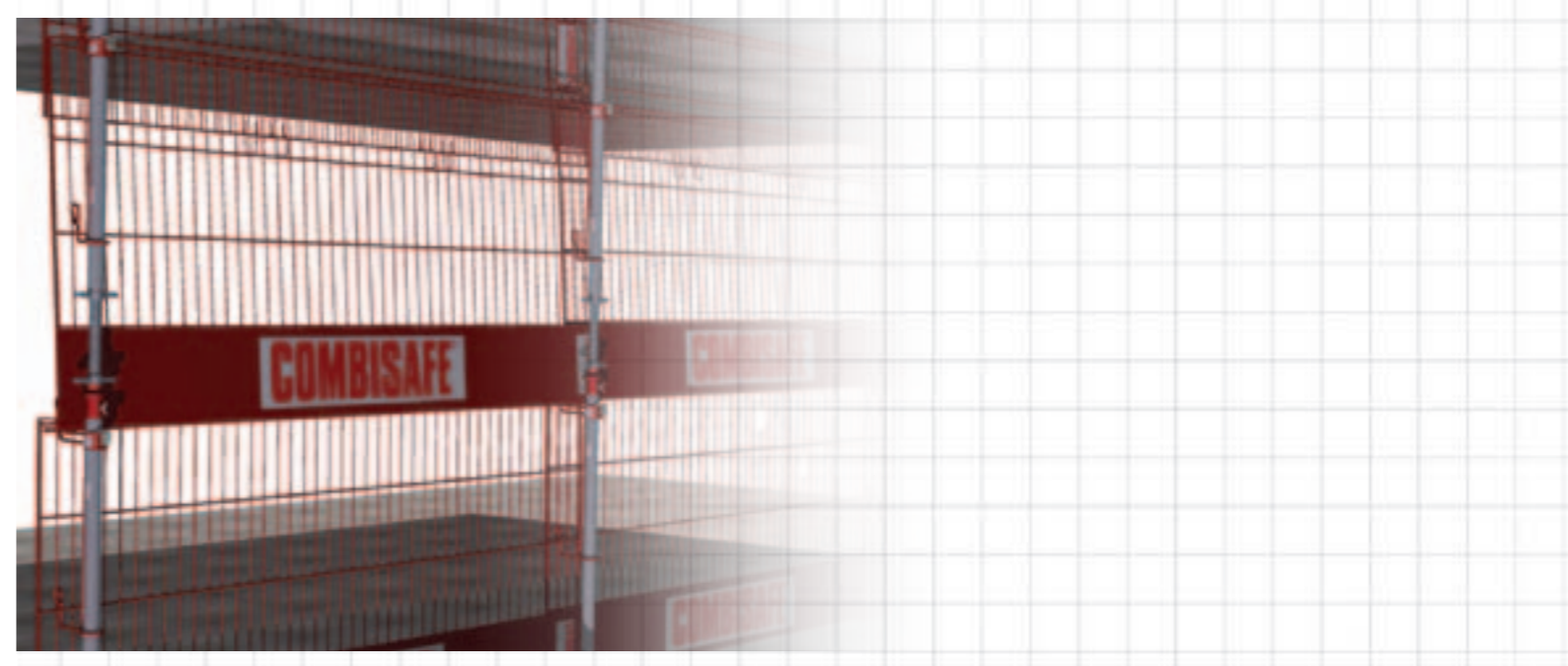


Containment Solutions

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New solutions and developments of existing systems to increase edge protection and level of containment.

COMBISAFE
A SPERIAN COMPANY

COMBISAFE
SAFETY BY SYSTEMS

Containment Solutions

As building heights grow and construction programmes shorten, the risk of equipment, people, and materials falling, or being blown out of a partially complete building, increases. This has led to a rising demand for floor to soffit 'containment' as part of the edge protection solution.

Combisafe is now offering Containment Solutions for many different needs. Also a new Combisafe Standard has been developed, to define what is meant by containment, and to clarify the conflicting demands and variables included within its Containment Solutions.

COMBISAFE Containment Standard



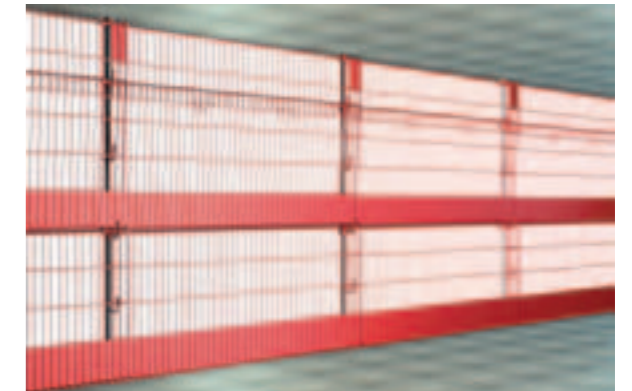
There is no European Standard or other consistent point of reference to define what is an acceptable level of containment or what should be contained. Full height containment is often referred to, implying floor to soffit, but not clarifying the containment level or mesh size.

Combisafe has, therefore, begun our containment offering by developing a new Combisafe Standard, to define what is meant by containment, and to clarify the conflicting demands and variables included within our Containment Solutions.

The COMBISAFE Containment Standard is available through Combisafe Technical Support. It does not replace or conflict with any part of the European Standard EN 13374 for Temporary Edge Protection, but compliments it. The Standard covers applications and performance criteria for containment systems used in construction. It specifies the various containment zones, the containment area, and the containment density. It does not apply to side protection on scaffolds.

The Steel Mesh Barrier (SMB) Containment Solution

Uses existing SMB components to cover the containment area. Post extensions, adapters, and specially sized SMB Holders are combined with existing products to provide a certain containment density. Solutions can be tailored to customers requirements, and include technical justification, wind loads, and installation instructions.



SMB with soft net solutions

Uses the SMB to provide EN13374 compliant edge protection with soft netting for additional containment.



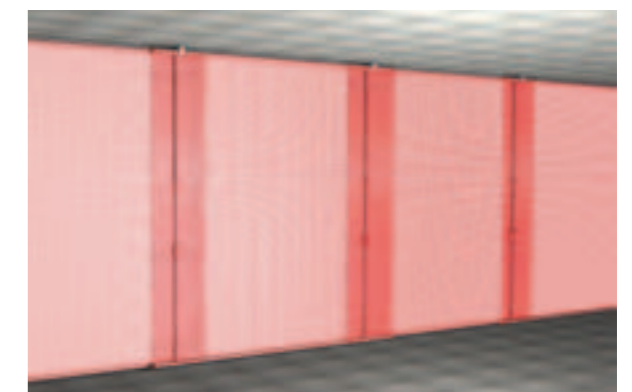
The Multi Mesh Barrier (MMB) Containment Solution

Uses the new MMB System components to cover the containment area. The MMB has a larger mesh size giving 250mm of containment density. If applications require an increased density, overlay materials can be used.



The Safety Net solution

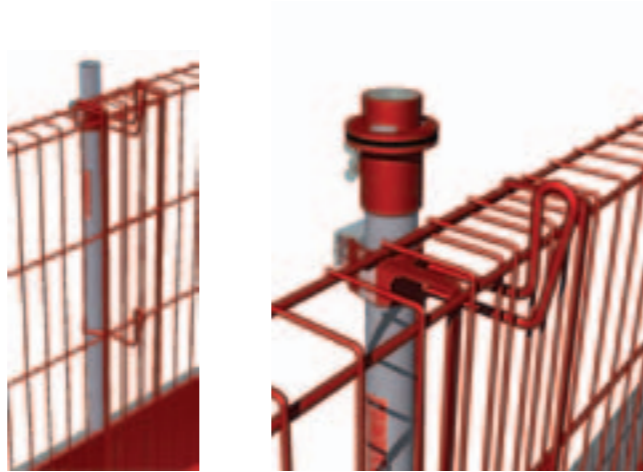
Uses a safety net with a chosen mesh size to provide the required containment density. This is fitted to the soffit by remote attachment, and either joins with the existing edge protection solution, or extends to the working surface.



Installation Example



Step 1
Standard edge protection using the safety post, SMB, SMB Holder Maxi and suitable attachment.



Step 2
Remove the cap from the top of the post, and insert the Safety Load Indicator.



Step 5
Adjust the height of the post to the soffit.



Tension Wrench

Step 6
Using the ergonomically-designed Tension Wrench, tighten the butterfly wing nut until the correct compression of the post has been achieved, as indicated by the Safety Load Indicator.



Step 3
Insert the Compression Thread Post into the Safety Load Indicator.

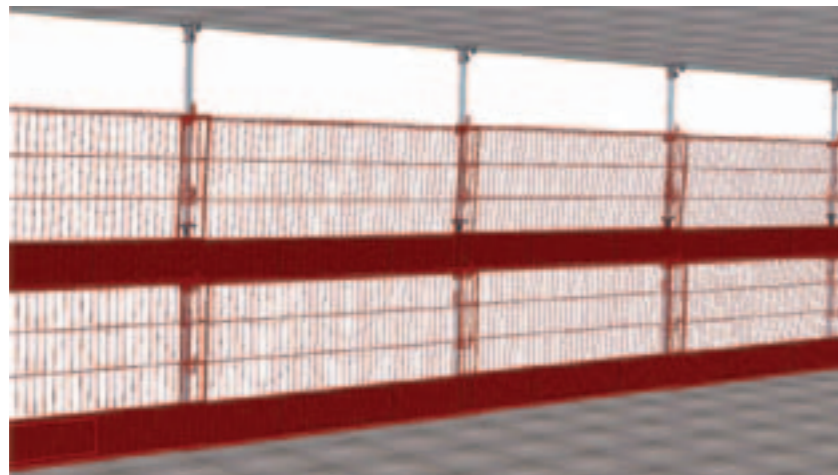
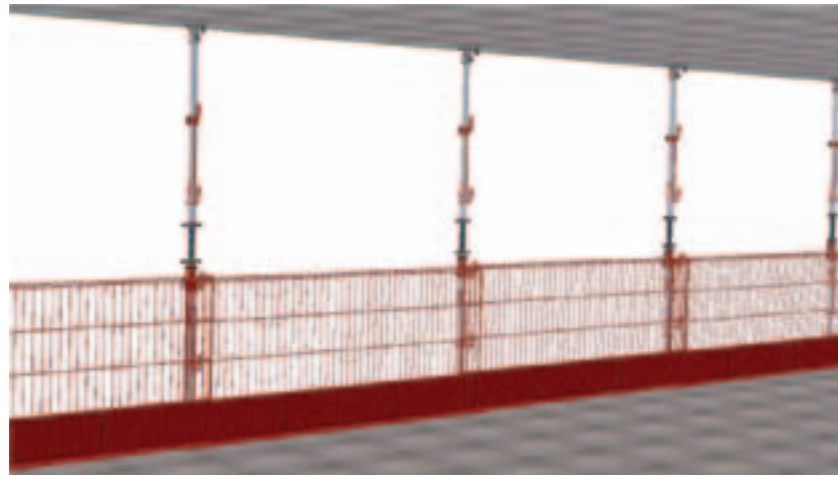


Step 4
Insert the extension post, placing the Soffit Grip on the top and fix onto the Compression Thread.



Safety Load Indicator

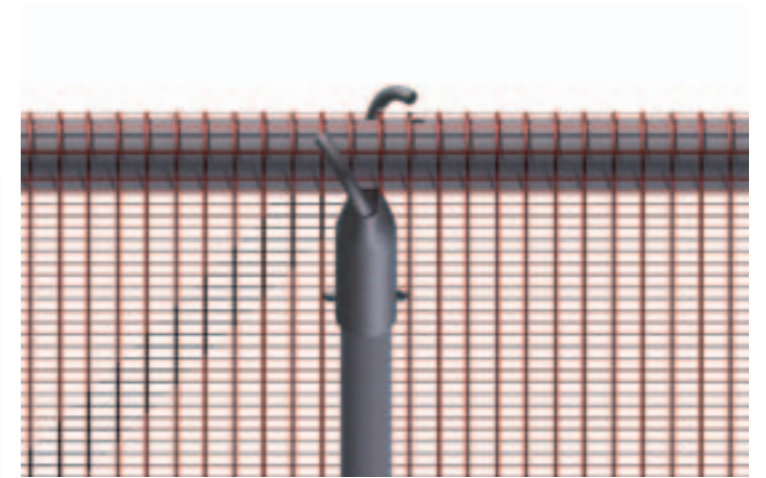
Step 7
The Safety Load Indicator is designed to measure compression achieved in installation. Check the Load Indicator and make sure that the specially-designed spring washer is visibly compressed. Once fully compressed, sufficient load has been reached.



Special Features

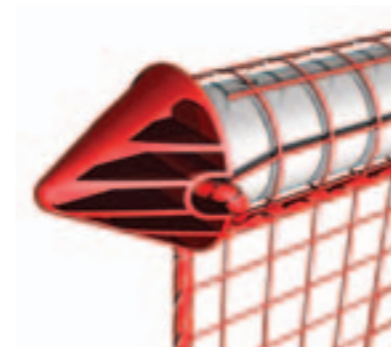
SMB and Soft Net Installation

The Reach Hook is used for lifting SMBs, Make Up Barriers or Soft Nets in position in the different systems. The Reach Hook is adjustable in length to enable safe installation without the need to work at height. The simple but clever hook ensures lifting is done safely with an ON/OFF function. Equipped with Wrist Tool Holder.



Soft Net Design

The end plugs on the tubes of the Soft Safety Nets are designed for quick and easy installation. The plug design also prevents the net from sliding out during use. To remove, the net needs to be lifted and slid from the Tube Holder.



Standard Products

COMBISAFE Containment Solutions are based on standard components within the Combisafe product range, together with specially-designed accessories. This makes it possible to combine edge protection solutions with Containment Solutions. The edge protection can be erected on the floor before the soffit is built. When a Containment Solution is needed, it can easily be added.

More information about the existing range of Combisafe products and systems is available in the Combisafe Handbook.



Safety Load Indicator, art.no 11033

When using the Compression Thread to fix the system against the soffit, it is important to ensure that sufficient load is achieved. The unique Safety Load Indicator provides a simple solution to this problem. When placed on top of the lower post the Safety Load Indicator shows the installer when sufficient load has been achieved.

The Safety Load Indicator also allows safe and simple visual inspection of the system.



SMB Holder Maxi, art.no 11047

Special version of the SMB Holder. The SMB Holder allows the SMB to be adjusted in height to meet the specific needs of the building site. On the Maxi version, the holder is lengthened to allow room for the intermediate SMB.



Compression Thread Kit, art.no 11058

A simple and safe way to compress the posts against the soffit. The thread is 1000mm long and is equipped with two wing nuts. 200mm at each end of the thread is painted red to mark the minimum insert of the post. If any red thread is visible above the lower nut or below the upper nut, the system is not installed correctly.



Soffit Grip, art.no 11014

The Soffit Grip is placed on top of the upper post and firmly secured by the Cloxy lock. When compressing the post against the soffit, the spikes apply a firm grip preventing the system from sliding in case of accident or severe weather conditions.



Net Tube Holder Soffit Grip, art.no 11027

This product is used with the Soft Net Solution. Like the Soffit Grip, this is also placed on top of the upper post. When compressing the post against the soffit, the three spikes on the Soffit Grip apply a firm grip to the soffit to prevent the system from sliding if an accident occurs, or in heavy winds. The holders are used for attaching the Soft Net solution to the soffit, overlapping at each post.



Net Tube Holder Coupler, art.no 11046

The Net Tube Holder Coupler is used to attach Soft Nets at any desired height between the floor and the soffit. These are pre-fitted to the posts to eliminate work at height.



Make Up Holder Soffit Grip, art.no 11031

Used with the SMB Solution. Like the Soffit Grip, it is placed on top of the upper post and firmly secured by the Cloxy lock. When compressing the post against the soffit, the three spikes apply a firm grip preventing the system from sliding in case of accident or severe weather conditions. The Holders are used for attaching the SMB Make Up, overlapping at each post.



Make Up Holder Coupler, art.no 11045

The Make Up Holder Coupler is used to attach the Make Up Barriers at any desired height between the floor and the soffit. These are pre-fitted to the posts to eliminate work height.



Tension Wrench, art.no 11054

Ergonomically-designed, the Tension Wrench allows safe control of the tension, and eliminates the risk of accidents using a hammer. The Tension Wrench is equipped with a wrist-tool-holder.



Reach Hook, art.no 11050

The Reach Hook is used for lifting SMBs, Make Up Barriers or Soft Nets on to position in the different systems. The Reach Hook is adjustable in length to enable safe installation without the need to work at height. The simple but clever hook ensures lifting is done safely with an ON/OFF function. Equipped with wrist tool-holder.



Wind loads

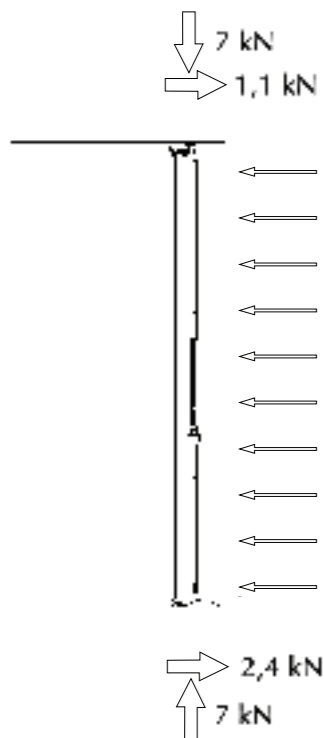
If a system has a 2.4m c/c post spacing and height of 3.5m from floor to soffit, the windload for each post will be:

For a completely covered system, $C_p=0$, the design load (including load factor) will be 15 kN (1500 kg)

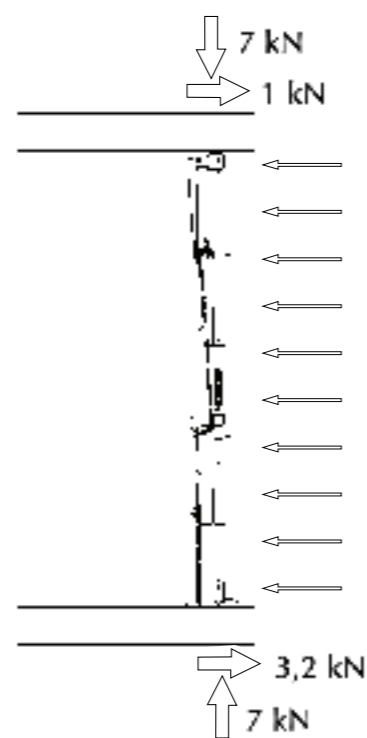
For a net or fencing that is 50x50 with a 5mm cord, $C_p=50$, the design load (including load factor) will be 2.9 kN (290 kg)

This is without calculating windloads on posts, toeboards etc.

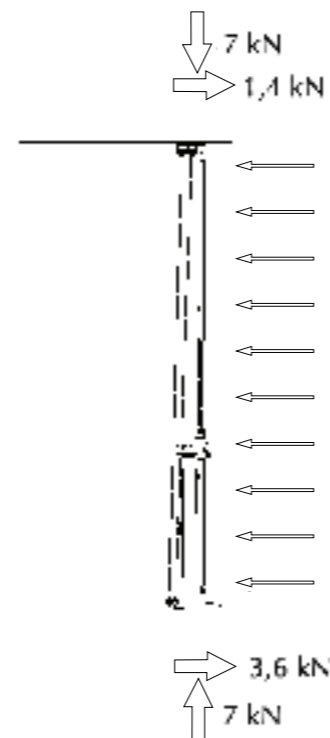
Examples of loads below:



Soft Net Forces



SMB Forces



SMB and Soft Net Forces

Testing



The systems have been tested in many different configurations. Examples left above show static wind loads in nets, static wind loads on the Post, and dynamic tests.



Combisafe Customer Solutions

COMBISAFE Containment Systems are very versatile and can be installed in numerous combinations. Please contact Combisafe Customer Service for the best possible solution for your specific needs.

Features and Benefits

- COMBISAFE Containment Standard explains and emphasises all different variables within containment and clarifies what impact factors such as windloads etc have on the systems.
- Combisafe Containment consists of four different solutions that can be combined in numerous ways to create the best possible solution for your specific needs.
- Many products are from the standard Combisafe product range, maximising utilisation of already existing products.
- Normal height range is 2.7-3.5 metres. Greater heights can be achieved following input from our engineering department.
- COMBISAFE Containment Solutions mean that standard height edge protection can be increased up to the soffit at any stage.
- With edge protection in place, Containment Solutions are erected from a safe zone.
- Using a compression solution means no pre-cast or drilling is required in the soffit.
- When using either SMB or MMB solutions the lower barrier can be removed / opened for easy access to edge. Similarly, soft nets can be rolled up and fixed.
- The Safety Load Indicator ensures the correct compression is achieved against the soffit and allows quick and easy visual inspection.
- Ergonomically-designed, the Tension Wrench and Reach Hook allow for safer and easier installation.