

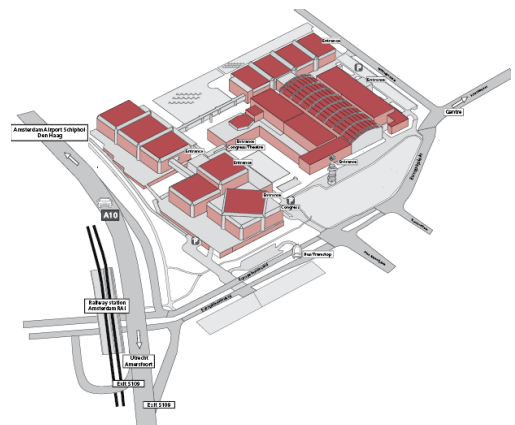


Rigging in the RAI

Guidelines for Riggers

RAI Amsterdam

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1 INTRODUCTION

This booklet shows where and under what conditions rigging is possible in RAI Amsterdam. For each part of the RAI we explain the locations for rigging and the maximum load per suspension point for both vertical rigging (straights) as well as multi-point bridles (bridles).

To set up a rig in our complex, the rigging party must first send a rigging plan to the RAI Account Manager of the relevant event or trade show four weeks before the beginning of the event or trade show. This document describes what the rigging plan must look like. Each rigging plan will then be evaluated against the criteria specified in this document. You will receive an official response from the RAI within five working days, after which possible adjustments can be made. An agreement on the definite version should be made two weeks before the start of the event or trade show.

Below is a floor plan of RAI Amsterdam (Figure 1). Each hall, entrance area and foyer has its own chapter, provided that rigging is possible.

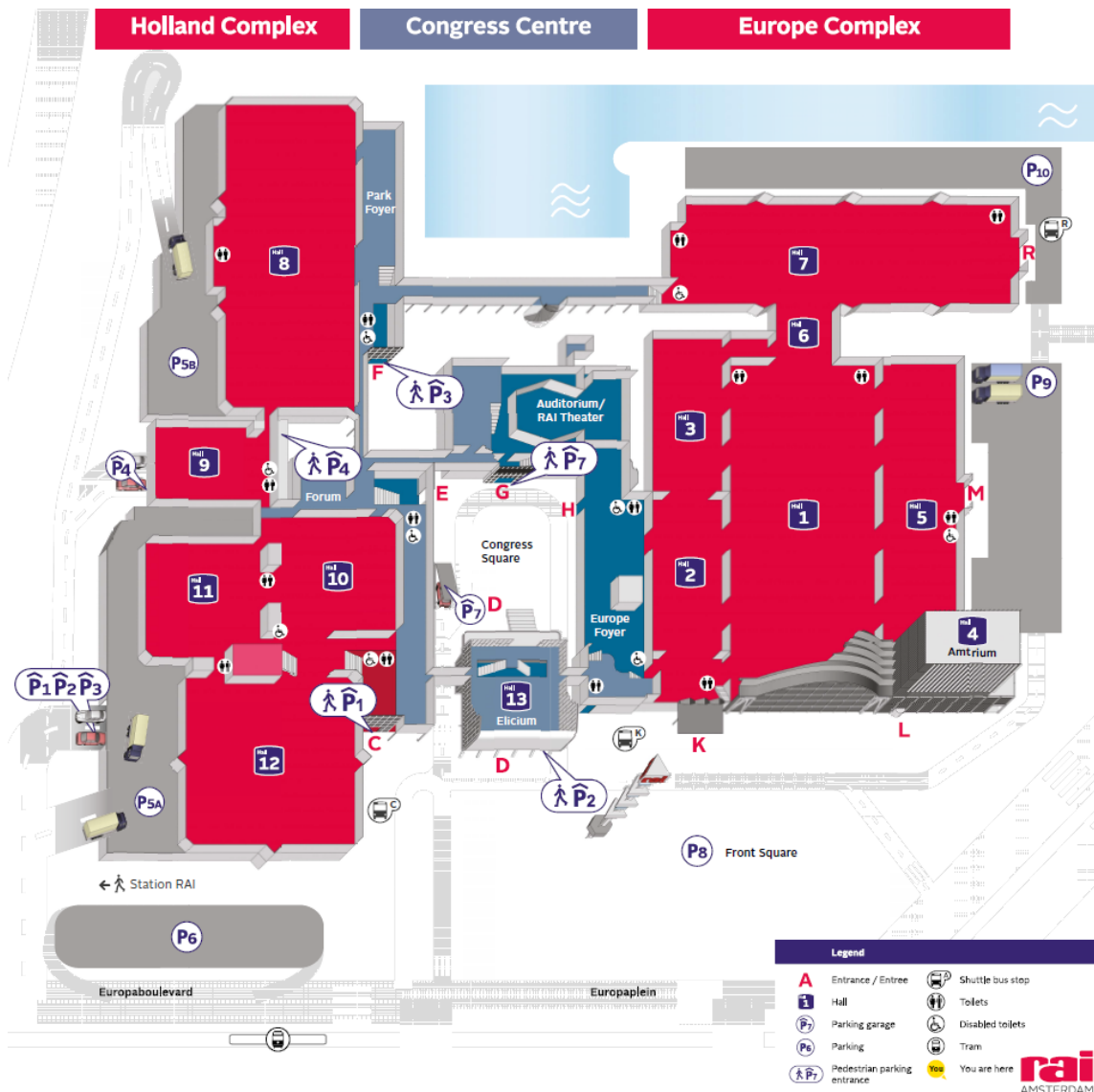


Figure 1: Floor plan of RAI Amsterdam

Tips: Always find out which is the latest version of this document.

2 RIGGING GUIDELINES

The following applies when making any decisions: safety first! The following conditions must be met in order to set up rigging in the RAI:

Company and personnel certification

1. Rigging may only be taken on by VCA*, VCA** or Oshas 18001 certified companies.
2. Each rigger present must:
 - carry a valid VCA certificate (VCA-B or VOL-VCA for operations managers).
 - be able to prove that he holds an *Elementaire Hijstechniek in de Entertainment Industrie* certificate or a variation of this such as a *National Rigging Certificate* (UK), *Arena Rigging Certificate* from ETCP (USA), *Rigstar Rigging certificate* (USA), or a relevant *VLPT rigging diploma* (GER).
 - If a truck-mounted work platform is used, the operator must have the correct certificate. The rigger is responsible for ensuring that no third parties are present in his work zone.
 - Anyone who uses a truck-mounted work platform must wear a full-body safety harness (EN361) attached to the platform by means of a lanyard (EN355).
 - People (grounders) in the vicinity of the operating scope of the truck-mounted work platform must wear a helmet (EN397).

Requirements for the rigging plan

3. Each rigging party involved must have a rigging plan approved by the RAI. A description of how the rigging plan must be submitted to the RAI is included in Appendix I. Your RAI Account Manager can also submit a sample rigging plan.
4. Each part of the building described in this document has its own AutoCAD drawing on which the available suspension points are indicated.
5. The maximum permissible load stated in this manual must not be exceeded.
6. For multi-point bridles (bridles), the inside angle must be less than 120 degrees (see Figure 2).
7. The maximum permissible load for multi-point bridles is based on 2-point bridles. For multi-point bridles, the distribution of force at all points of application must be clearly calculated.
8. Dynamic loads are not permitted without explicit consent from a designer chosen by the RAI, at the expense of the customer/contractor.

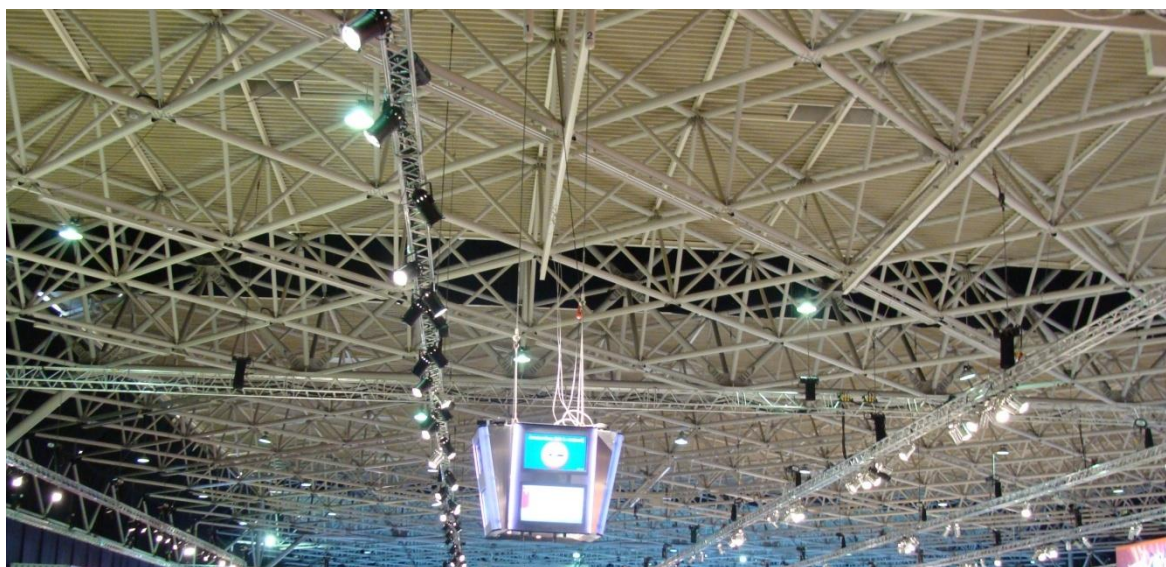
Rigging in practice

9. Rigging must only be carried out in accordance with the plan: any changes must be discussed with the manager of the Technical Department at the RAI Amsterdam.
10. For some parts of the building, the maximum permissible load is different in case of snow. The RAI is allowed to arrange for a load which has already been approved to be reduced to an acceptable weight.
11. The roof construction must not be damaged in any way.
12. Fixed elements in the roof (such as lighting fixtures, blinds, blackout mechanisms, drains) must not be touched during rigging.

Use of materials

13. Rigging may only be carried out using materials bearing CE marking. In the case of parties outside the EU, products must demonstrably fulfil the ASME or an equivalent directive.
14. Materials must have a WLL inscription or label.
15. The maximum permissible load is 0.5 times the (industrial) WLL
16. Materials must be tested at least once a year and it must be possible for the test report to be produced within 24 hours on request.
17. Materials must be used in accordance with instructions.

Note: At all times the RAI reserves the right to take down the rigging or to arrange for a load which has already been approved to be reduced (e.g. in case of snowfall) at any time. The rigging party should be aware that the RAI checks whether the suspension points have been constructed in accordance with guidelines and the rigging plan. If this is not the case, the RAI is authorised to reject the rigging. In the event of rejection, the RAI is not liable for any damages (such as financial damage or damage to image).



3 ENTRANCE C: CANOPY

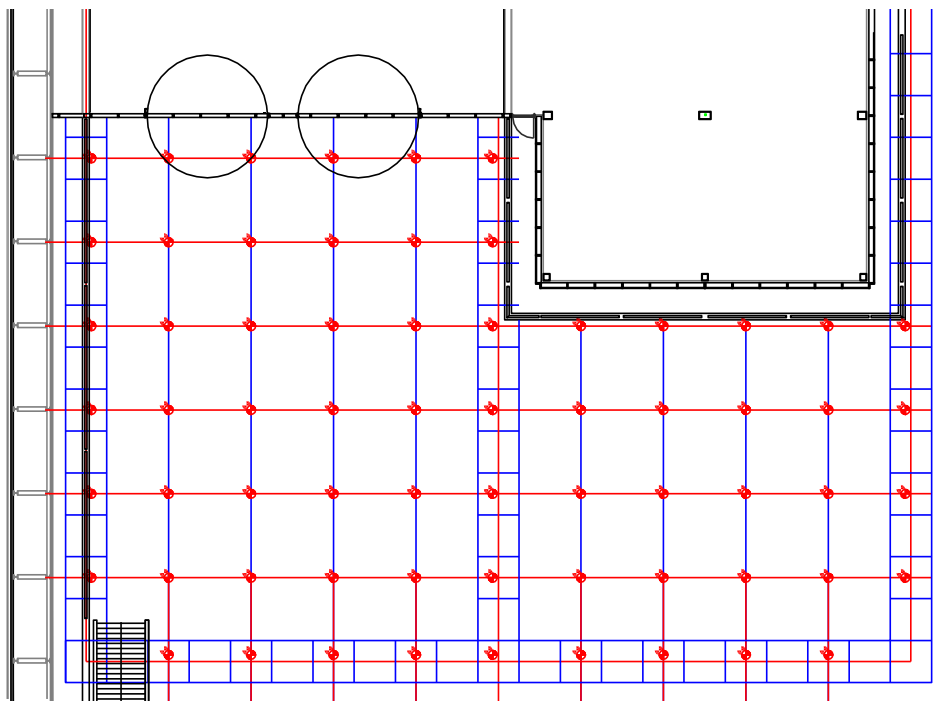


Figure 2: Entrance C : Canopy suspension points

Height of suspension points

Lower part: 9.50 m

Distance between suspension points

↑↓ : 3.75 m
↔ : 3.75 m

In Entrance C, vertical rigging is allowed at the locations indicated (see **Fout! Verwijzingsbron niet gevonden.**). There are a total of 65 possible suspension points on the 2-dimensional framework.

Note: The canopy is fitted with a pigeon net which must not be damaged.

Note: Above wind force 6, all rigging must be taken down from the shed roof.



Vertical rigging (straight)

- ❖ Vertical rigging is allowed from the lower part of the 2D framework at the locations indicated.
- ❖ The maximum load per suspension point is 250 kg.



Bridling (bridles)

- ❖ Bridling is not allowed.



Snow

- ❖ If more than 5 centimetres of snow should fall, rigging is not allowed at Entrance C.

4 HOLLAND TERRACE

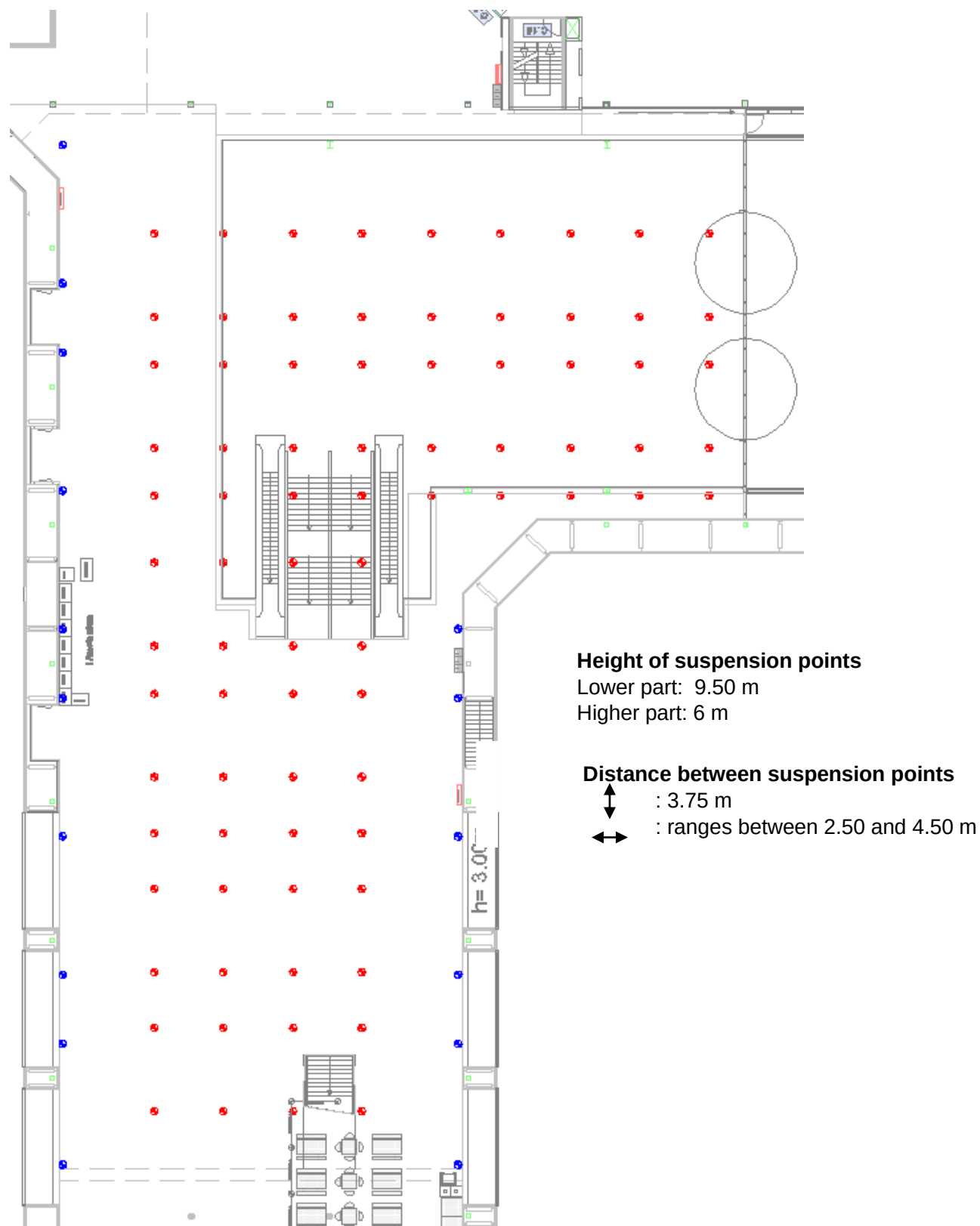


Figure 3: Holland Terrace suspension points

On the Holland Terrace, vertical rigging is allowed from the eyes in the ceiling. There are a total of 97 possible suspension points (see **Fout! Verwijzingsbron niet gevonden.**).



Vertical rigging (straight)

- ❖ On the Red suspension points rigging is allowed from the eyes in the ceiling.
- ❖ On the Blue suspension points rigging is allowed on the beams
Attention: Rigging is not allowed on the round 60 mm tubes between the Blue suspension points.
- ❖ The maximum load per eye is 250 kg.



Bridling (bridles)

- ❖ Bridling is not allowed.



Snow

- ❖ If more than 5 centimetres of snow should fall, rigging is not allowed on the Holland Terrace.

5 HOLLAND LOUNGE

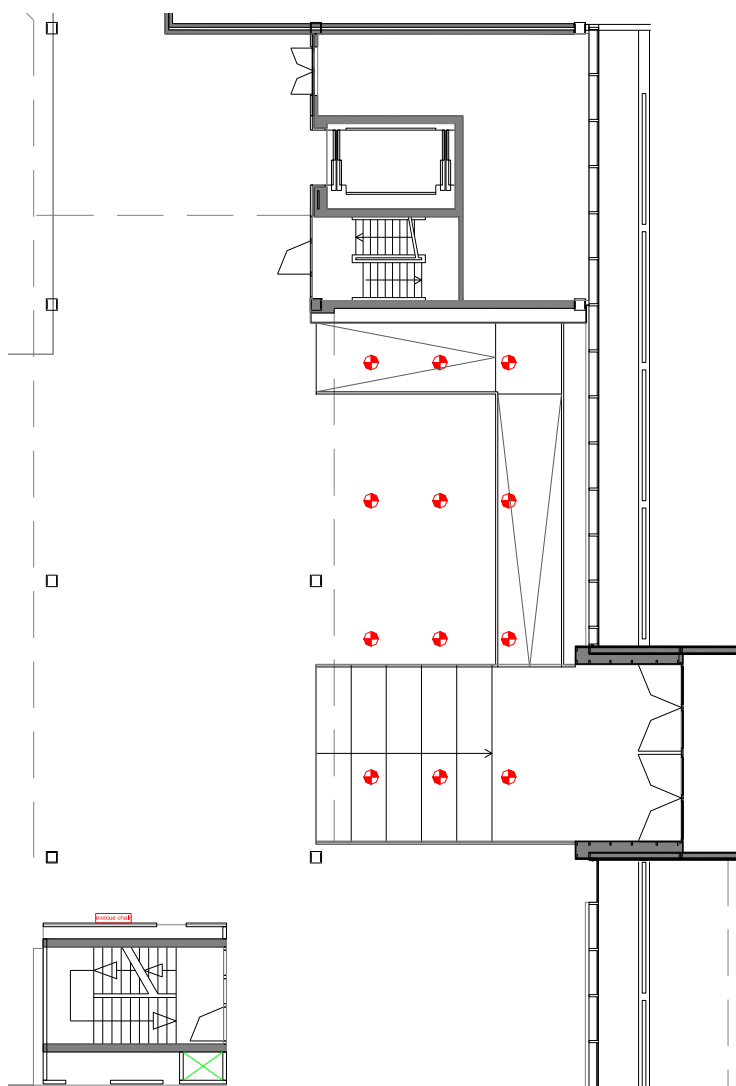


Figure 4: Suspension points in Holland Lounge

In the Holland Lounge, vertical rigging is allowed from eyes in the ceiling. There are a total of 9 possible suspension points. (see **Fout! Verwijzingsbron niet gevonden.**)



Vertical rigging (straight)

- ❖ Vertical rigging is allowed from eyes in the ceiling.
- ❖ The maximum load per eye is 150 kg.



Bridling (bridles)

- ❖ Bridling is not allowed.



Snow

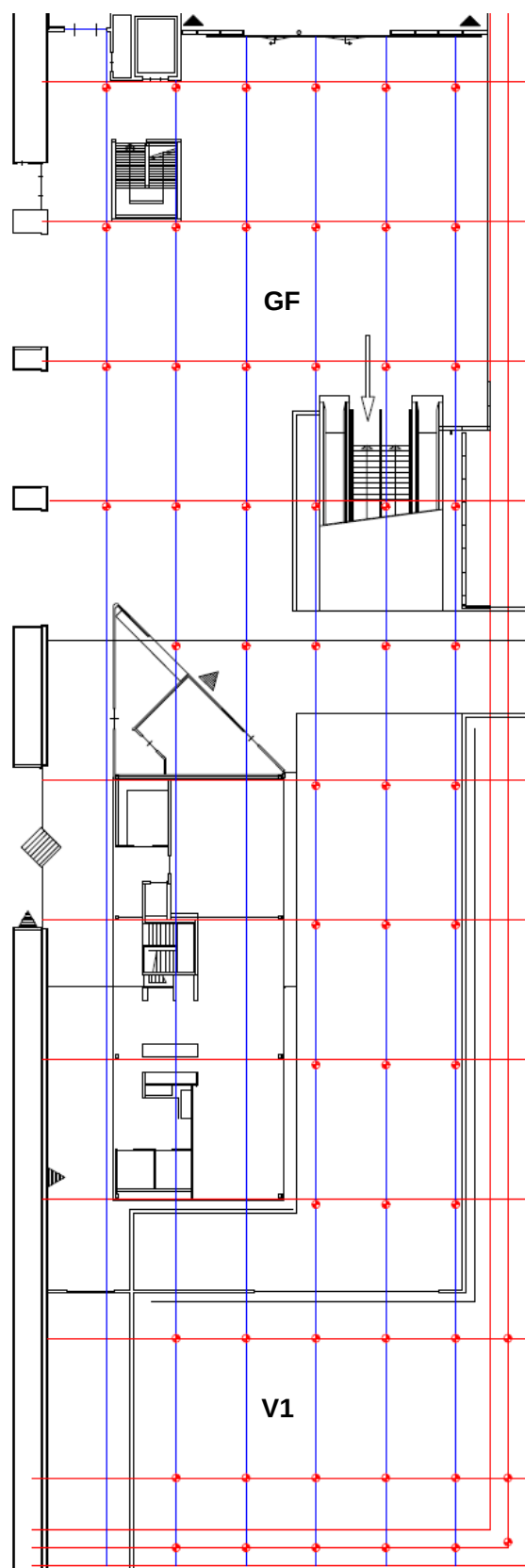
- ❖ If more than 5 centimetres of snow should fall, rigging is not allowed in the Holland Lounge.

Requirements for attachment to the roof construction:



Note:

Before carrying out rigging, (CE and WLL) certified eye bolts must be fitted. The thread of the eye bolts is M12.



**Height of suspension points
ground floor**

Lower edge of 2D frame: 9.50 m

Steel frame: 11.00 m

2nd floor

Steel frame: 7.50m

**Distance between the suspension
points**

↕ 7.50 m

↔ 3.75 m

Figure 5: Suspension points at Entrance F

Entrance F consists of a shed roof and a foyer. Vertical rigging is possible at the locations indicated in Figure 5.

In the shed roof, vertical rigging is possible from the lower part of the 2D and 3D frameworks. In the foyer, vertical rigging is allowed from the I-frame at less than 50 cm from the 2D framework

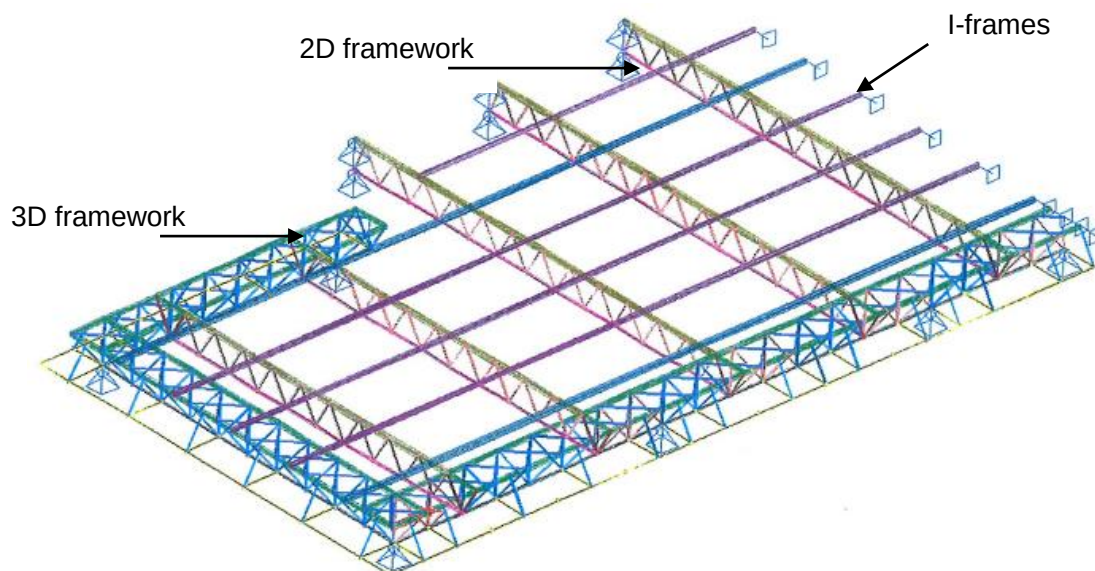


Figure 6: 3D model entrance area F



Vertical rigging (straight)

- ❖ The maximum load per suspension point is 200 kg.



Bridling (bridles)

- ❖ Bridling is not allowed.



Snow

- ❖ No restrictions in case of snowfall.

Canopy

Requirements for attachment to the roof construction:

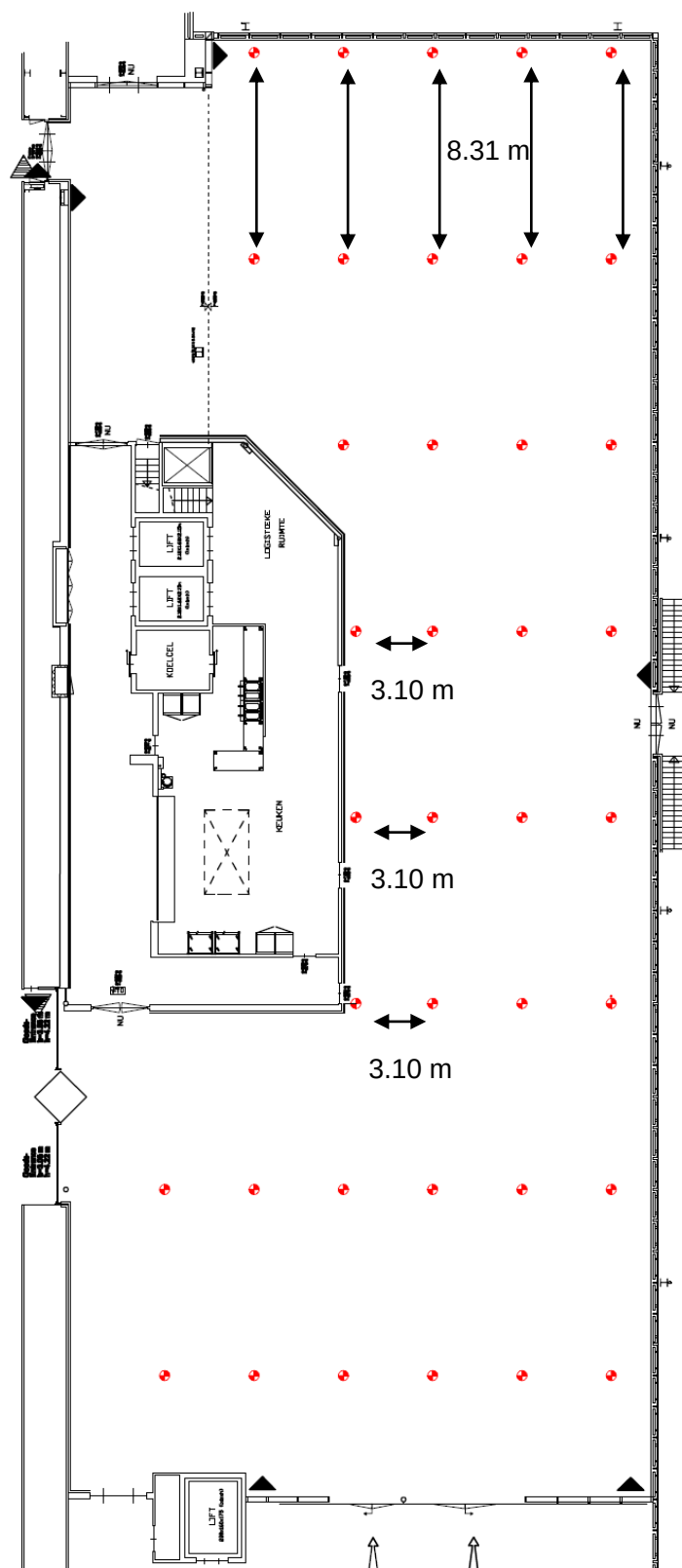


Note:

Rigging on the I-frame at less than 50cm from the 2D framework.

Rigging on 2D framework is not permitted in connection with lighting fixtures.

7 PARK FOYER



Height of suspension points
Height: 5.60 m

Distance between suspension points

↑↓ : 7.50 m
↔ : 3.60 m

Note: The distance is different at the location indicated.

Figure 7: Park Foyer suspension points

In the Park Foyer vertical rigging is permitted from eyes in the ceiling. There are a total of 38 possible suspension points. (see Figure 7)



Vertical rigging (straight)

- ❖ Vertical rigging is allowed from eyes in the ceiling.
- ❖ The maximum load per eye is 150 kg.



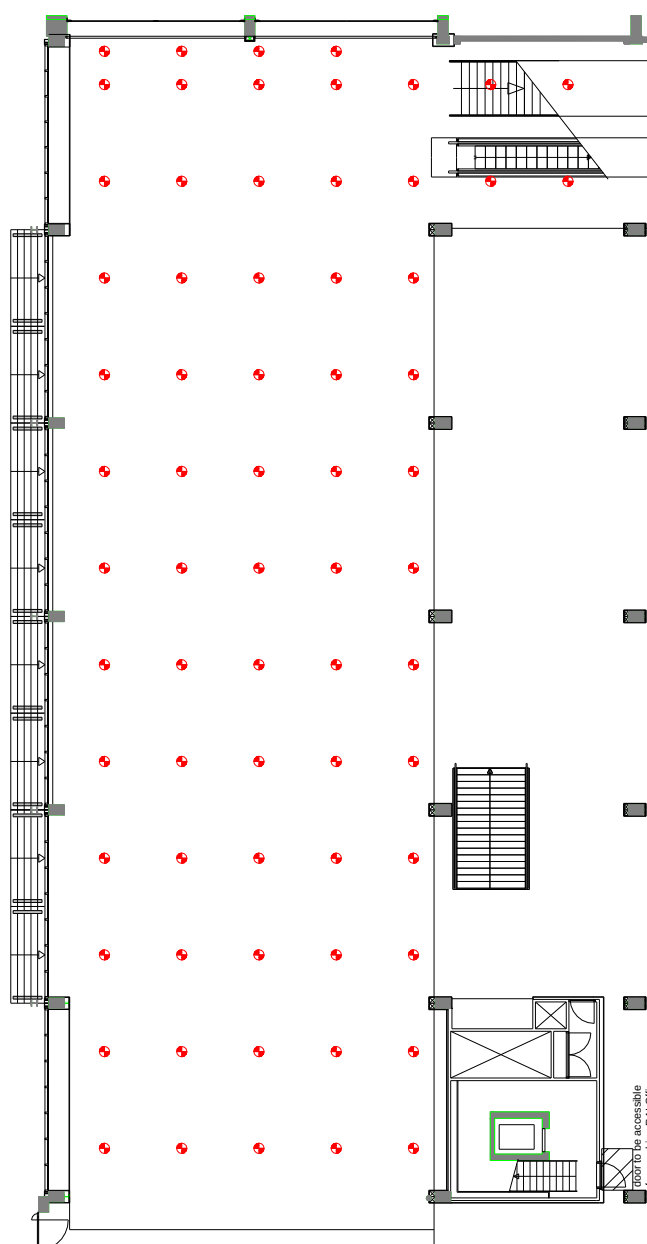
Bridling (bridles)

- ❖ Bridling is not allowed.



Snow

- ❖ No restrictions in case of snowfall.



Height of suspension points

Height: 7.35 m

Distance between the joints

↑↓ : 3.00 m

↔ : 3.75 m

Figure 8: Suspension points in Entrance K

Vertical rigging is allowed from the eyes in the ceiling in Entrance K. There are a total of 69 possible suspension points. (See Figure 8)



Vertical rigging (straight)

- ❖ Vertical rigging is allowed from the eyes in the ceiling.
- ❖ The maximum load per eye is 250 kg.



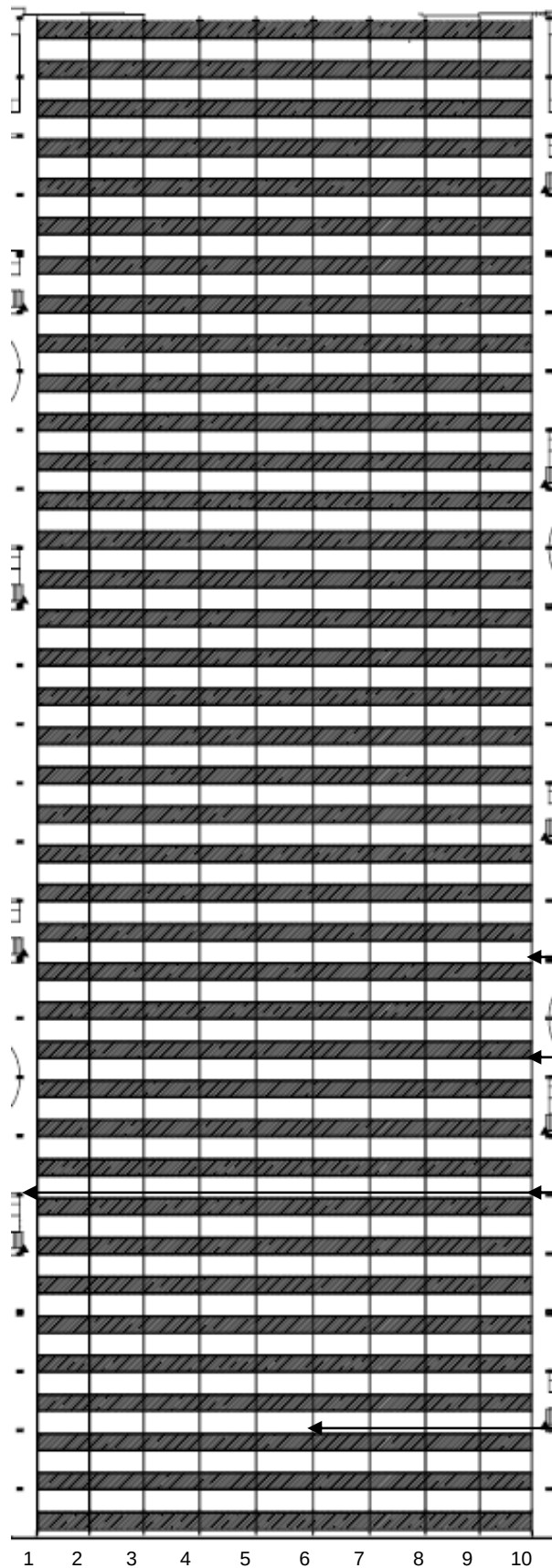
Bridling (bridles)

- ❖ Bridling is not allowed.

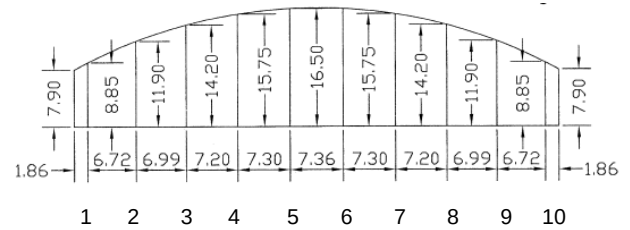


Snow

- ❖ No restrictions in case of snowfall.



Height and weight



Use **steel slings / baskets** in the white area.

Use **beam clamps** in the grey area.

Note: The **pipeline** parallel to the 1st and 10th steel frames must never be touched. Only bridles may be suspended from these frames at an angle of between 91.6° and 120°.

Note: Do not obstruct the **automatic blackout** parallel to the 6th steel frame. Use beam clamps on the 6th steel frame between frames 5-6.

In Hall 1, rigging is allowed from the steel frames (see Figure 9). The steel frame connects 39 bow trusses together. Each bow truss has a maximum rigging load of 8,000 kg. The load must be distributed in accordance with Table 1. With maximum loads there are 480 possible suspension points.

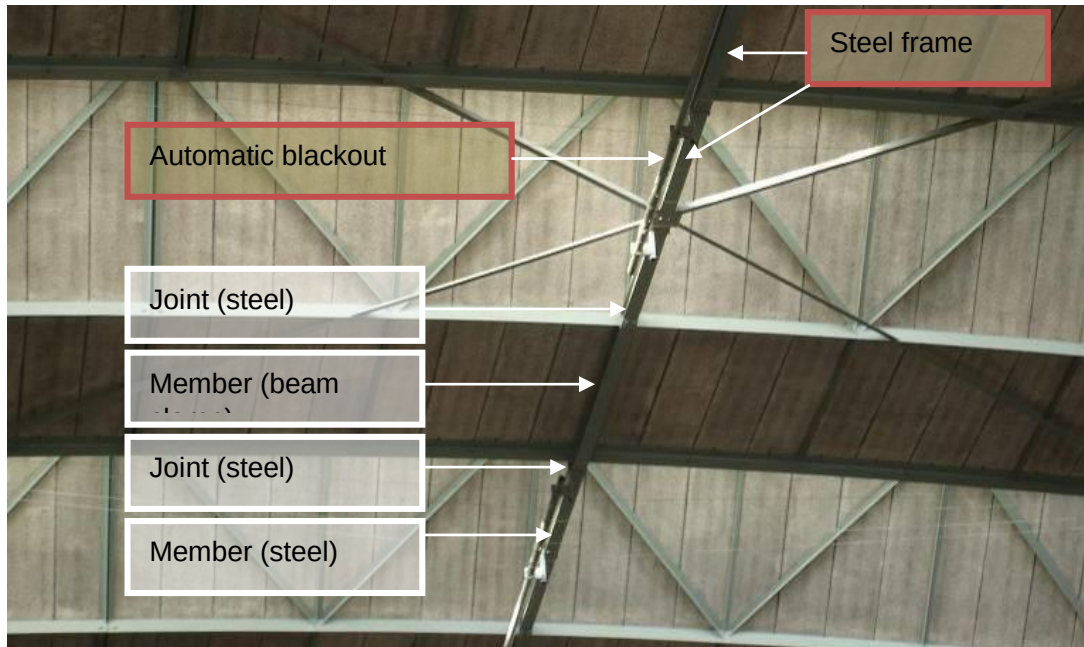


Figure 10: Steel frame in roof construction of Hall 1

Table 1: Maximum load and distribution of weight in Hall 1 ^{1/2/3/4}			
	On the member	On the joint	Total weight per bow truss
 Vertical	Maximum 650 kg	Maximum 650 kg	8000 kg
 Bridling (bridles)	Max. 300 kg per bridle and max. 300 kg vertical load per member	Max. 650 kg per bridle and max. 650 kg vertical load per joint	
 Snowfall (between 5 and 10 cm)	Total weight restriction per bow truss	Total weight restriction per bow truss	4000 kg
 Snowfall (more than 10 cm)	No rigging possible	No rigging possible	0 kg
¹ A member is the part of the steel frame between two joints (see Figure 10). ² A joint is where two parts of the steel frame are connected to the bow truss (see Figure 11). ³ The maximum load may be distributed between one or more suspension points. ⁴ If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint.			

Requirements for attachment to the roof construction:



Steel sling at joint.



Beam clamp at joint.



Note: Only 2-point bridges may be suspended from the 1st and 10th steel frames (above the balconies), at an angle of between 91.6° and 120°.



Note: In order to protect the automatic blackout: Use a beam clamp on the 5th and 6th steel frame for 2-point bridges (bridles) between the 6th steel frame.

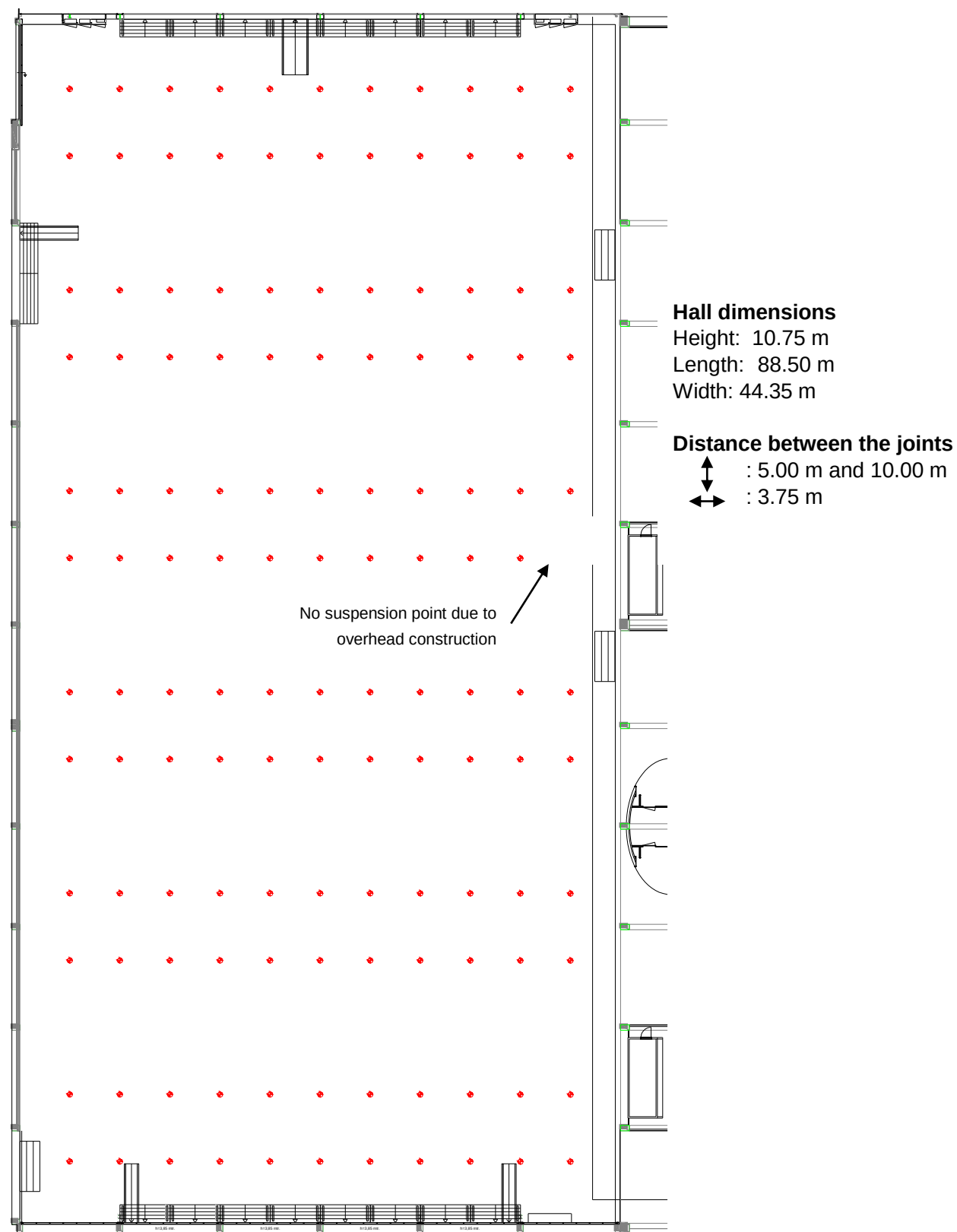


Figure 11: Suspension points in Hall 2

In Hall 2, vertical rigging is allowed from the joints of the longitudinal girders. There are a total of 131 possible suspension points (see Figure 11). The maximum permissible load is shown in Table 2.

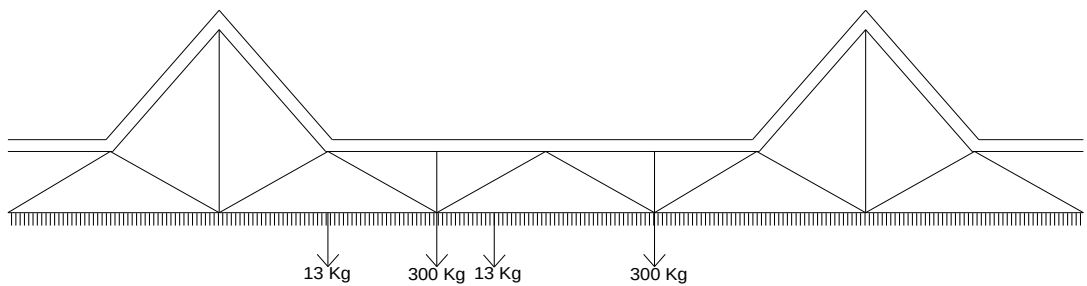


Figure 13: Joints in Hall 2

Table 2: Maximum load and distribution of weight in Hall 2 ^{1/2}		
	On the member	On the joint
 Vertical	13 kg	300 kg
 Bridling (bridles)	Not allowed	Not allowed
 Snowfall (more than 5 cm)	No rigging possible	No rigging possible
¹ A member is the horizontal connection between two joints. ² If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint.		

Requirements for attachment to the roof construction:



Between diagonal and vertical member with jute protection (burlap).

11 Hall 3

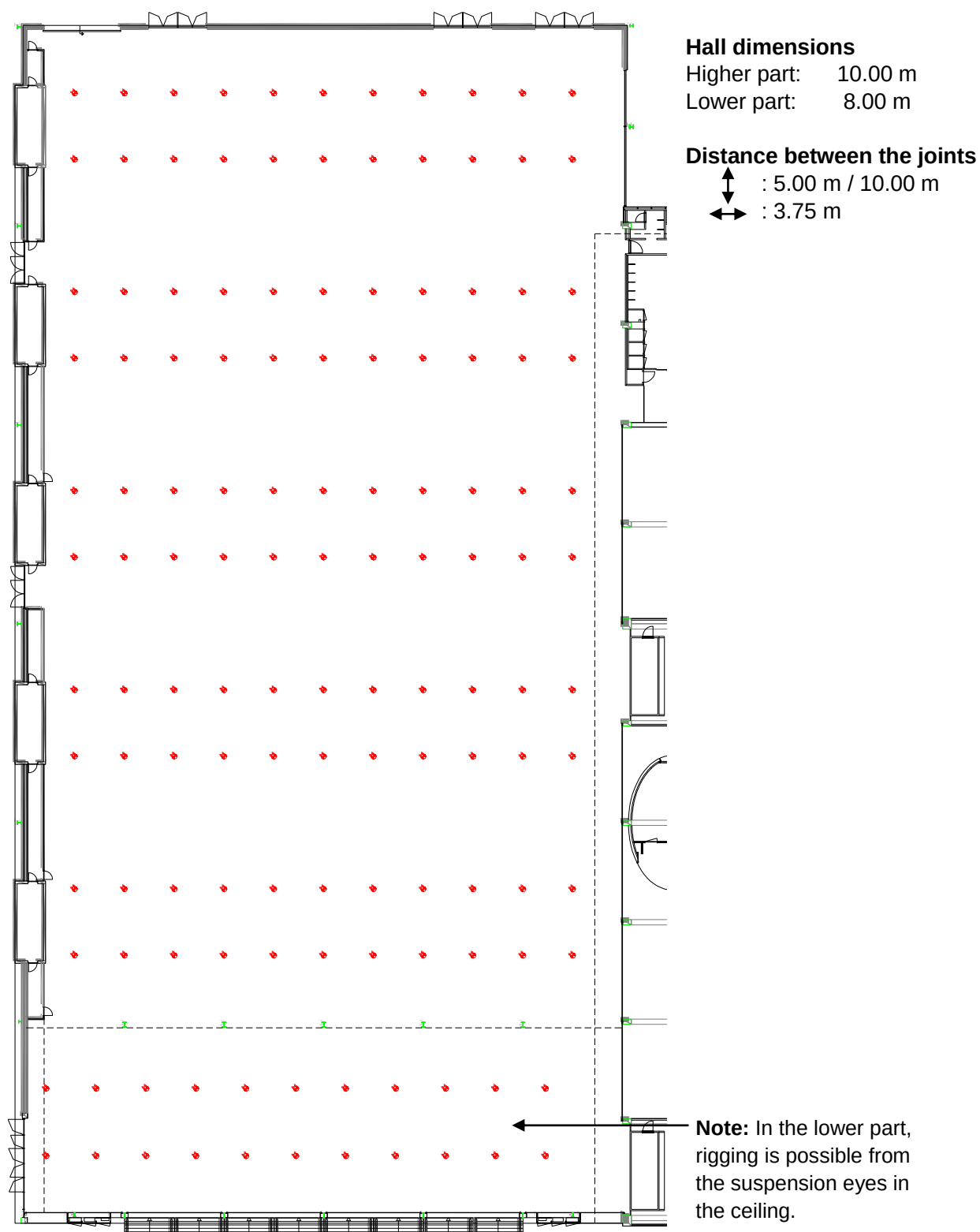


Figure 12: Suspension points in Hall 3

In Hall 3, vertical rigging is allowed from the joints of the longitudinal girders. There are a total of 132 possible suspension points (see Figure 12). The maximum permissible load is shown in table 3.

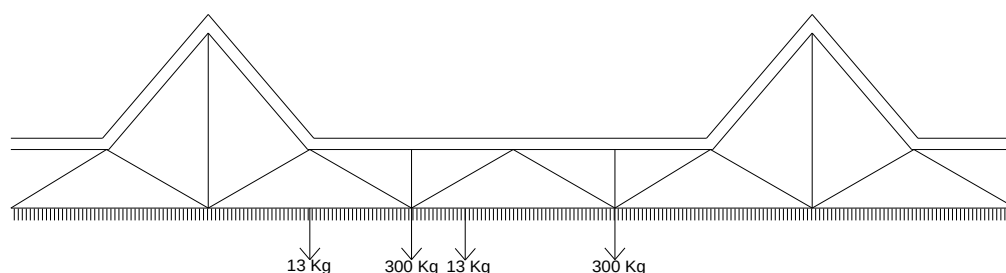


Figure 13: Joints in Hall 3

Table 3: Maximum load and distribution of weight in Hall 3 ^{1/2}			
	On the member	On the joint	On the suspension eyes
 Vertical	13 kg	300 kg	300 kg
 Bridling (bridles)	Not allowed	Not allowed	Not allowed
 Snowfall (more than 5 cm)	No rigging possible	No rigging possible	No rigging possible
¹ A member is the horizontal connection between two joints ² If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint.			

Requirements for attachment to the roof construction:



Between diagonal and vertical member with jute protection (burlap).



Suspension points in the lower part of the hall.

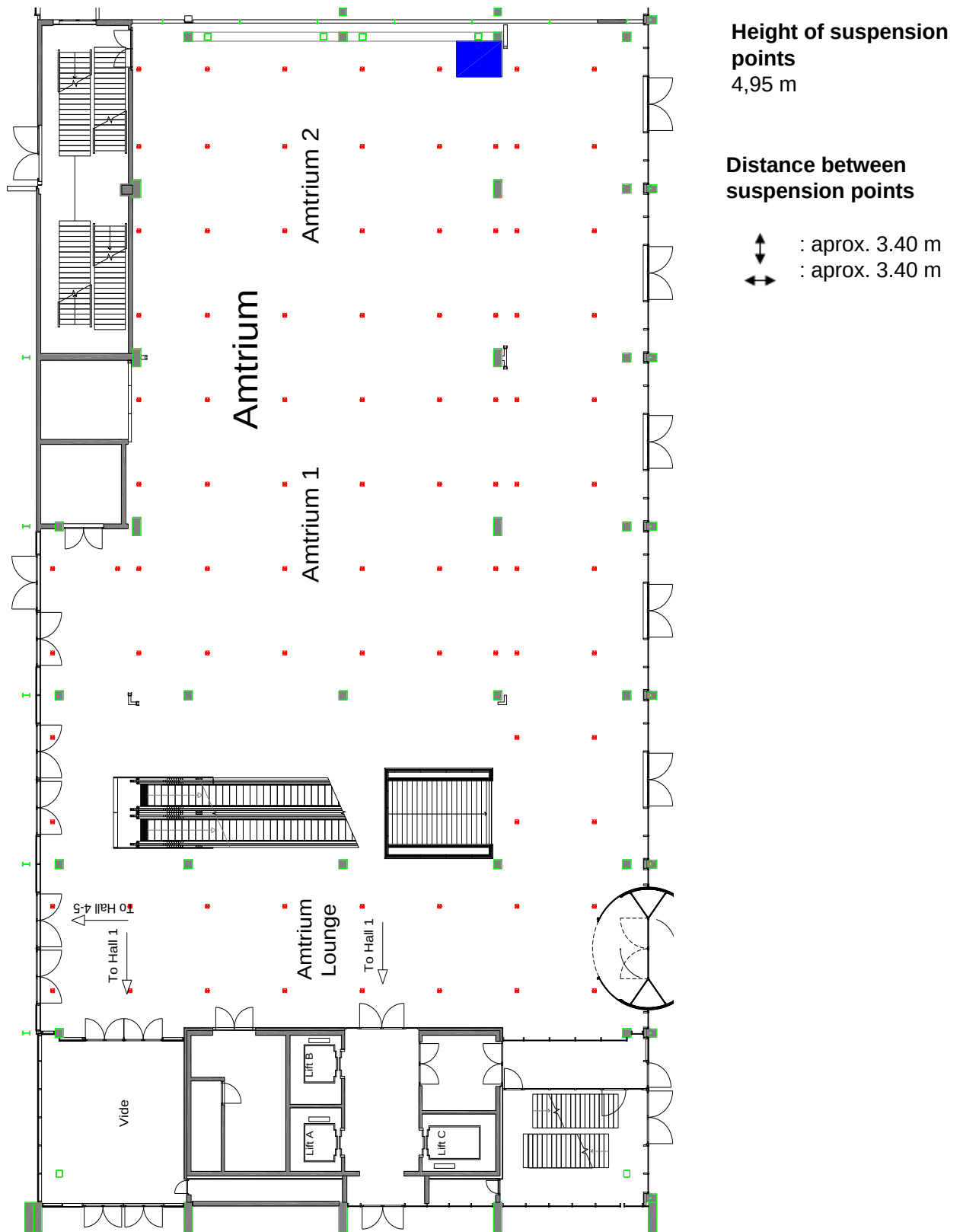


Figure 14: Suspension points Amtrium ground floor

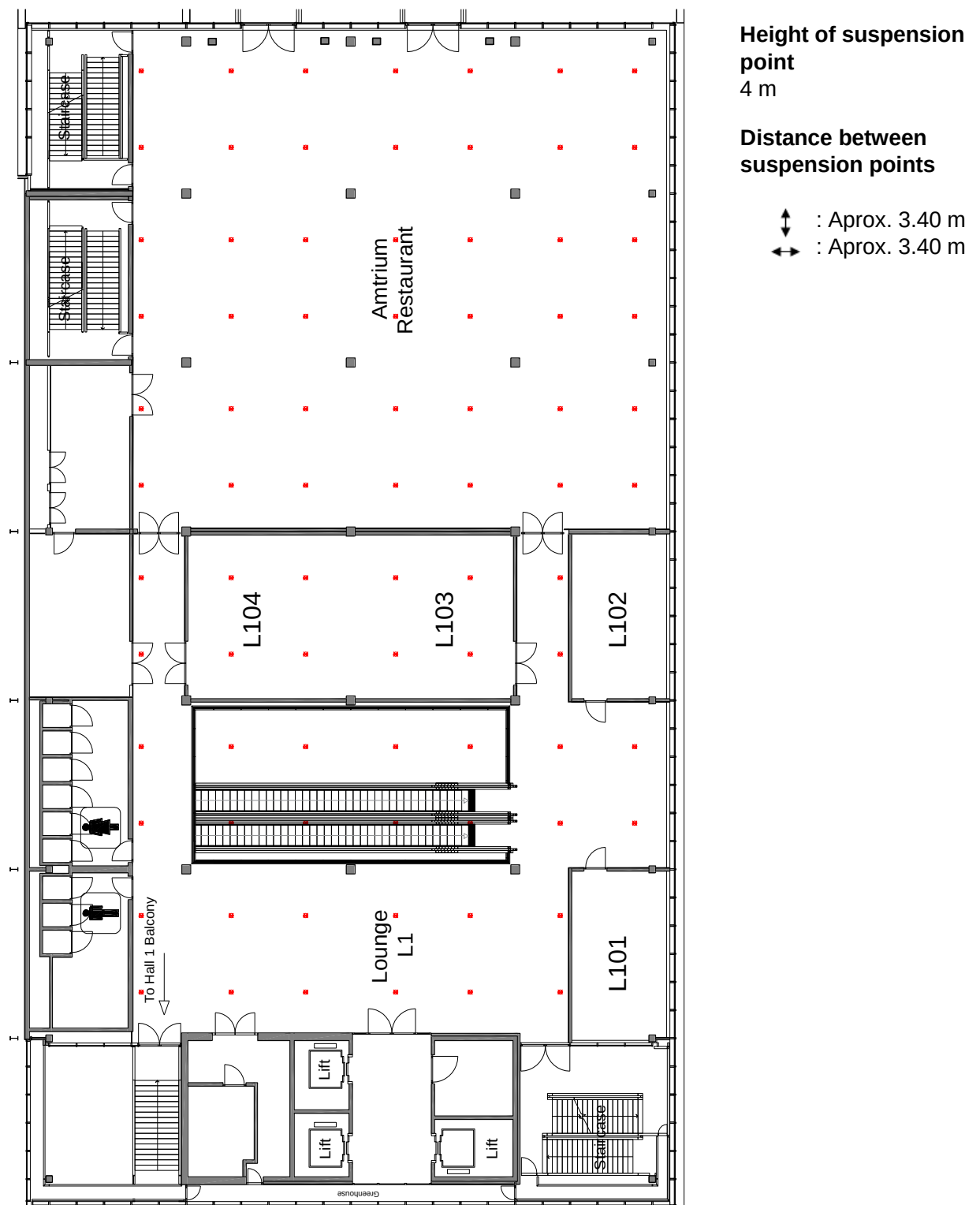


Figure 15: Suspension points Amtrium firstfloor

In the Amtrium, vertical rigging is possible from suspension eyes in the ceiling at the locations indicated (see Figure 15). There are a total of 69 possible suspension points on the ground floor and a total of 74 possible suspension points on the first floor.



Vertical rigging (straight)

- ❖ Vertical rigging is allowed from the eyes in the ceiling.
- ❖ The maximum load per eye is 125 kg.



Bridling (bridles)

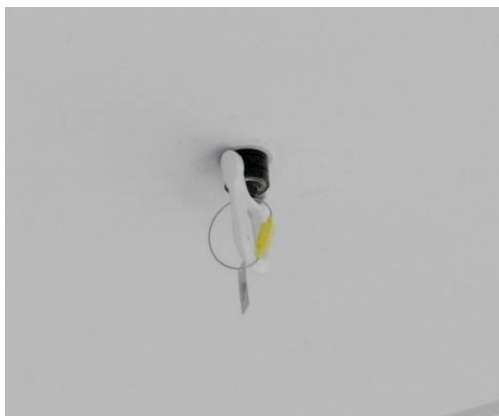
- ❖ Bridling is not allowed.



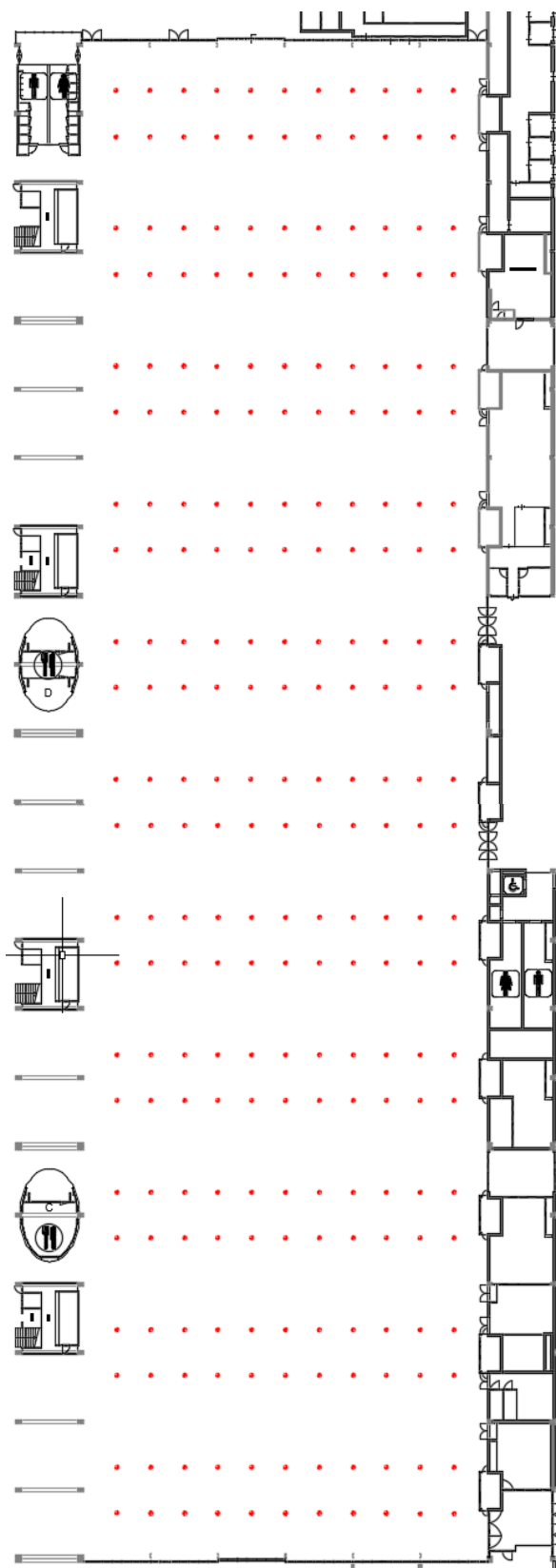
Snow

- ❖ No restrictions in case of snowfall.

Suspension points



13 HALL 5



Height of suspension points

Height: 10.00 m

Between the joints

↑↓ : 5.00 m / 10.00 m
 ↔ : 3.75 m

Figure 16: Suspension points in Hall 5

In Hall 5, vertical rigging is allowed from the joints of the longitudinal girders. There are a total of 242 possible suspension points (see Figure 16). The maximum permissible load is shown in Table 4.

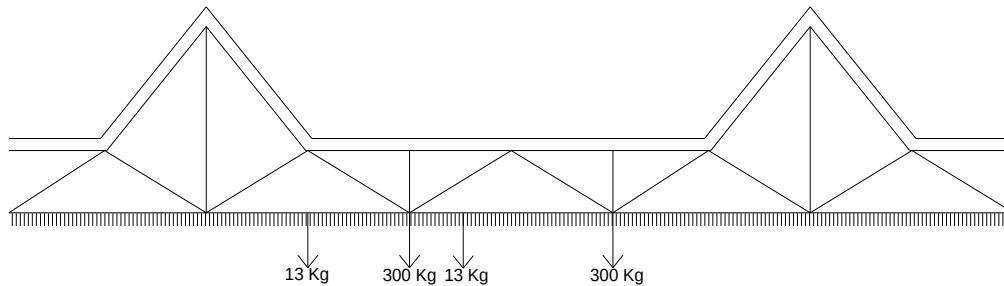


Figure 17: Joints in Hall 4

Table 4: Maximum load and distribution of weight in Hall 5 ^{1/2}		
	On the member	On the joint
 Vertical	13 kg	300 kg
 Bridling (bridles)	Not allowed	Not allowed
 Snowfall (more than 5 cm)	No rigging possible	No rigging possible
¹ A member is the horizontal connection between two joints ² If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint.		

Requirements for attachment to the roof construction:



Between diagonal and vertical member with jute protection (burlap).

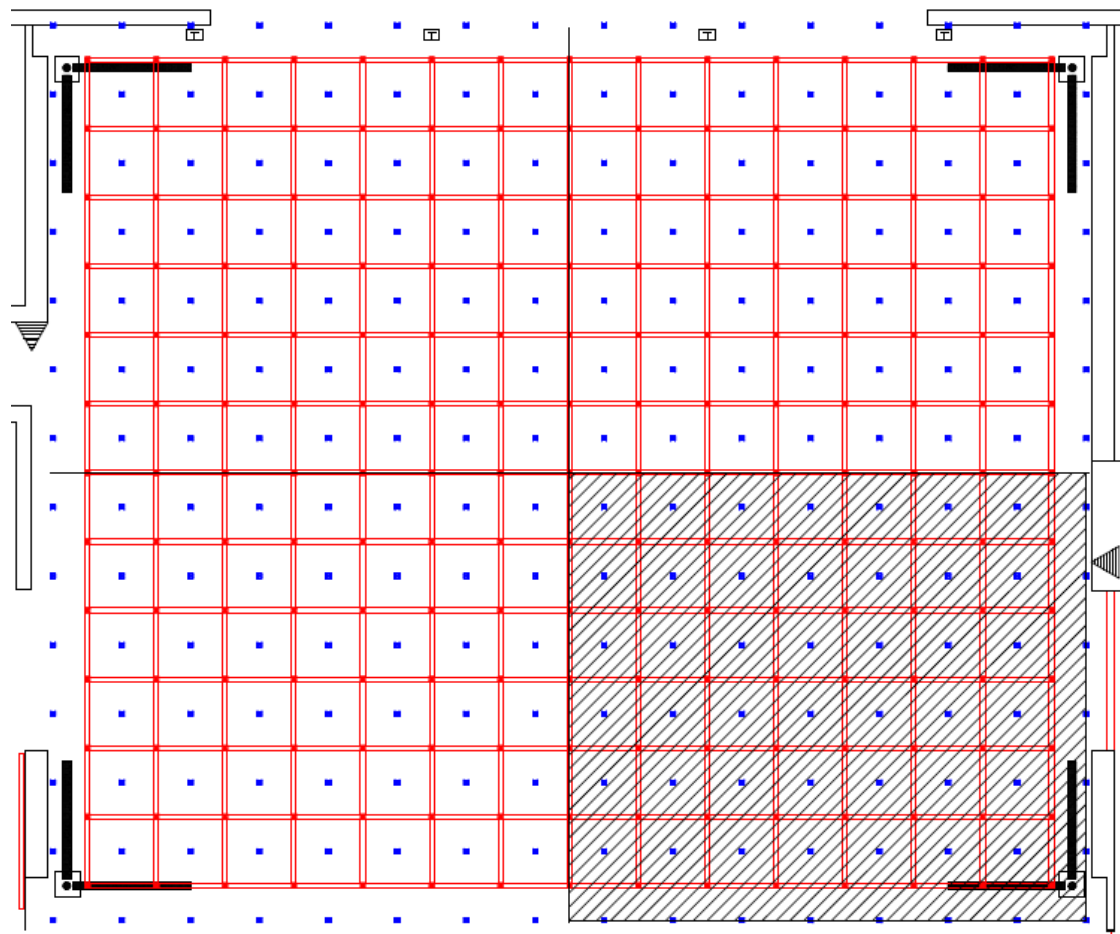


Figure 18: Suspension points in Hall 6

“Rigging section”

Hall dimensions

Height: 5.10 m
Length: 27.50 m
Width: 33.50 m

Distance between the joints

↕ : 2.24 m
↔ : 2.24 m

Note: This figure shows the bottom part and the joints in the upper part of the 3-dimensional framework. Not all upper joints can be used on account of the roof cladding (see CAD drawing for restrictions).

In Hall 6, rigging is allowed from the bottom part and the upper part of the 3-dimensional framework. In order to make maximum use of Hall 6, it has been divided into 4 notional “rigging sections” (see Figure 18). Each section area has a maximum suspension load of 22,500 kg. The weight is to be distributed as follows:

Table 6: Distribution of weight on the members ^{1/2/3/4/5}			
Total rigging load per section	up to 2,500 kg	2,500-5,000 kg	5,000-12,500 kg
 Vertical (upper or lower part)	Max. 300 kg per member.	Max. 300 kg per member.	Max. 250 kg per member.
 Bridling (upper or lower part)	Max. 300 kg per bridle and max. 150 kg vertical load per member.	Max. 250 kg per bridle and max. 125 kg vertical load per member.	Max. 250 kg per bridle and max. 125 kg vertical load per member.
 Snowfall (more than 5 cm)	No restriction.	No restriction.	Max. 150 kg per member. Max. 150 kg per bridle and max. 75 kg vertical load per member.
¹ A member forms part of the upper or lower part between two joints. ² The maximum load may be distributed between one or more suspension points. ³ Suspension is not allowed around the lighting fixtures under the members (see CAD drawing). ⁴ If a member in the upper part and an adjacent member in the lower part are used at the same time, the maximum permissible weight for these members will be halved. ⁵ If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint.			

Table 7: Distribution of weight on joints ^{1/2/3/4}			
Total rigging load per section	up to 2,500 kg	2,500-5,000 kg	5,000-12,500 kg
 Vertical (upper or lower part)	Max. 600 kg per joint.	Max. 500 kg per joint.	Max. 300 kg per joint.
 Bridling (bridles) upper or lower part	Max. 1,200 kg per bridle and max. 600 kg vertical load per joint.	Max. 1,000 kg per bridle and max. 500 kg vertical load per joint.	Max. 600 kg per bridle and max. 300 kg vertical load per joint.
 Snowfall (more than 5 cm)	No restriction.	No restriction.	Max. 150 kg per joint. Max. 300 kg per bridle and max. 150 kg vertical load per joint.
¹ Suspension is not allowed around the lighting fixtures under the joints (see CAD drawing). ² If a joint in the upper part and an adjacent joint in the lower part are used at the same time, the maximum permissible weight for these joints will be halved. ³ If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint. ⁴ There are rules which apply to suspension from the joints (see Appendix II).			

Requirements for attachment to the roof construction:



Through the centre of the joint. Between lower cross truss and cross diagonals.

Note:

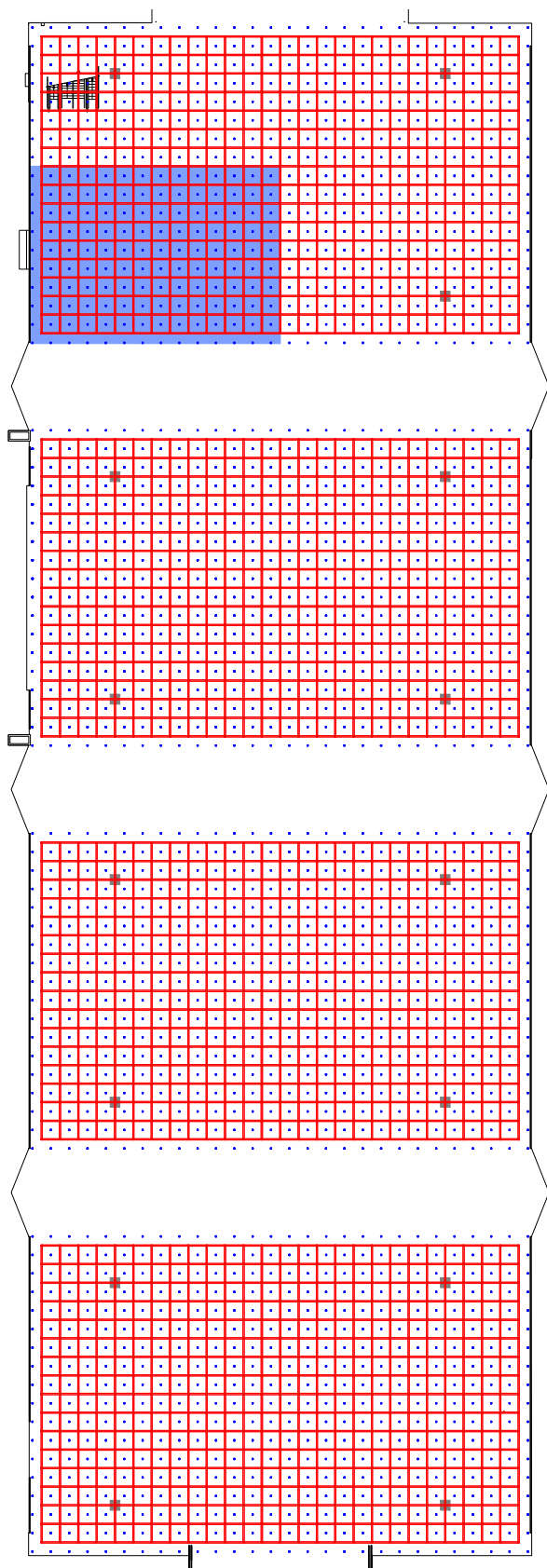
For bridles, attach in the direction of the lifting point.



Through the centre of the joint. Between upper cross truss and cross diagonals.

Note:

Only possible where the roof cladding does not obstruct the steel sling (see CAD drawing).



Height of suspension points

Height: 10.40 m

Between the joints

↑ : 2.24 m
↔ : 2.24 m

Note: This figure shows the bottom part and the joints in the upper part of the 3-dimensional framework. Not all upper joints can be used on account of the roof cladding (see CAD drawing for restrictions).

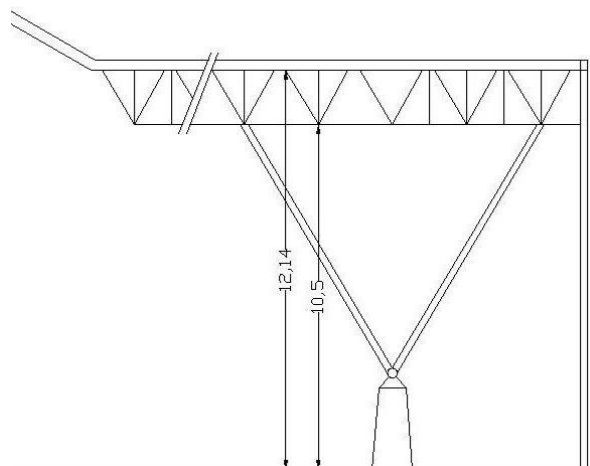


Figure 19: Suspension points in Hall 7

In Hall 7, rigging is allowed from the bottom part and the upper part of the 3-dimensional framework. In order to make maximum use of Hall 7, it has been divided into 16 notional “rigging sections” (see Figure 19). Each section area has a maximum suspension load of 25,000 kg. The weight is to be distributed as follows:

Table 8: Distribution of weight on the members ^{1/2/3/4/5}			
Total rigging load per section	up to 6,250 kg	6,250-12,500 kg	12,500-25,000 kg
 Vertical (upper or lower part)	Max. 300 kg per member.	Max. 300 kg per member.	Max. 250 kg per member.
 Bridling (upper or lower part)	Max. 300 kg per bridle and max. 150 kg vertical load per member.	Max. 250 kg per bridle and max. 125 kg vertical load per member.	Max. 250 kg per bridle and max. 125 kg vertical load per member.
 Snowfall (more than 5 cm)	No restriction.	No restriction.	Max. 150 kg per joint. Max. 150 kg per bridle and max. 75 kg vertical load per member.
¹ A member forms part of the upper or lower part between two joints. ² The maximum load may be distributed between one or more suspension points. ³ Suspension is not allowed around the lighting fixtures under the members (see CAD drawing). ⁴ If a member in the upper part and an adjacent member in the lower part are used at the same time, the maximum permissible weight for these members will be halved. ⁵ If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint.			

Table 9: Distribution of weight on joints ^{1/2/3/4}			
Total rigging load per section	up to 6,250 kg	6,250-12,500 kg	12,500-25,000 kg
 Vertical (upper or lower part)	Max. 600 kg per joint.	Max. 500 kg per joint.	Max. 300 kg per joint.
 Bridling (bridles) upper or lower part)	Max. 1,200 kg per bridle and max. 600 kg vertical load per joint.	Max. Max. 1,000 kg per bridle and max. 500 kg vertical load per joint. max. 500 kg vertical load per joint.	Max. 600 kg per bridle and max. 300 kg vertical load per joint.
 Snowfall (more than 5 cm)	No restriction.	No restriction.	Max. 150 kg per joint. Max. 300 kg per bridle and max. 150 kg vertical load per joint.
¹ Suspension is not allowed around the lighting fixtures under the joints (see CAD drawing). ² If a joint in the upper part and an adjacent joint in the lower part are used at the same time, the maximum permissible weight for these joints will be halved. ³ If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint. ⁴ There are rules which apply to suspension from the joints (see appendix II).			

Requirements for attachment to the roof construction:



Through the centre of the joint. Between lower cross truss and cross diagonals.

Note:

For bridles, attach in the direction of the lifting point.



Through the centre of the joint. Between lower cross truss and cross diagonals.

Note:

Only possible where the roof cladding does not obstruct the steel sling (see CAD drawing).

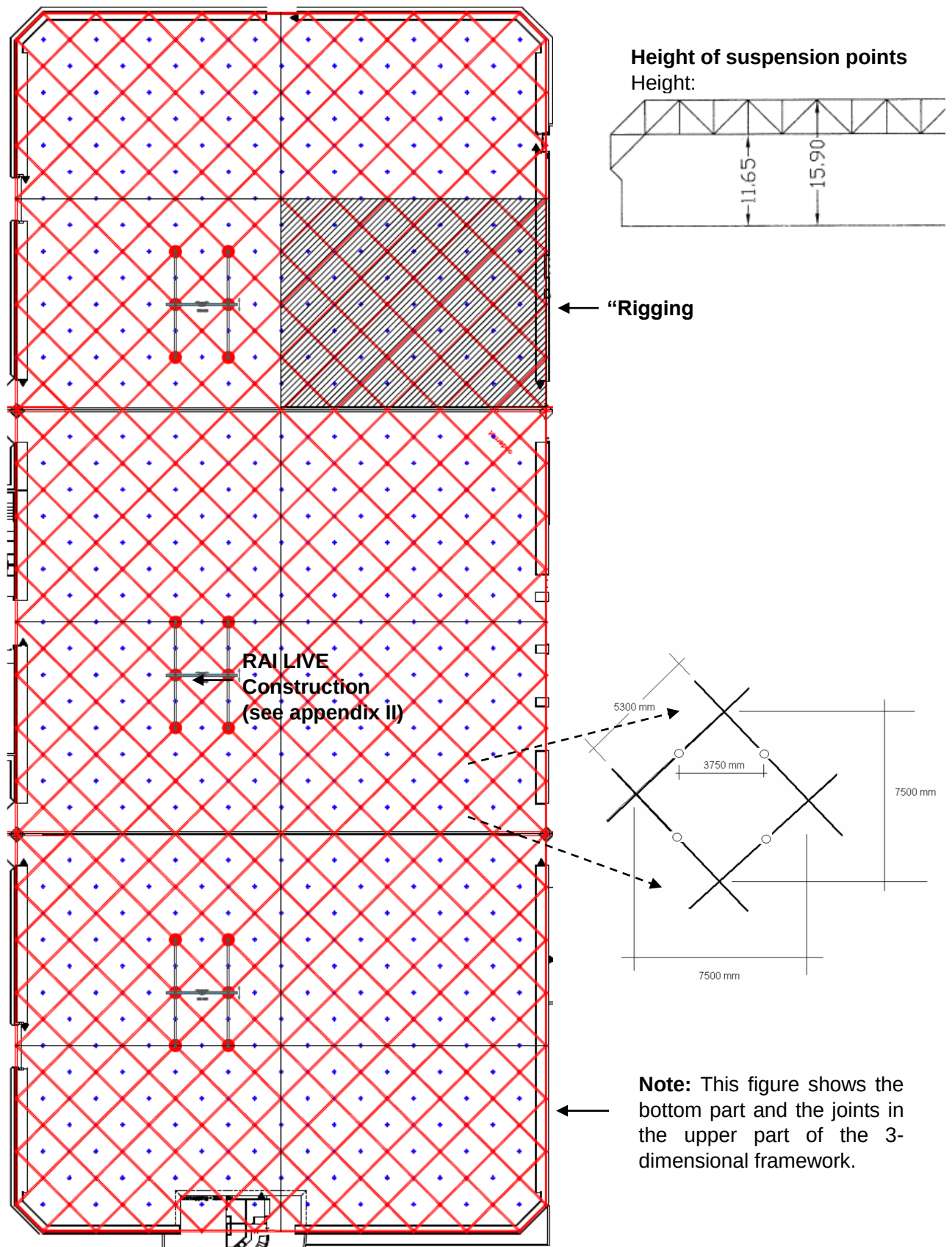


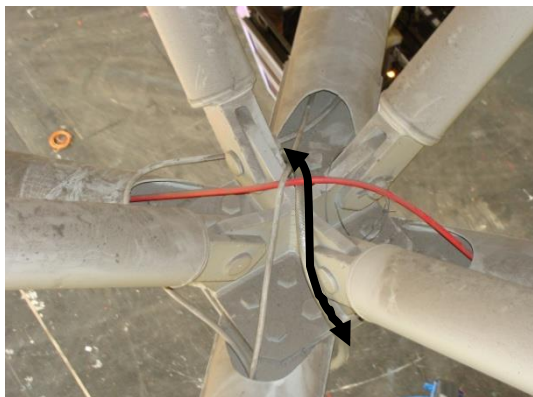
Figure 20: Suspension points in Hall 8

In Hall 8, rigging is allowed from the bottom part and the upper part of the 3-dimensional framework. In order to make maximum use of Hall 8, it has been divided into 12 notional “rigging sections” (see Figure 20). Each section area has a maximum suspension load of 22,500 kg. The weight is to be distributed as follows: The weight is to be distributed as follows:

Table 10: Distribution of weight on the members ^{1/2/3/4/5/6}		
Total rigging load per section	up to 10,000 kg	10,000-22,500 kg
 Vertical (upper and lower part)	Max. 500 kg per member.	Max. 500 kg per member.
 Bridling (upper or lower part)	Max. 500 kg per bridle and max. 250 kg vertical load per member.	Max. 400 kg per bridle and max. 200 kg vertical load per member.
 Snowfall (more than 5 cm)	Max. 160 kg per member. Max. 250 kg per bridle and max. 125 kg vertical load per member.	More than 10,000 kg per area not possible. See requirements under 10,000 kg.
1 A member forms part of the upper or lower part between two joints. 2 The maximum load may be distributed between one or more suspension points. 3 Suspension is not allowed around the lighting fixtures under the members (see CAD drawing). 4 If a member in the upper part and an adjacent member in the lower part are used at the same time, the maximum permissible weight for these members will be halved. 5 If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint. 6 If the RAI LIVE screens are suspended in their construction, restrictions apply (see Appendix II).		

Table 11: Distribution of weight on joints ^{1/2/3/4/5/6}		
Total rigging load per section	up to 10,000 kg	10,000-22,500 kg
 Vertical (upper and lower part)	Max. 900 kg per joint.	Max. 900 kg per joint.
 Bridling (upper or lower part)	Max. 1,800 kg per bridle and max. 900 kg vertical load per joint.	Max. 1,800 kg per bridle and max. 900 kg vertical load per joint.
 Snowfall (more than 5 cm)	Max. 450 kg per joint. Max. 900 kg per bridle and max. 450 kg vertical load per joint.	More than 10,000 kg per area not possible. See requirements under 10,000 kg.
1 The maximum load may be distributed between one or more suspension points per member. 2 If a joint in the upper part and an adjacent joint in the lower part are used at the same time, the maximum permissible weight for these joints will be halved. 3 If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint. 4 There are rules which apply to suspension from the joints (see next page). 5 If the RAI LIVE screens are suspended in their construction, restrictions apply (see Appendix II). 6 Rigging is not permitted from the eyes under the joints.		

Requirements for attachment to the roof construction:



Through the centre of the joint. Between lower cross truss and cross diagonals.

Note:

For bridles, attach in the direction of the lifting point.



Through the centre of the joint. Between lower cross truss and cross diagonals.



Note:

Feed steel sling underneath existing cables

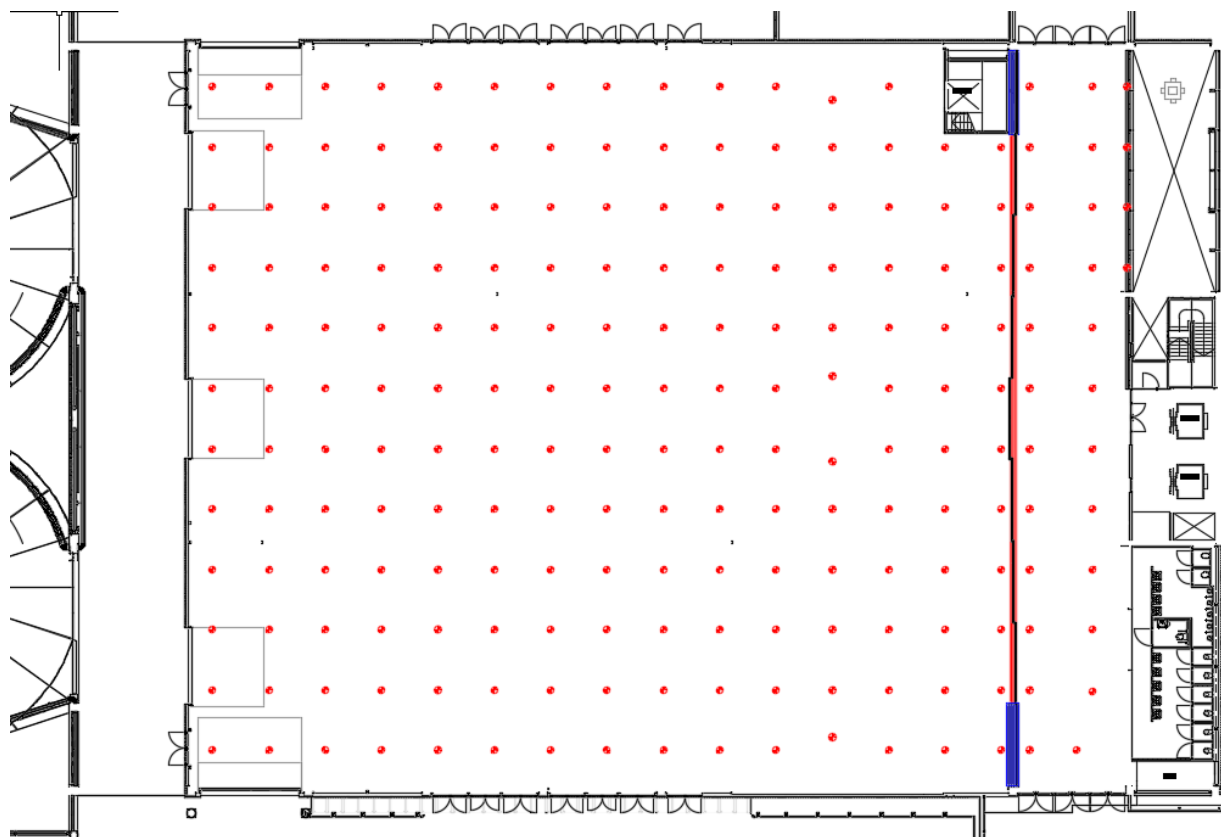


Figure 21: Rigging options in the MFP

Height of suspension points

Height Hal : 5,7 m

Height Corridor : 1,4 m

Distance between the joints

↑↓ : 3,60 m

↔ : 3,85 m

In the MFP, vertical rigging is possible from suspension eyes in the ceiling. There are a total of 204 possible suspension points (see Figure 21). 180 suspension points are located at a height of 5,70 (hal) metres and 24 suspension points at a height of 4.40 metres (corridor).



Vertical rigging (straight)

- ❖ The maximum load for the suspension points is 125 kg.



Bridling (bridles)

- ❖ Bridling is not allowed.



Snow

- ❖ No restrictions in case of snowfall.

Suspension point



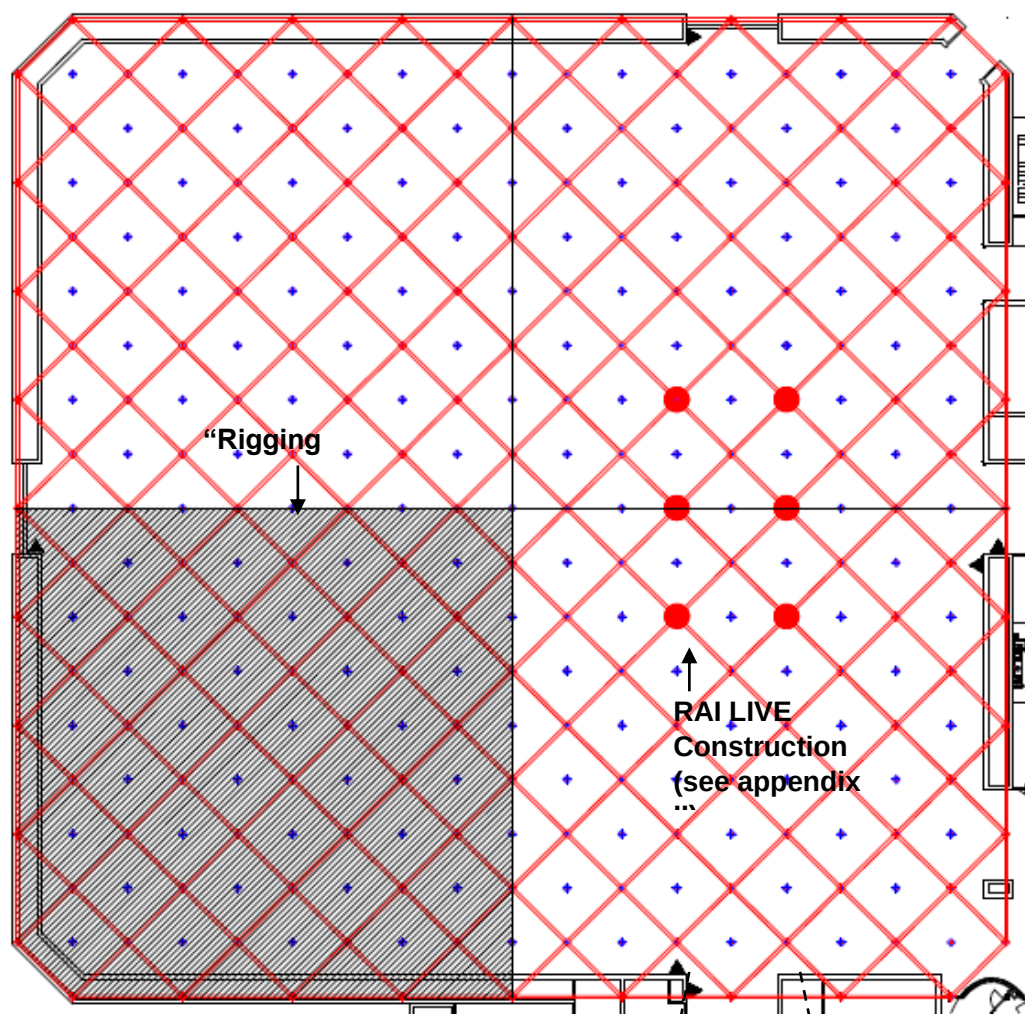
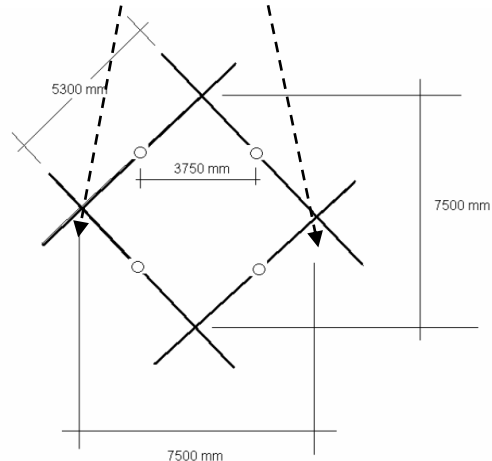
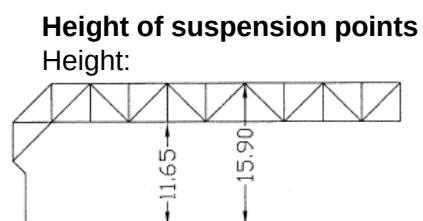


Figure 22: Rigging options in Hall 9



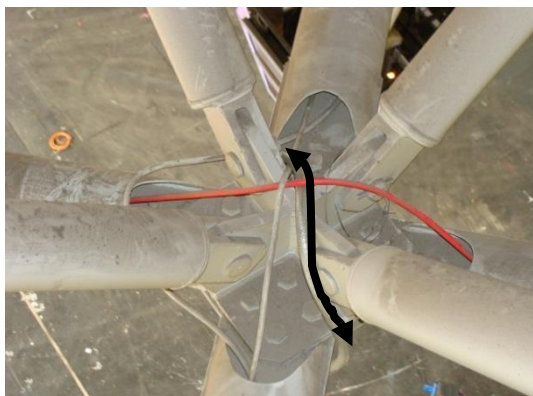
Note: This figure shows the bottom part and the joints in the upper part of the 3-dimensional framework.

In Hall 10, rigging is allowed from the bottom part and the upper part of the 3-dimensional framework. In order to make maximum use of Hall 9, it has been divided into 4 notional “rigging sections” (see Figure 22). Each section area has a maximum suspension load of 22,500 kg. The weight is to be distributed as follows:

Table 12: Distribution of weight on the members ^{1/2/3/4/5/6}		
Total rigging load per section	up to 10,000 kg	10,000-22,500 kg
 Vertical (upper and lower part)	Max. 500 kg per member.	Max. 500 kg per member.
 Bridling (upper or lower part)	Max. 500 kg per bridle and max. 250 kg vertical load per member.	Max. 400 kg per bridle and max. 200 kg vertical load per member.
 Snowfall (more than 5 cm)	Max. 160 kg per member. Max. 250 kg per bridle and max. 125 kg vertical load per member.	More than 10,000 kg per area not possible. See requirements under 10,000 kg.
¹ A member forms part of the upper or lower part between two joints. ² The maximum load may be distributed between one or more suspension points. ³ Suspension is not allowed around the lighting fixtures under the members (see CAD drawing). ⁴ If a member in the upper part and an adjacent member in the lower part are used at the same time, the maximum permissible weight for these members will be halved. ⁵ If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint. ⁶ If the RAI LIVE screens are suspended in their construction, restrictions apply (see Appendix II).		

Table 13: Distribution of weight on joints ^{1/2/3/4/5/6}		
Total rigging load per section	up to 10,000 kg	10,000-22,500 kg
 Vertical (upper and lower part)	Max. 900 kg per joint.	Max. 900 kg per joint.
 Bridling (upper or lower part)	Max. 1,800 kg per bridle and max. 900 kg vertical load per joint.	Max. 1,800 kg per bridle and max. 900 kg vertical load per joint.
 Snowfall (more than 5 cm)	Max. 450 kg per joint. Max. 900 kg per bridle and max. 450 kg vertical load per joint.	More than 10,000 kg per area not possible. See requirements under 10,000 kg.
¹ The maximum load may be distributed between one or more suspension points per member. ² If a joint in the upper part and an adjacent joint in the lower part are used at the same time, the maximum permissible weight for these joints will be halved. ³ If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint. ⁴ There are rules which apply to suspension from the joints (see next page). ⁵ If the RAI LIVE screens are suspended in their construction, restrictions apply (see Appendix II). ⁶ Rigging is not permitted from the eyes under the joints.		

Requirements for attachment to the roof construction:



Through the centre of the joint. Between lower cross truss and cross diagonals.

Note:

For bridles, attach in the direction of the lifting point.



Through the centre of the joint. Between lower cross truss and cross diagonals.

Note:

Feed steel sling underneath existing cables



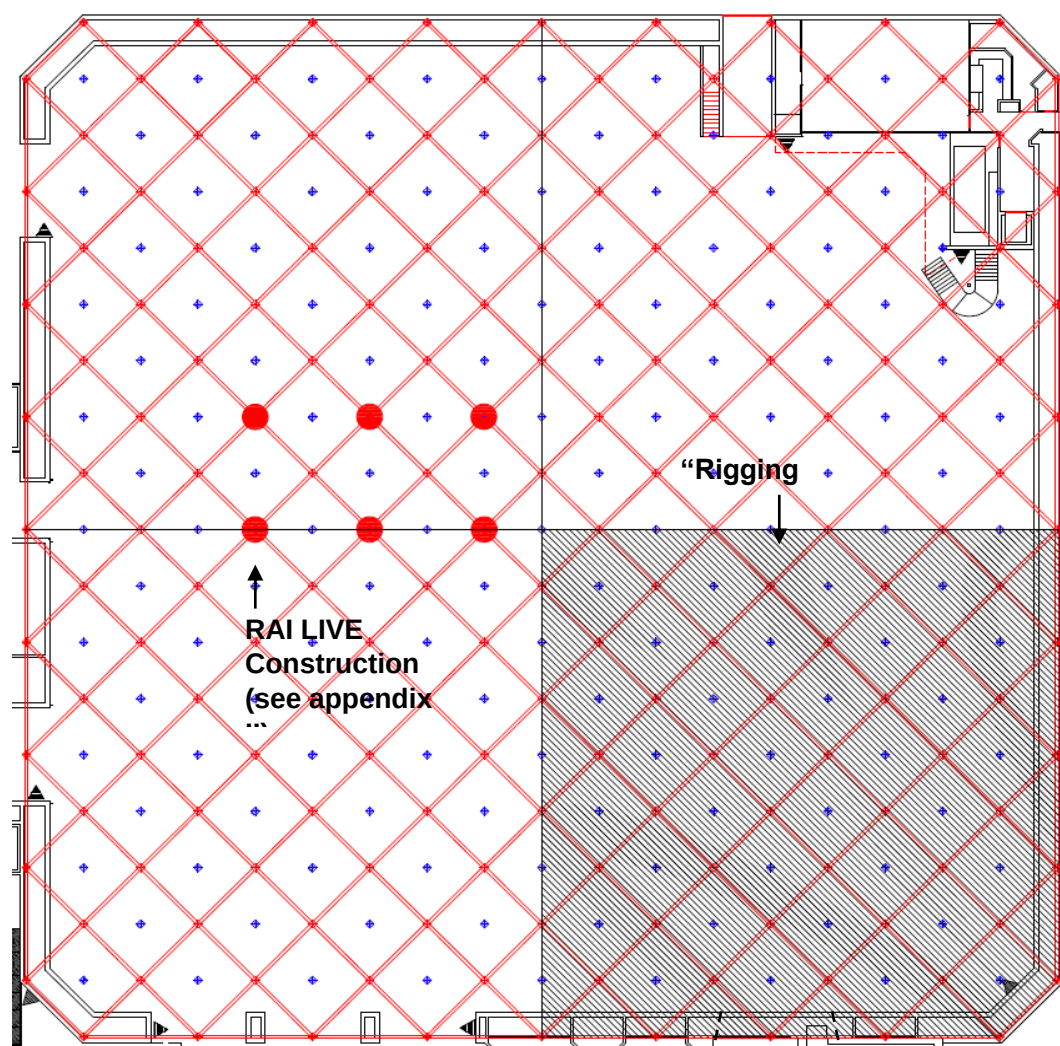
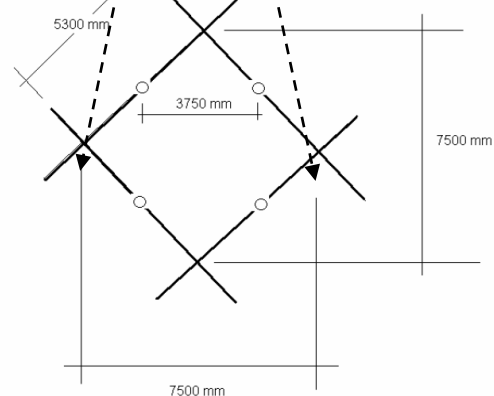
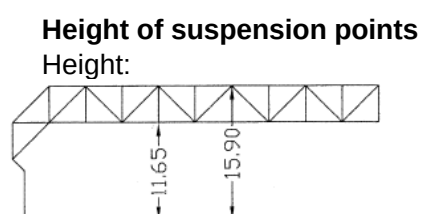


Figure 23: Rigging options in Hall 10



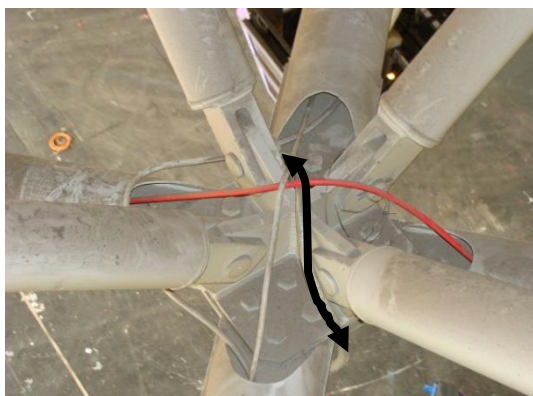
Note: This figure shows the bottom part and the joints in the upper part of the 3-dimensional framework.

In Hall 11, rigging is allowed from the bottom part and the upper part of the 3-dimensional framework. In order to make maximum use of Hall 10, it has been divided into 4 notional “rigging sections” (see Figure 23). Each section area has a maximum suspension load of 22,500 kg. The weight is to be distributed as follows:

Table 14: Distribution of weight on the members ^{1 / 2 / 3 / 4 / 5 / 6}		
Total rigging load per section	up to 10,000 kg	10,000-22,500 kg
 Vertical (upper and lower part)	Max. 500 kg per member.	Max. 500 kg per member.
 Bridling (upper or lower part)	Max. 500 kg per bridle and max. 250 kg vertical load per member.	Max. 400 kg per bridle and max. 200 kg vertical load per member.
 Snowfall (more than 5 cm)	Max. 160 kg per member. Max. 250 kg per bridle and max. 125 kg vertical load per member.	More than 10,000 kg per area not possible. See requirements under 10,000 kg.
1 A member forms part of the upper or lower part between two joints. 2 The maximum load may be distributed between one or more suspension points. 3 Suspension is not allowed around the lighting fixtures under the members (see CAD drawing). 4 If a member in the upper part and an adjacent member in the lower part are used at the same time, the maximum permissible weight for these members will be halved. 5 If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint. 6 If the RAI LIVE screens are suspended in their construction, restrictions apply (see Appendix II).		

Table 15: Distribution of weight on joints ^{1 / 2 / 3 / 4 / 5 / 6}		
Total rigging load per section	up to 10,000 kg	10,000-22,500 kg
 Vertical (upper and lower part)	Max. 900 kg per joint.	Max. 900 kg per joint.
 Bridling (upper or lower part)	Max. 1,800 kg per bridle and max. 900 kg vertical load per joint.	Max. 1,800 kg per bridle and max. 900 kg vertical load per joint.
 Snowfall (more than 5 cm)	Max. 450 kg per joint. Max. 900 kg per bridle and max. 450 kg vertical load per joint.	More than 10,000 kg per area not possible. See requirements under 10,000 kg.
1 The maximum load may be distributed between one or more suspension points per member. 2 If a joint in the upper part and an adjacent joint in the lower part are used at the same time, the maximum permissible weight for these joints will be halved. 3 If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint. 4 There are rules which apply to suspension from the joints (see next page). 5 If the RAI LIVE screens are suspended in their construction, restrictions apply (see Appendix II). 6 Rigging is not permitted from the eyes under the joints.		

Requirements for attachment to the roof construction:



Through the centre of the joint. Between lower cross truss and cross diagonals.

Note:

For bridles, attach in the direction of the lifting point.



Through the centre of the joint. Between lower cross truss and cross diagonals.



Note:

Feed steel sling underneath existing cables

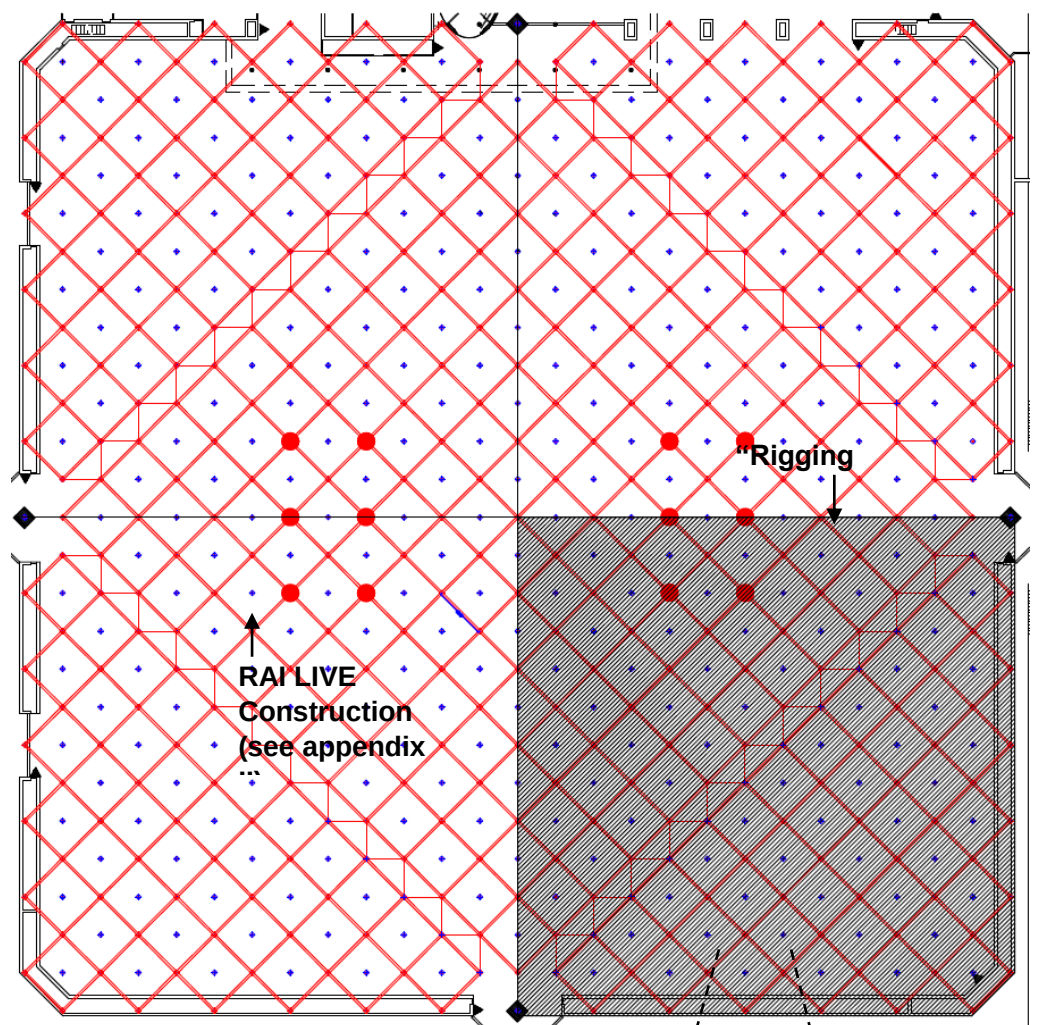
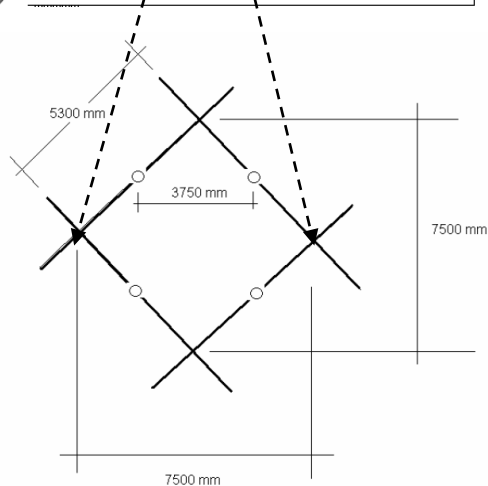
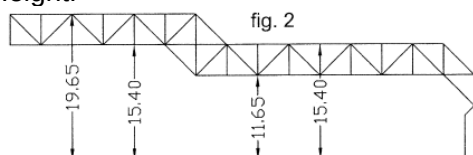


Figure 24: Rigging options in Hall 12

Height of suspension points

Height:



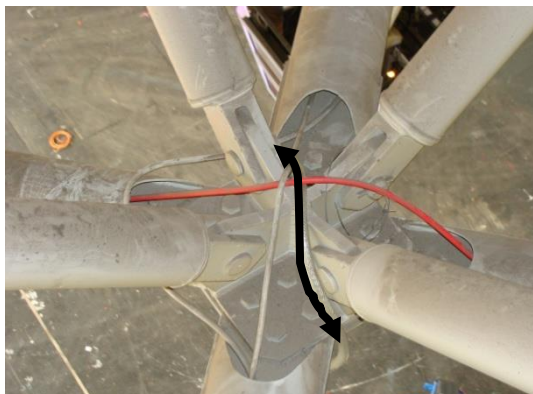
Note: This figure shows the bottom part and the joints in the upper part of the 3-dimensional framework.

In Hall 12 rigging is allowed from the bottom part and the upper part of the 3-dimensional framework. In order to make maximum use of Hall 12, it has been divided into 4 notional “rigging sections” (see Figure 24). Each section area has a maximum suspension load of 22,500 kg. The weight is to be distributed as follows:

Table 16: Distribution of weight on the members ^{1/2/3/4/5/6}		
Total rigging load per section	up to 22,500 kg	22,500-50,000 kg
 Vertical (upper and lower part)	Max. 500 kg per member.	Max. 500 kg per member.
 Bridling (upper or lower part)	Max. 500 kg per bridle and max. 250 kg vertical load per member.	Max. 400 kg per bridle and max. 200 kg vertical load per member.
 Snowfall (more than 5 cm)	Max. 160 kg per member. Max. 250 kg per bridle and max. 125 kg vertical load per member.	More than 10,000 kg per area not possible. See requirements under 10,000 kg.
¹ A member forms part of the upper or lower part between two joints. ² The maximum load may be distributed between one or more suspension points. ³ Suspension is not allowed around the lighting fixtures under the members (see CAD drawing). ⁴ If a member in the upper part and an adjacent member in the lower part are used at the same time, the maximum permissible weight for these members will be halved. ⁵ If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint. ⁶ If the RAI LIVE screens are suspended in their construction, restrictions apply (see Appendix II).		

Table 17: Distribution of weight on joints ^{1/2/3/4/5/6}		
Total rigging load per section	up to 22,500 kg	22,500-50,000 kg
 Vertical (upper and lower part)	Max. 900 kg per joint.	Max. 900 kg per joint.
 Bridling (upper or lower part)	Max. 1,800 kg per bridle and max. 900 kg vertical load per joint.	Max. 1,800 kg per bridle and max. 900 kg vertical load per joint.
 Snowfall (more than 5 cm)	Max. 450 kg per joint. Max. 900 kg per bridle and max. 450 kg vertical load per joint.	More than 10,000 kg per area not possible. See requirements under 10,000 kg.
¹ The maximum load may be distributed between one or more suspension points per member. ² If a joint in the upper part and an adjacent joint in the lower part are used at the same time, the maximum permissible weight for these joints will be halved. ³ If a member and an adjacent joint are loaded, the load on the member must be added to the load on the joint. The total weight must never exceed the maximum load for the joint. ⁴ There are rules which apply to suspension from the joints (see next page). ⁵ If the RAI LIVE screens are suspended in their construction, restrictions apply (see Appendix II). ⁶ Rigging is not permitted from the eyes under the joints.		

Requirements for attachment to the roof construction:



Through the centre of the joint. Between lower cross truss and cross diagonals.

Note: For bridles, attach in the direction of the lifting point.



Through the centre of the joint. Between lower cross truss and cross diagonals.



Note: Feed steel sling underneath existing cables

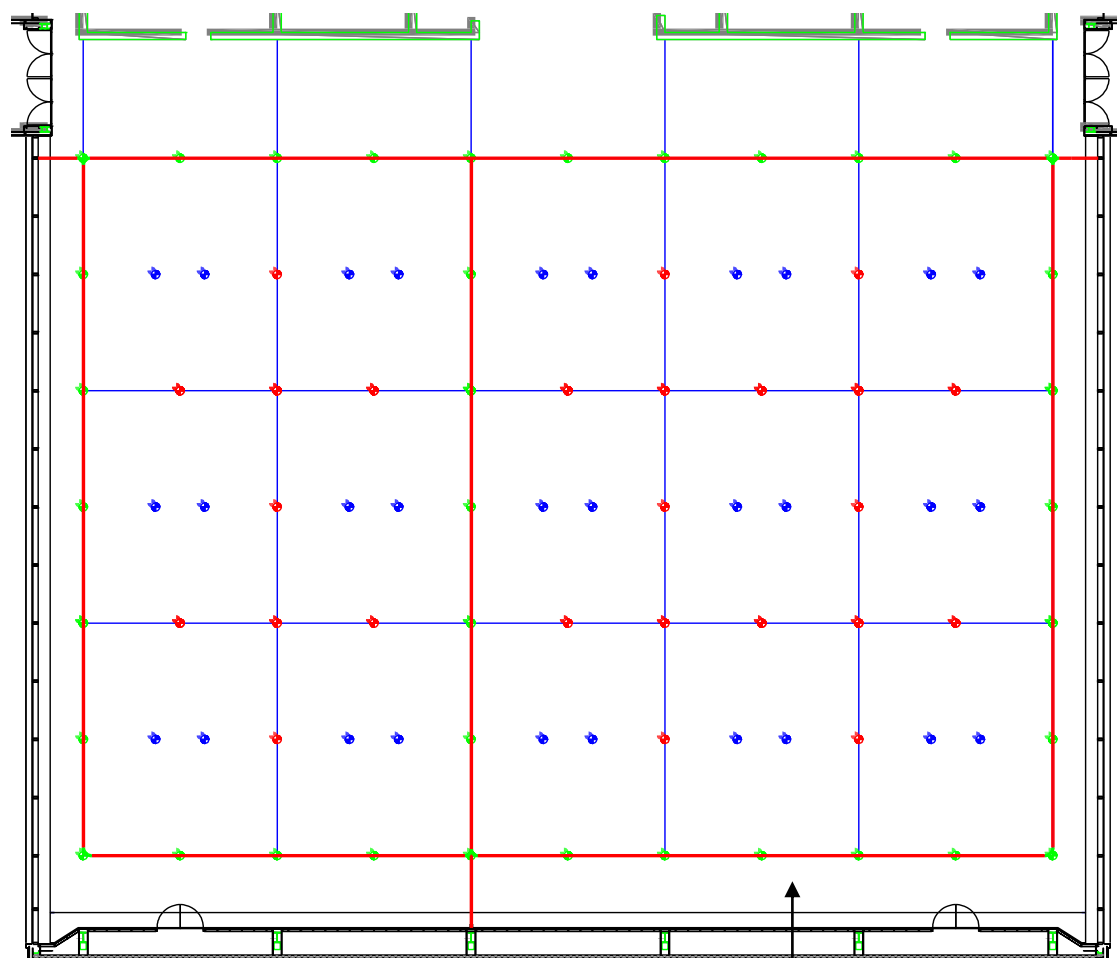


Figure 25: Suspension points in the Elicium Ballroom

Height of suspension points

Height red: 6,80 m

Height green: 6,80 m

Height blue: 8,70 m

Distance between suspension points

Distance between red suspension points at height of 6,80

↑↓ : 5,78 m
↔ : 4,73 m

Distance between blue suspension points at height of 8,70

↑↓ : 11,56m
↔ : 2,40 m en 7,06 m

Rails

The thick lines indicate rails. Suspension points can be created at the locations shown along these rails using specially designed hoisting elements, provided that there is no partition wall fitted to the rails.

In the Elicium Ballroom, vertical rigging is possible from suspension eyes in the ceiling. There are a total of 92 possible suspension points. 62 suspension points are located at a height of 6.80 metres (see red dots in Figure 25) and 30 suspension points at a height of 8.70 metres (see blue dots in Figure 25).

Note: Rails are installed in the roof (see Figure 25). Specially designed suspension eyes can be fitted at the locations indicated (green dots), provided that there is no partition wall fitted to the rails. These suspension eyes are to be requested via the Account Manager of the RAI.



Vertical rigging (straight)

- ❖ The maximum load for the 25 “red” suspension points is 125 kg.
- ❖ The maximum load for the 37 “green” suspension points is 125 kg.
- ❖ The following applies to the 30 “blue” suspension points:
 - If one of the suspension eyes from a pair adjacent to each other is loaded, the maximum load is 125 kg.
 - If both of the suspension eyes from a pair adjacent to each other are loaded, the maximum load is 62.5 kg.



Bridling (bridles)

- ❖ Bridling is not allowed.

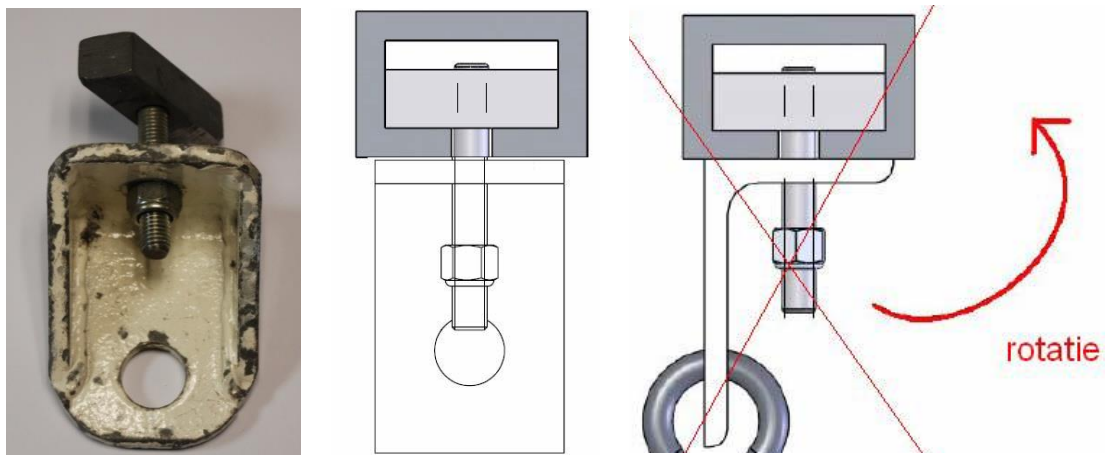


Snow

- ❖ No restrictions in case of snowfall.

Requirements for attachment to the roof construction:

“Green suspension points”

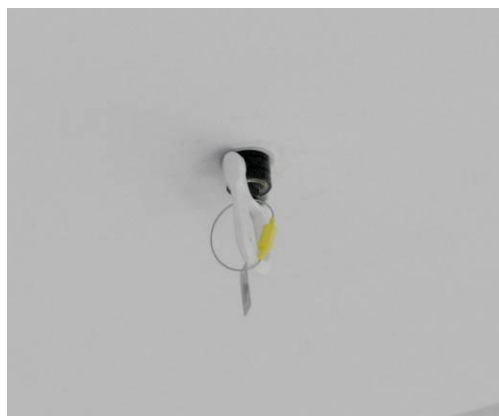


Note: The rail eyes must be positioned on the rail at right angles.

“Red suspension points”



“Blue suspension points”



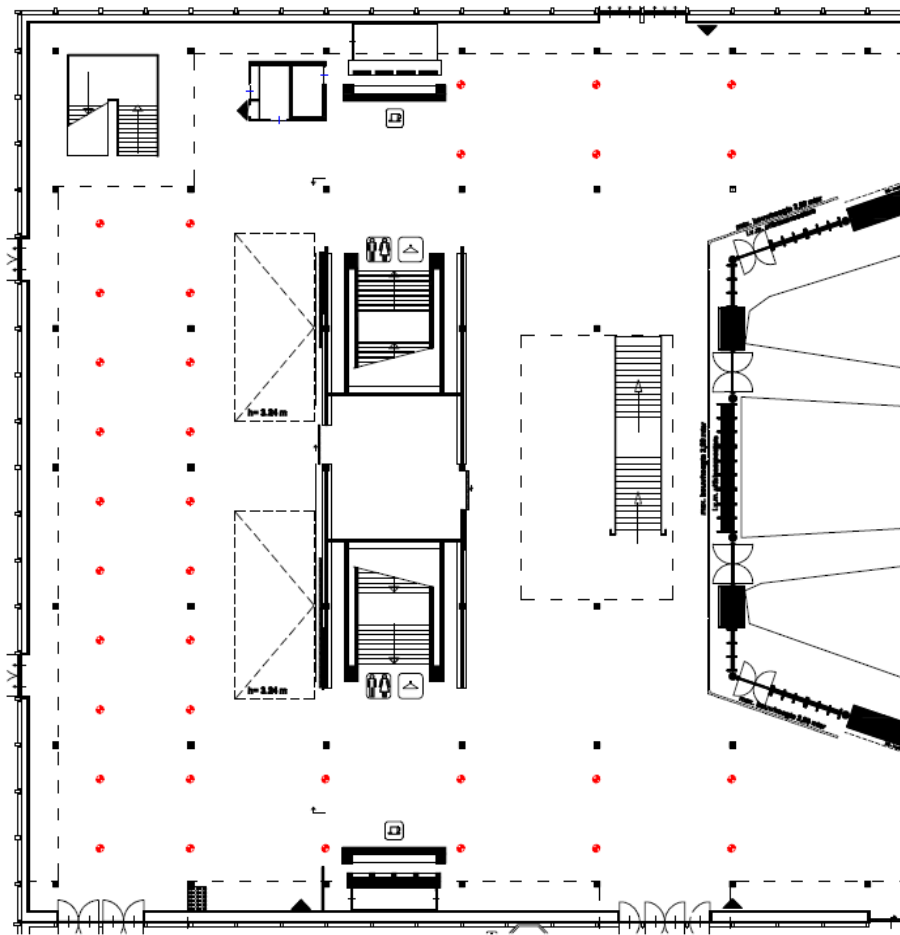


Figure 26: Auditorium Lounge and Onyx Lounge suspension points

Height of suspension points

Height: 3,74 m

Between the suspension points

↑↓ : 7,50 m
 ↔ : 3,75 m

In the Auditorium Lounge and Onyx Lounge vertical rigging is permitted from eyes in the ceiling. There are a total of 34 possible suspension points (see Figure 26).



Vertical rigging (straight)

- ❖ Vertical rigging is allowed from eyes in the ceiling.
- ❖ The maximum load per eye is 150 kg.



Bridling (bridles)

- ❖ Bridling is not allowed.



Snow

- ❖ No restrictions in case of snowfall.

Requirements for attachment to the roof construction:



Note:

Before carrying out rigging, (CE and WLL) certified eye bolts must be fitted. The thread of the eye bolts is M12.

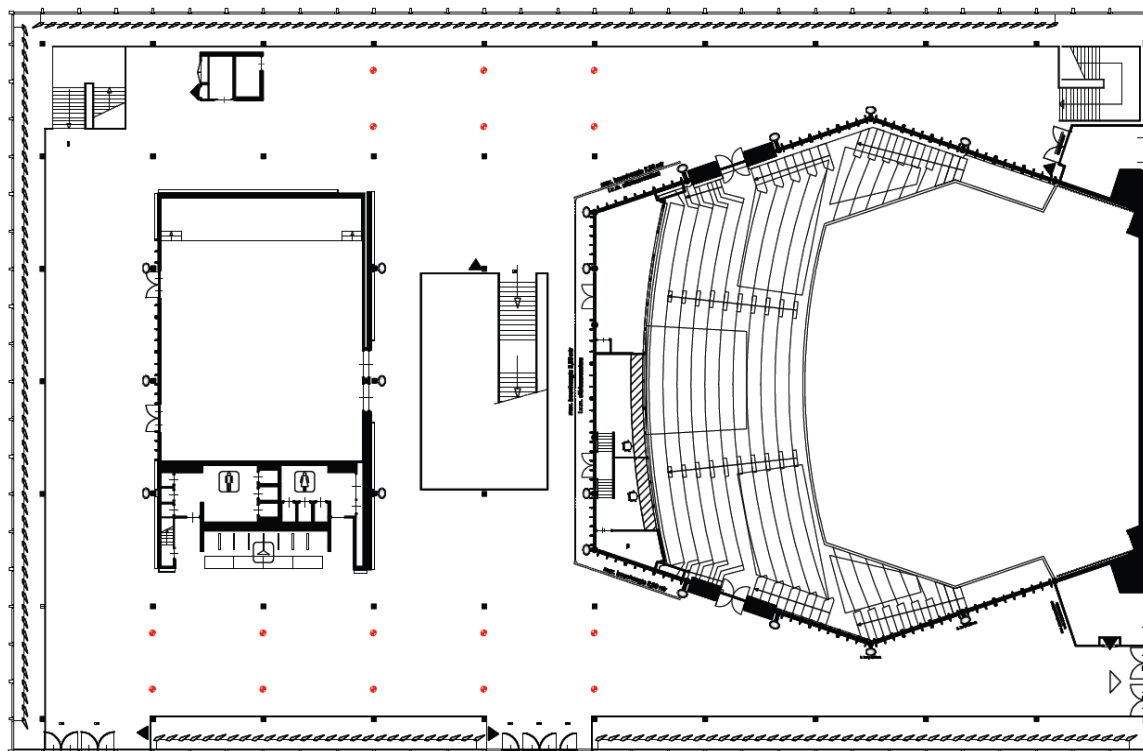


Figure 27: Upper Lounge and Emerald Lounge suspension points

Height of suspension points

Height: 3,74 m

Between the suspension points

↔ : 7,50 m
 ↑↓ : 3,75 m

In the Upper Lounge and Emerald Lounge vertical rigging is allowed from eyes in the ceiling. There are a total of 16 possible suspension points (see Figure 27).



Vertical rigging (straight)

- ❖ Vertical rigging is allowed from eyes in the ceiling.
- ❖ The maximum load per eye is 150 kg.



Bridling (bridles)

- ❖ Bridling is not allowed.



Snow

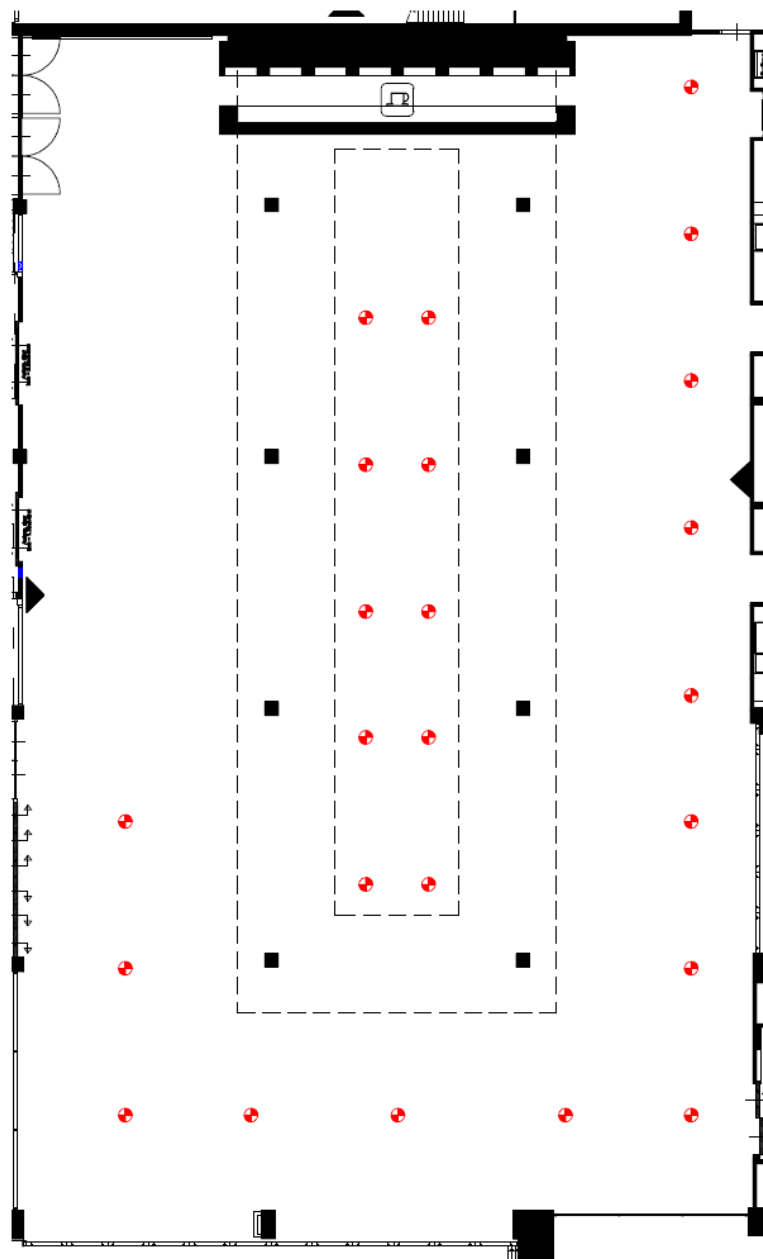
- ❖ No restrictions in case of snowfall.

Requirements for attachment to the roof construction:



Note:

Before carrying out rigging, (CE and WLL) certified eye bolts must be fitted. The thread of the eye bolts is M12.



Height of suspension
points

Height: 3.50 m

Figure 28: Suspension points in the Diamond Lounge

In the Diamond Lounge, vertical rigging is allowed from eyes in the ceiling. There are a total of 24 suspension points in the Diamond Lounge (see Figure 28).



Vertical rigging (straight)

- ❖ Vertical rigging is allowed from eyes in the ceiling.
- ❖ The maximum load per eye is 150 kg.



Bridling (bridles)

- ❖ Bridling is not allowed.



Snow

- ❖ Not applicable.

Requirements for attachment to the roof construction:



Note:

Before carrying out rigging, (CE and WLL) certified eye bolts must be fitted. The thread of the eye bolts is M12.

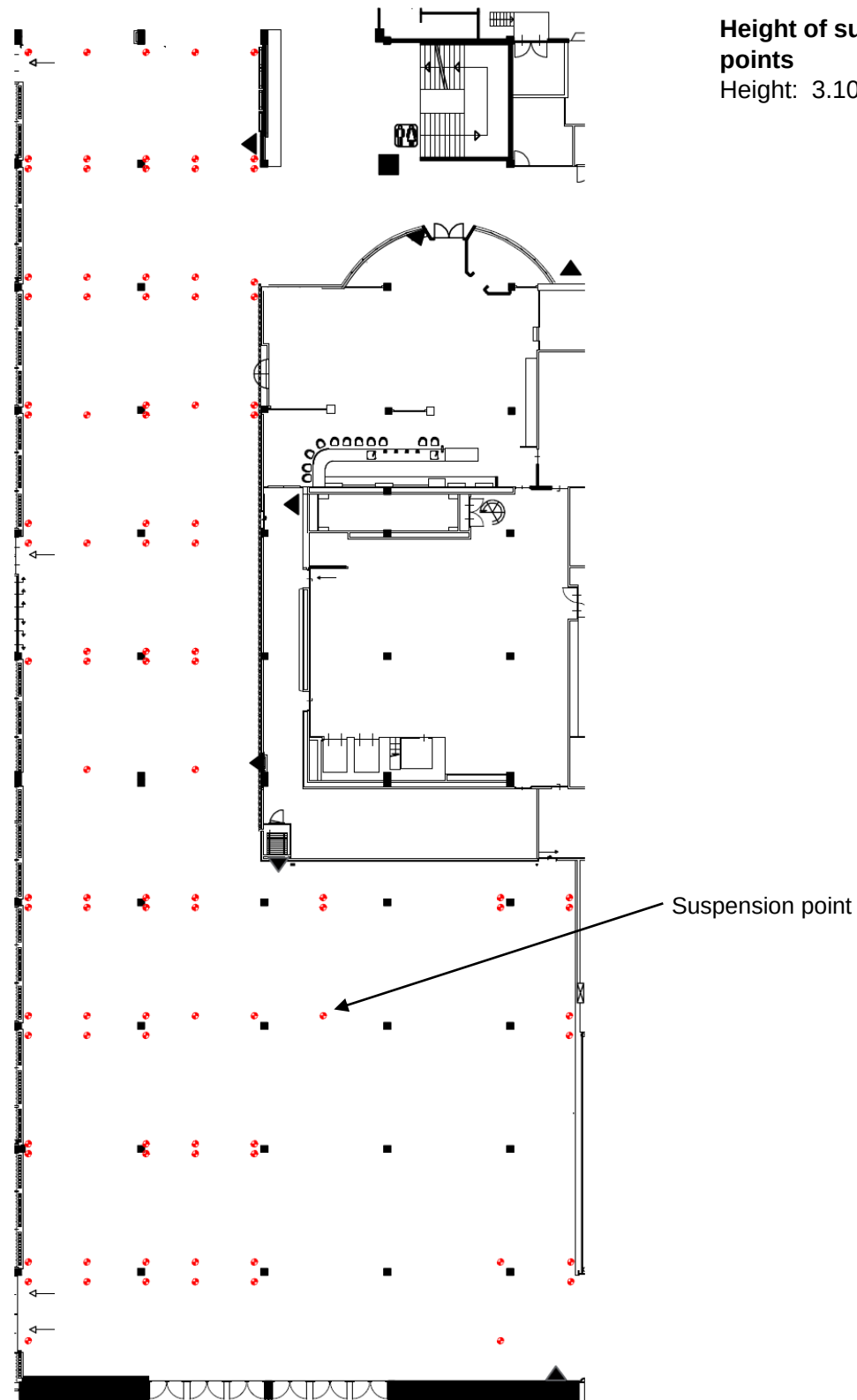


Figure 29: Rigging options in Europe Foyer 1 and 2

In Europe Foyer 1 and 2 vertical rigging is allowed from eyes in the ceiling. There are a total of 96 possible suspension points (see Figure 29). The fitting of own lifting eyes is not permitted.



Vertical rigging (straight)

- ❖ Vertical rigging is allowed from the eyes in the ceiling.
- ❖ The maximum load per eye is 125 kg.



Bridling (bridles)

- ❖ Bridling is not allowed.



Snow

- ❖ No restrictions in case of snowfall.

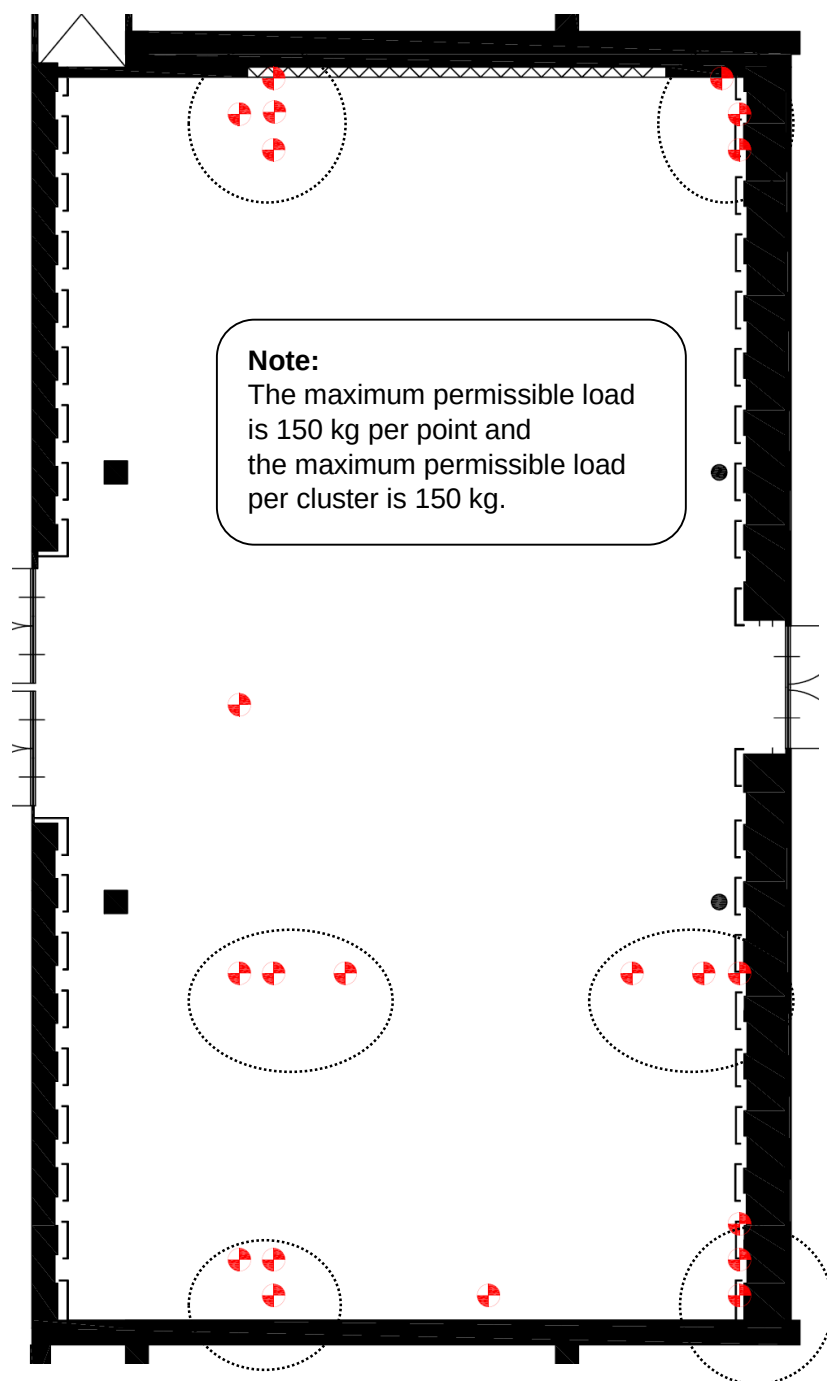


Figure 30: Suspension points in G102

In Room G102 there are 21 suspension points (see Figure 30). The suspension points are to be used as follows:



Vertical rigging (straight)

- ❖ Vertical rigging is allowed from eyes in the ceiling.
- ❖ The maximum load per eye is 150 kg.
- ❖ The maximum load per cluster is 150 kg, to be distributed between the suspension points in the cluster.



Bridling (bridles)

- ❖ Bridling is not allowed.



Snow

- ❖ No restrictions in case of snowfall.

Requirements for attachment to the roof construction:



Note:

Before carrying out rigging, (CE and WLL) certified eye bolts must be fitted. The thread of the eye bolts is M12.

APPENDIX I: REQUIREMENTS FOR THE RIGGING PLAN

The table below shows the format for the rigging plan to be submitted to the RAI. Send the rigging plan to the Accountmanager at the RAI Amsterdam. Incomplete rigging plans will not be assessed and therefore will not be approved. The RAI can provide an example of an acceptable rigging plan on request.

Section of rigging plan	Requirements per section	By whom
1. Lifting point plan (submit as dwg plus copy as pdf)	Entered on CAD drawing from the RAI Amsterdam ¹ : a. The objects to be lifted. b. Lifting equipment (trusses, auxiliary trusses, hoists and suchlike). c. The locations of the lifting points with reference number (corresponding to Excel sheet points 2, 3 and 4). d. F vertical per lifting point. e. F vertical per application locations of the bridles.	Responsible rigging company
2. Calculated weight of the loads (submit as Excel sheet)	Entered in the RAI Amsterdam rigging calculations format a. Reference number per lifting point; b. Product name, type and weight of all objects that belong to the hoisted load (incl. hoisting elements); c. Total weight per lifting point/application location	Responsible rigging company
3. Calculation of weight of bridles loads (submit as Excel sheet)	Entered in the RAI Amsterdam rigging calculations format a. Reference number per lifting point b. Product name, type and weight of all objects that belong to the hoisted load (incl. hoisting elements); c. Calculated vertical forces on the lifting points/application locations. d. The bridle angle	Responsible rigging company
3. Total weight of several suspension points on a truss part (submit as Excel sheet)	Entered in the RAI Amsterdam rigging calculations format a. If a number of forces apply at a point on the truss / suspension point, the sum of the weights of these points must be shown in the final column of the Excel sheet	Responsible rigging company
1. Each part of the building from this rigging manual has its own CAD drawing on which the possible suspension points are indicated.		

APPENDIX II: RAI LIVE RESTRICTIONS HALLS 8, 10, 11 AND 12

In Halls 8, 10, 11 and 12 there is a suspended construction to which RAI LIVE information screens can be attached. If the screens are suspended in the construction, the following rigging restrictions apply:

In the area marked by the green lines in Figure 31, the maximum permissible weights for Halls 8, 10, 11 and 12 must be halved.

Note: No restrictions apply if the screens are not suspended in the construction and the trolley beam is located between four suspension points (this location is indicated with a black arrow).

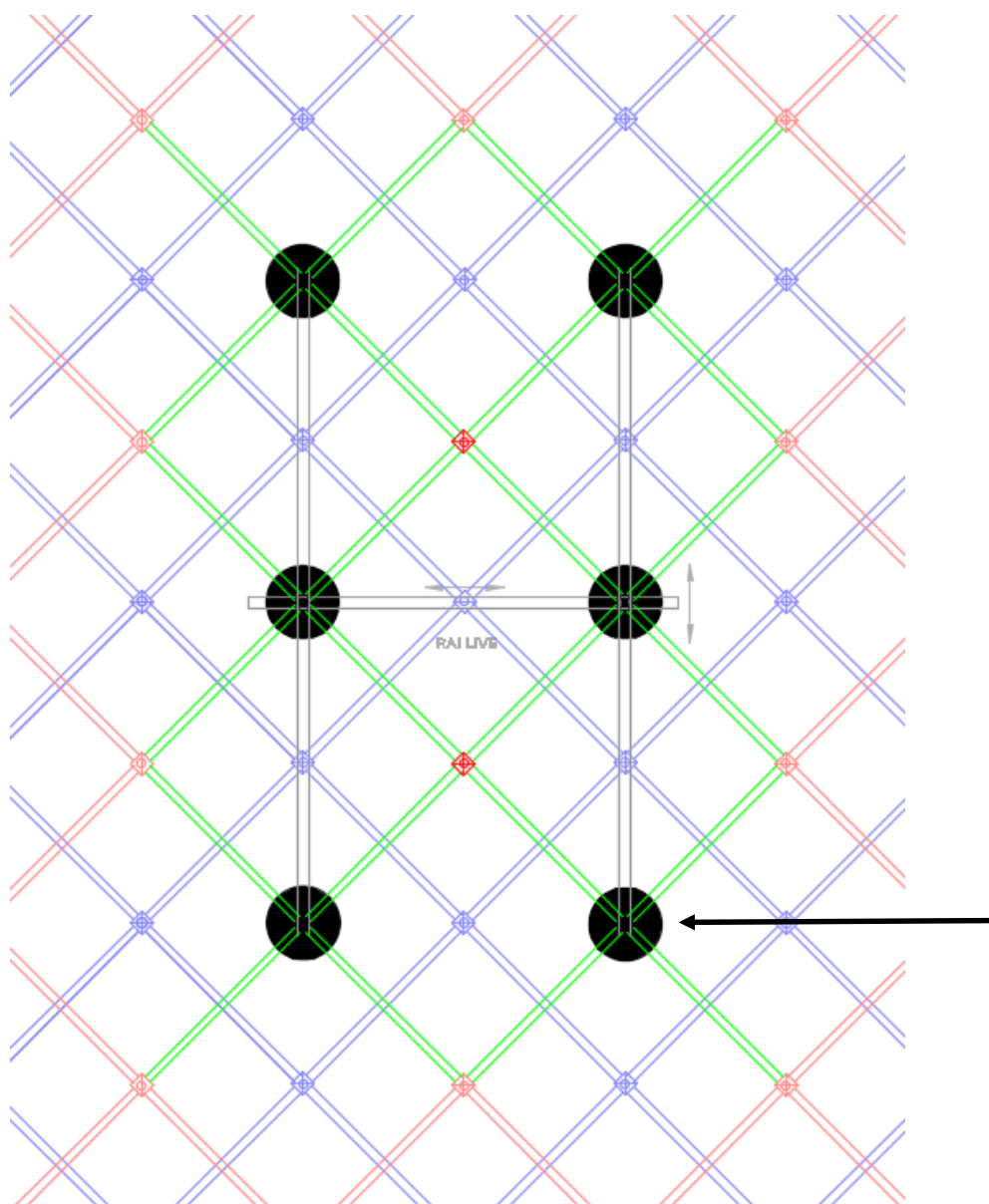
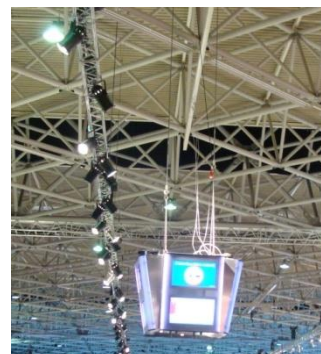


Figure 31: Area with rigging restriction around RAI LIVE construction