make the guidelines practically applicable.)





Maintaining your equipment

Ultimately, staying within these Working Loads is the best way to extend the lifespan of the equipment and ensure that any warranty conditions remain valid. This does not remove the need for regular maintenance, cleaning, and correct use. See our maintenance instructions for information on creating your own safety maintenance schedule.

All our equipment clearly states that it is intended for non-recreational activities and is not designed for unsupervised play. However, we understand that some customers may still choose to use it this way. Use in this manner may void any warranty, as in such cases we have seen the total gross weight effectively tripled, placing much more stress on the swing.

Conclusion

In conclusion, Southpaw equipment can be compared to a car — the more miles you drive and the harder you drive, the more oil changes, maintenance, repairs, and cleaning are needed. The same applies to our equipment: if you consistently reach the maximum Working Load, you can expect it to have a shorter lifespan than equipment used lightly and irregularly.

For more information, visit our website: www.nenko.com

