

**NIVOflex Multi, Steeldeck, &  
StageBase platforms  
Operation & Maintenance  
Manual for Schwarzman  
Centre, Oxford – Concert  
Hall for**



**J&C Joel**



# NIVOflex Multi, Steeldeck, & StageBase platforms Operation & Maintenance (O&M) manual for Schwarzman Centre, Oxford – Concert Hall

*prepared by Brod Mason*  
[brod.mason@steeldeckuk.com](mailto:brod.mason@steeldeckuk.com)  
*of Steeldeck*

**For Technical Support in the first Instance contact:**

J&C Joel Ltd  
Corporation Mill, Corporation Street  
Sowerby Bridge  
Halifax  
HX6 2QQ  
Tel; 01422-833835  
[UKprojects@jcjoel.com](mailto:UKprojects@jcjoel.com)

**or**

Steeldeck  
Unit B, 207 Manor Road  
Erith  
DA8 2AD  
*Emergency Tel; 0845-601 9127*  
[info@steeldeckuk.com](mailto:info@steeldeckuk.com)  
[www.steeldeckuk.com](http://www.steeldeckuk.com)

Minor colour changes can occur on coloured illustrations through the scanning and printing process.

Our products are subject to continuous development and improvement. Steeldeck reserve the right to make alterations to the technical data, design or construction of the described products, to stop production of the products or substitute them without prior announcement. All descriptions and technical data in this brochure are for general information only and are not components of a purchasing or a delivery contract. We accept no liability for errors or omissions.

***Steeldeck® is a registered trademark of Steeldeck Industries Ltd.***

***NIVOflex® is a registered trade mark of Bühnenbau Schnakenberg GmbH.***



# 1 Contents

1	Contents.....	3
2	Revision History.....	4
3	Introduction.....	5
3.1	Project Description.....	5
3.2	NIVOflex MULTI.....	5
3.3	StageBase.....	6
3.4	Steeldeck.....	6
3.5	General.....	6
4	Safety Precautions.....	7
4.1	Overloading.....	7
4.2	Damaged Equipment.....	7
4.3	Modification.....	7
4.4	Inspecting fixtures and fittings.....	7
4.5	Manual Handling.....	7
4.6	Crushing.....	7
4.7	Storage.....	7
4.8	Electrical Shock.....	7
4.9	Personal Protective Equipment.....	7
5	Operation.....	8
5.1	NIVOflex Multi Operation.....	8
5.2	NIVOflex Platform Loading.....	8
5.3	Erecting Individual Steeldeck & StageBase Platforms.....	9
5.4	Dismantling Individual Steeldeck Platforms.....	9
5.5	Connecting Steeldeck & StageBase Platforms.....	9
5.6	Steeldeck/StageBase Platform Loading.....	10
5.7	Hard Fascia.....	10
5.8	Lifting Points.....	10
5.9	Platform Labelling.....	11
6	Package Specific Information.....	12
6.1	Stage Lift Extension.....	12
6.2	Mixer Position.....	13
6.3	Demountable Choir Stalls.....	14
7	Maintenance.....	17
7.1	Routine Maintenance - NIVOflex MULTI.....	17
7.2	Routine Maintenance – Steeldeck and SteelBase Platforms.....	17
7.3	Routine Maintenance – Cleaning.....	17
7.4	Replacement Parts and Accessories.....	17
8	Appendices.....	18



8.1 Steeldeck Test Certificate..... 18

8.2 StageBase Calculations and Test Certificate..... 18

8.3 NIVOflex Multi TUV Certificate ..... 18

8.4 Residual Risk Register ..... 18

8.5 Drawing 10335 d150rD SCO Concert Hall Stage Extension Rostra..... 18

8.6 Drawing 10335 d154rE SCO Concert Hall Mixer Area..... 18

8.7 Drawing 10335 d155rF SCO Concert Hall Choir Rostra ..... 18

8.8 Acoustic Foam Data Sheet..... 18

8.9 NIVOflex Multi Spare Parts..... 18

8.10 NIVOflex Multi leaflet..... 18

8.11 NIVOflex Multi Rail leaflet..... 18

8.12 NIVOflex Operating Instructions ..... 18

## 2 Revision History

Revision History		
<i>version</i>	<i>date</i>	<i>changes</i>
1	21-Mar-25	First draft
2	7-May-25	Added section 5.9 Platform Labelling
3	16-Dec-25	Charcoalblue snags incorporated.
4	23-Dec-25	Further Charcoalblue snags incorporated

## 3 Introduction

### 3.1 Project Description

Steeldeck's involvement in this part of the project consists of three packages.

1. **Stage Lift Extension** rostra with angled front edge to extend from the large stage lift to the side walls when lift is used as a stage extension, complete with legs and connectors. The 4 rostra for this package will be NIVOflex Multi platforms.
2. **Mixer Position** rostra, to cover over the area where the Sound Mixer will be set up to allow the space to be used for seating when the mixer position is not used. The 3 rostra for this package will be Steeldeck's StageBase platforms.
3. **Demountable Choir Stalls** rostra (& tread units by others) are to be provided to allow the rear choir riser on the balcony to be removed creating a two row depth flat floor area for performers. The 6 rostra for this package will be Steeldeck platforms.

### 3.2 NIVOflex MULTI

The Multi is a "plug-in" platform. The height can be adjusted to various set levels by using different legs.

"MULTI" is one of the "NIVOflex" range of platforms manufactured by Bühnenbau Schnakenberg.



All the platforms are covered in a 20mm engineered wood finish (provided by other contractors).

### 3.3 StageBase

StageBase is a simple steel framed durable platform, almost as robust as our Steeldeck platforms but lighter with a smaller packing volume and therefore more suited for schools and seating tiers.



### 3.4 Steeldeck

Our standard production pattern with its distinctive steel truss frame giving very high strength to weight ratio coupled with durability is available in all sizes to order. It is the detail of the frame construction which gives the guardrail in the Steeldeck system its unique performance.



### 3.5 General

All the platforms have LSP207 Acoustic Foam applied to the underside.

Safe and efficient use can be achieved only if ALL components are used properly.

All the platforms are covered in a 20mm thick wooden floor covering finish (provided by other contractors).

For dance and movement activities we strongly recommend that a dance floor such as Harlequin Cascade, or similar is laid over the entire platform area. Ensure that the seams in the covering run parallel to the gaps in the platforms, and are at least 100mm (4 inches) from a gap.

Before using these platforms read this entire document.

Unless stated all dimensions are in millimetres.



## 4 Safety Precautions

**△ THIS MANUAL IS NOT MEANT TO BE A METHOD STATEMENT OR RISK ASSESSMENT, BUT IS INTEND TO PROVIDE INFORMATION TO THE END USER SO THAT THEY CAN PRODUCE THEIR OWN METHOD STATEMENTS AND RISK ASSESSMENTS.**

### 4.1 Overloading

For Steeldeck or NIVOflex Multi do not exceed UDL of 7.5kN/m<sup>2</sup> (750kg/m<sup>2</sup>), evenly distributed on the platform, and for StageBase do not exceed UDL of 5N/m<sup>2</sup> (500kg/m<sup>2</sup>), evenly distributed on the platform.

### 4.2 Damaged Equipment

Do not use damaged equipment. Bent, broken or cracked platforms or components may have lost their structural integrity. Remove from use immediately.

### 4.3 Modification

Do not bend, cut or modify the structure of platforms in any way. Any modification may weaken the platforms.

### 4.4 Inspecting fixtures and fittings

Please ensure all fixtures and fittings are securely fastened; due care and attention is taken at all times; and that the maintenance instructions in this manual are followed.

### 4.5 Manual Handling

Steeldeck and NIVOflex platforms are built to perform and this dictates the weight of the unit. Observe normal manual handling practice.

**△ DO NOT LIFT PLATFORMS WHEN THERE IS ANY RISK OF THEIR FALLING AND CAUSING INJURY TO SOMEONE.**

### 4.6 Crushing

Stage platforms are heavy. If a platform falls, it can cause injury.

### 4.7 Storage

Do not store any components where it is exposed to rain or high moisture conditions. Wet conditions or high moisture will cause steel and aluminium to corrode, and plywood to rot, reducing the strength of the platforms.

### 4.8 Electrical Shock

The platforms and legs are predominantly made from metal and will conduct electricity.

**△ CONSULT A QUALIFIED ELECTRICIAN TO ENSURE THAT YOU HAVE ADEQUATE PROTECTION BEFORE USING ELECTRICAL APPLIANCES IN CONTACT WITH THE PLATFORMS.**

### 4.9 Personal Protective Equipment

Steel capped footwear, and gloves to protected hands and improve grip should be worn, and hard hats if falling objects are a hazard. The working environment may also dictate additional PPE.

## 5 Operation

### 5.1 NIVOflex Multi Operation

The Multi platforms are used in the Concert Hall to be extensions to the Stage Lift when it is up (please refer to format drawing).

- a. Install the appropriate legs into the Multi platforms by inserting the leg into the corner block and locking in place with a 10mm hex key. Note that the legs are a tight fit, please insure locking wedge is released.



- b. Place the Multi platforms into position.
- c. By means of the supplied clamp connectors, connect the Multi platforms together as required, trying to ensure connection at both ends or the equivalent, depending on the shape of platform being used.



**△ NOTE: THESE CLAMP CONNECTORS NEED TO BE REMOVED BEFORE ATTEMPTING TO RECONFIGURE THE PLATFORMS.**

### 5.2 NIVOflex Platform Loading

The NIVOflex MULTI UDL is 7.5kN/m<sup>2</sup> (ie 1.5 tonnes weight per 2000mm x 1000mm platform), evenly distributed on the platform.

The manufacturers of NIVOflex do not give a point loading for their platforms, they are manufactured to the German TUV specification, which seems not to cover point loading. Of course, the 20mm thick wood finish by others improves the point loading substantially.

### 5.3 Erecting Individual Steeldeck & StageBase Platforms

The platforms can be erected with a minimum team of two people. The immediate area should be clear before starting work.

We recommend the use of 17mm/19mm Podger Ratchet Spanners (see right), the pointed end will align the bolt holes while the other end with its reversible ratchet 17mm/19mm sockets will tighten the bolts.



1. Stand one unit on its long edge.
2. Check that all four of the legs are fitted with a plastic foot.
3. Insert the open end of the leg into one of the lower corner socket posts first to stop the platform toppling over.
4. Check that the leg is fully inserted into socket.
5. Tighten the socket post M12 bolt firmly onto the leg using a 19mm spanner or equivalent to a maximum torque 4Nm.
6. Repeat this for all four corner posts and check that all four legs are secure.
7. Ensure that you have enough space to manoeuvre the platform.
8. Turn the completed platform upright onto its legs.

### 5.4 Dismantling Individual Steeldeck Platforms

The platforms can be dismantled with a minimum team of two people. The immediate area should be clear before starting work.

1. Ensure that you have enough space to manoeuvre the platform.
2. Turn the platform onto its long edge.
3. Loosen the socket post M12 bolts fully using a 19mm spanner or equivalent.
4. Remove the legs from the two upper corner socket posts first, so the platform does not topple over.
5. Then remove the legs from the two lower corner socket posts.
6. Store platforms and legs safely.

### 5.5 Connecting Steeldeck & StageBase Platforms

All standard Steeldeck and StageBase platforms are predrilled for connection by bolting together with an M10 setbolt and nut with two 17mm spanners or equivalent. The holes are drilled in the top chord of the beam and are reinforced on the inner face to resist crushing of the tube. In most circumstances bolts and nuts need be little more than finger tight (maximum torque 4Nm). It is not normally necessary to bolt through every hole as the function is simply to hold the units together, the two centre holes can be left empty and used to line up platforms with a podger/spike.

As you bolt platforms together keep checking how level the surface of the platforms are, any necessary minor adjustments of a few millimetres can be made by loosening bolts and slightly lifting the lower platform (this can be done with a podger/spike inserted in to an adjacent hole), also check that legs are fully in sockets.

**△ THE M10 BOLTS ARE NOT INTENDED TO SUBSTITUTE FOR THE USE OF LEGS TO SUPPORT THE PLATFORMS. THEY ARE NOT LOAD-BEARING. DO NOT ERECT ANY PLATFORM WITHOUT FITTING ALL THE LEGS.**

## 5.6 Steeldeck/StageBase Platform Loading

The Steeldeck UDL is 7.5kN/m<sup>2</sup> (ie 2.25 tonnes weight per 2440mm x 1220mm platform), evenly distributed on the platform.

The StageBase UDL is 5kN/m<sup>2</sup> or 500kg/m<sup>2</sup>, (ie 1000Kg weight per 2000mm x 1000mm platform), evenly distributed on the platform.

The Steeldeck point loading (based on a point 50mm x 50mm) is 4.5kN. This of course assumes that the platform top is in good condition. Of course, the 20mm thick wood finish by others improves the point loading substantially.

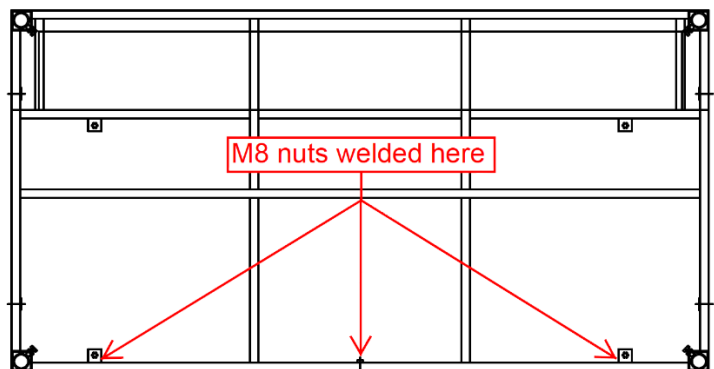
## 5.7 Hard Fascia

There are demountable hard fascia supplied for the Stage Lift Extension, and Choir Stalls.

1. For the Stage Lift Extension, the Multi platforms have a channel in the vertical face in the middle of the unit. This channel can receive a sliding T-nut that can be locked into position by means of a grub screw using a **4mm hex key** (see below) so that fascias can be fixed with in place with M8 x 50mm stainless steel countersunk socket screws using a 5mm Hex Key.



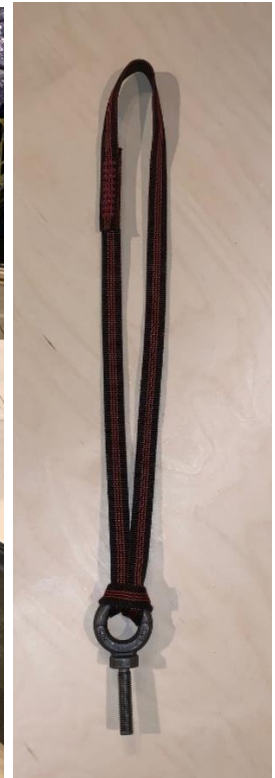
2. For the Choir Stalls the Steeldeck frames have M8 nuts welded to the inside of the frame (see below) so that fascias can be fixed with in place with M8 x 50mm stainless steel countersunk socket screws using a 5mm Hex Key.



## 5.8 Lifting Points

The centre Mixer Position platform has lifting points, these are M8 nuts attached to the platforms steel frames near each corner, with suitable holes drilled in the wooden tops, the nuts will accept M8 eyebolts (see photo right), these are supplied along with Lyon short round slings for lifting (see photos below), and M8 x 50mm C\S socket screws to fill the holes when not in use (require 5mm hex key).

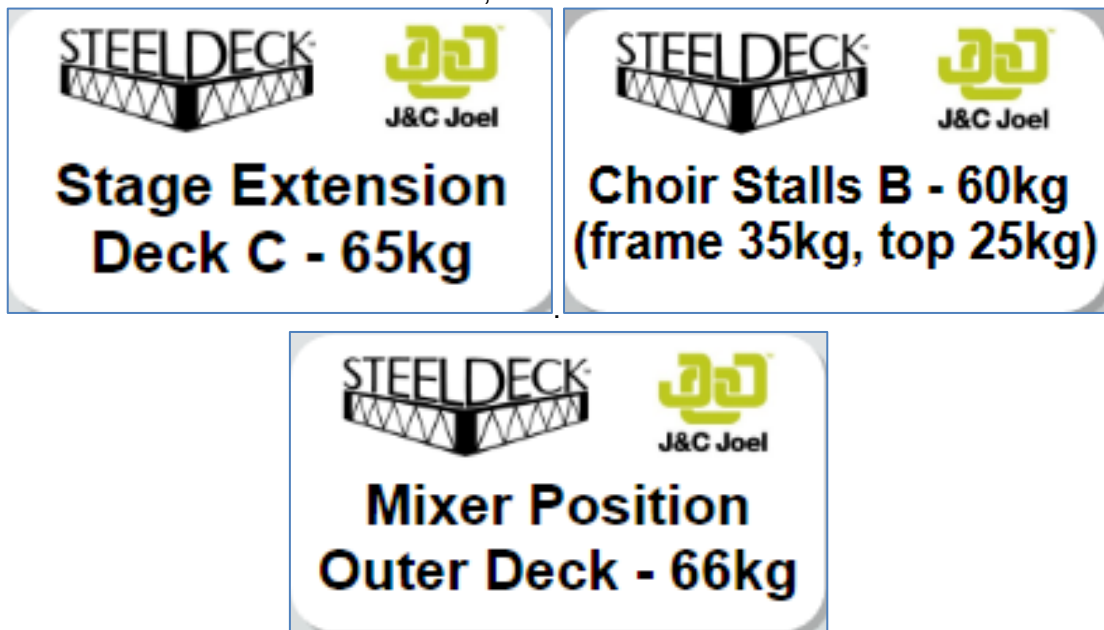




If the holes in wooden tops get clogged with paint they should be cleaned and if necessary, can be eased with a 10mm drill bit, but be careful not to drill into the nuts. If required, the nuts can be cleaned using a M8 tap with a 1.5mm thread pitch. The M8 eyebolts are from Flints (WIR426) who do not issue certification on these eyebolts, but the Lyon short round 60cm slings have documentation in the appendix.

### 5.9 Platform Labelling

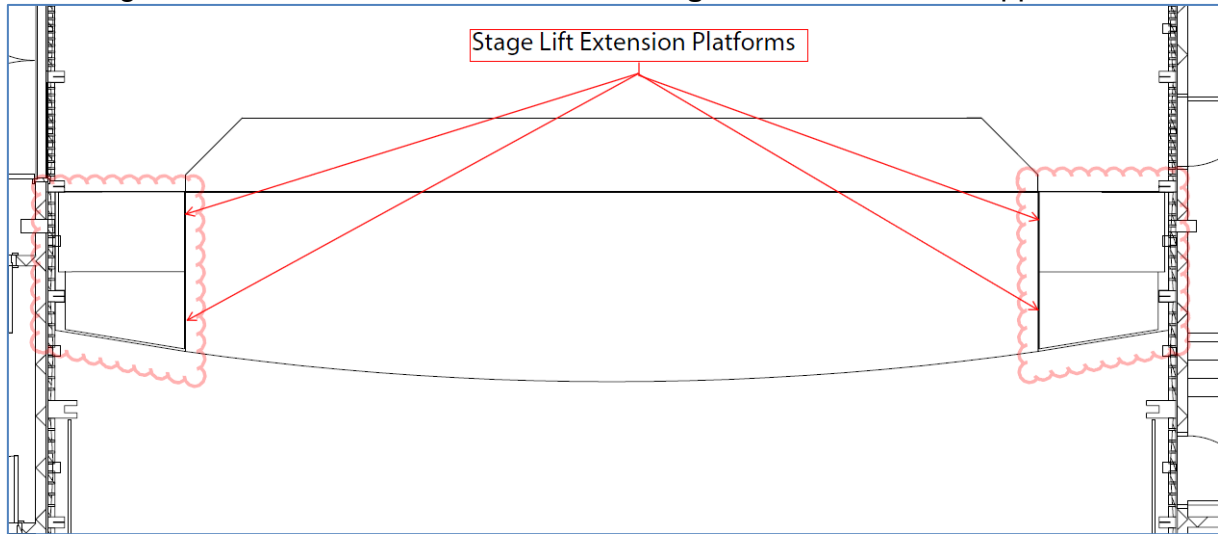
All platforms have a label on the inner frame, like the labels as below.



## 6 Package Specific Information

### 6.1 Stage Lift Extension

See drawing **10335 d150rC SCO Concert Hall Stage Extension** in the appendix.



To install the Stage Lift Extension platforms;

- Lower lift to auditorium level
- Position the two platforms each side and line them up so the pin (see below) lines up with the gap between the two sliding nuts.

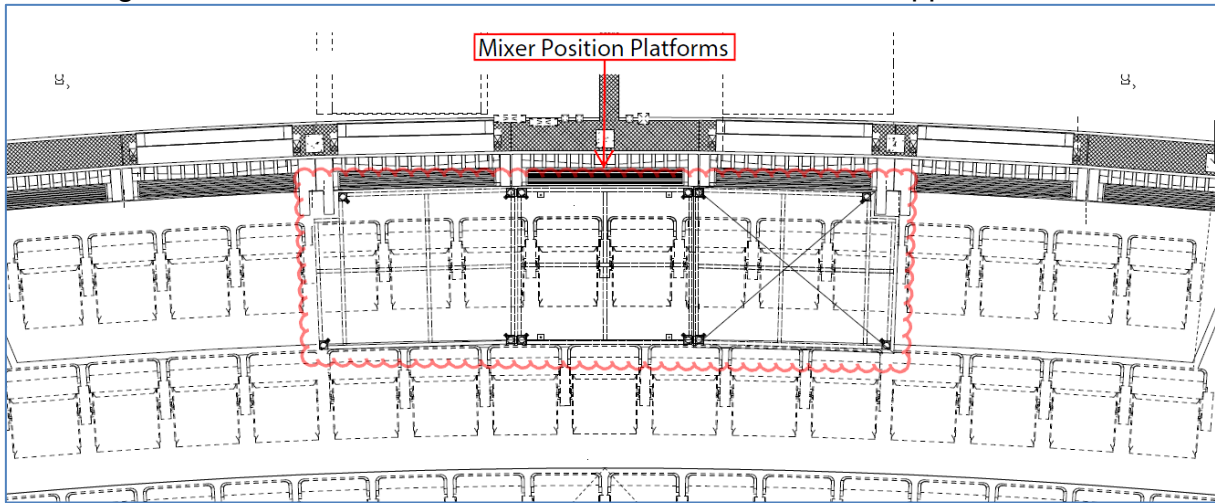


- Lock the two platforms together as in 5.1d above.
- Push the two platforms into position.
- Add fascias as in 5.7.1 above.

To remove the platforms, reverse the above instructions.

## 6.2 Mixer Position

See drawing **10335 d154rE SCO Concert Hall Mixer Area** in the appendix.



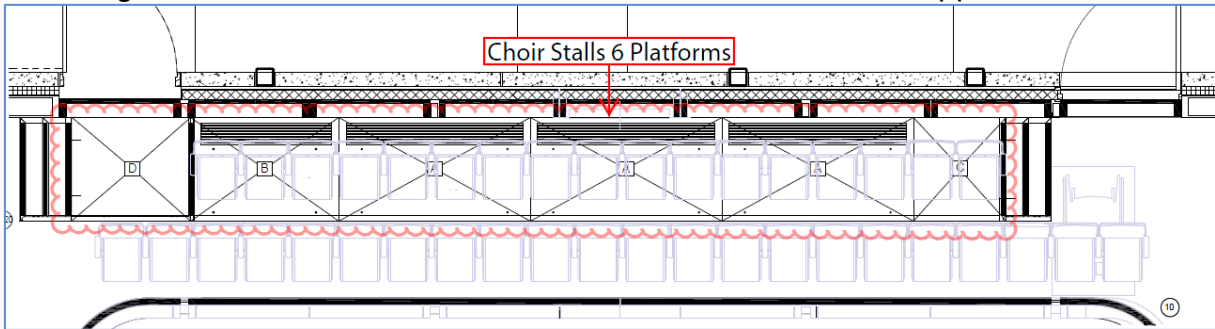
To install the Mixer Position platforms;

- Slide the two outside platforms into position
- Then using the lifting points as in 5.8 above lower the centre platform into position, it should be a tight fit and may need standing on to get to the correct level.

To Remove reverse process above.

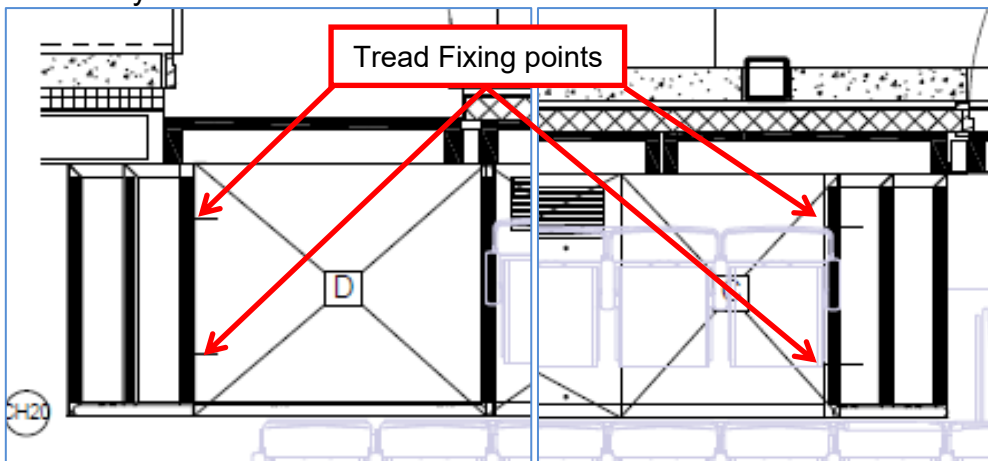
### 6.3 Demountable Choir Stalls

See drawing **10335 d155rF SCO Concert Hall Choir Rostra** in the appendix.

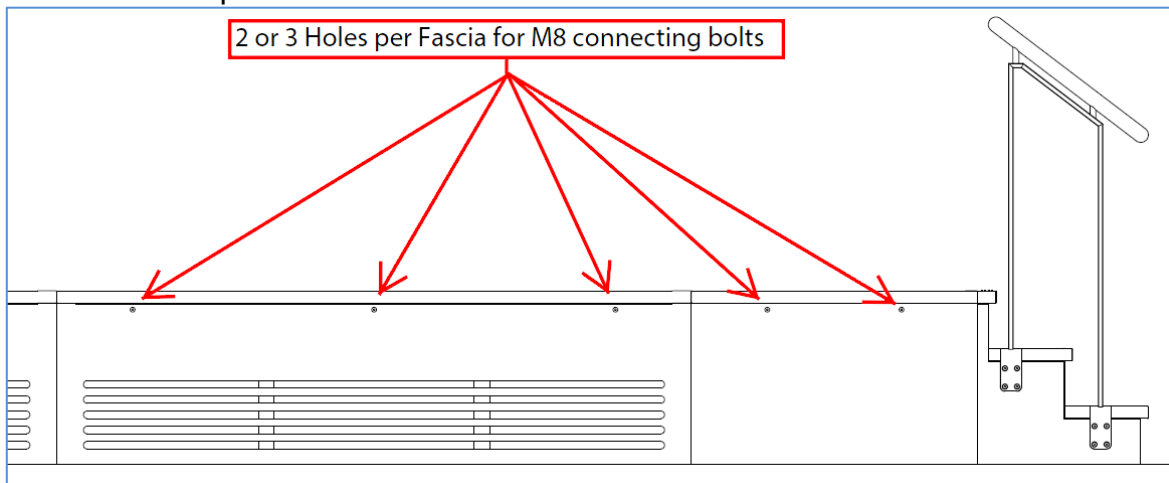


To install Demountable Choir Stalls platforms;

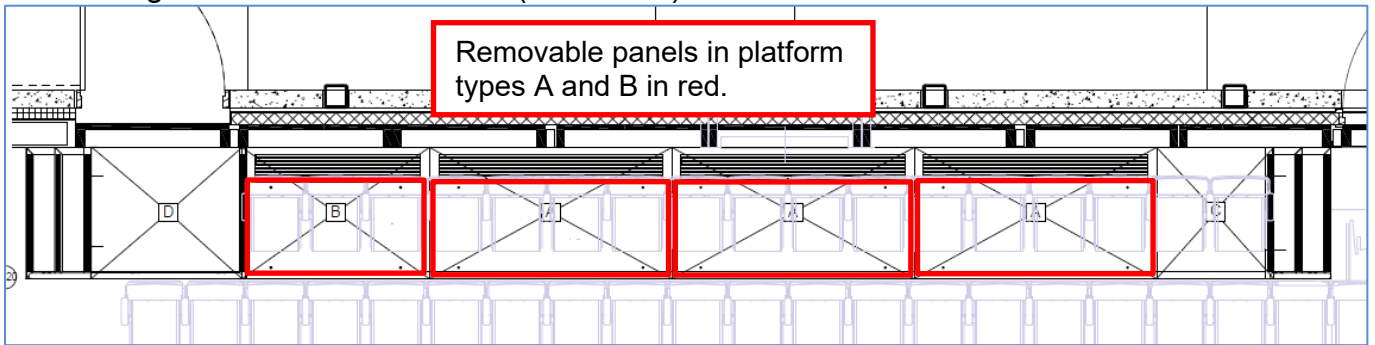
1. Start with either platform C or D whichever is most convenient depending on where platforms are stored. *If starting with platform D see instructions by others for how to fit the handrail.*
2. Insert legs into platform leg sockets and tighten.
3. Once the first platform is positioned attach the tread (by others) which will have two holes in the top upstand that will line up with two holes in the platform frame that has M8 nuts welded on the inside of the frame (*see below*) so that treads can be fixed with in place with M8 x 50mm stainless steel countersunk socket screws using a 5mm Hex Key.



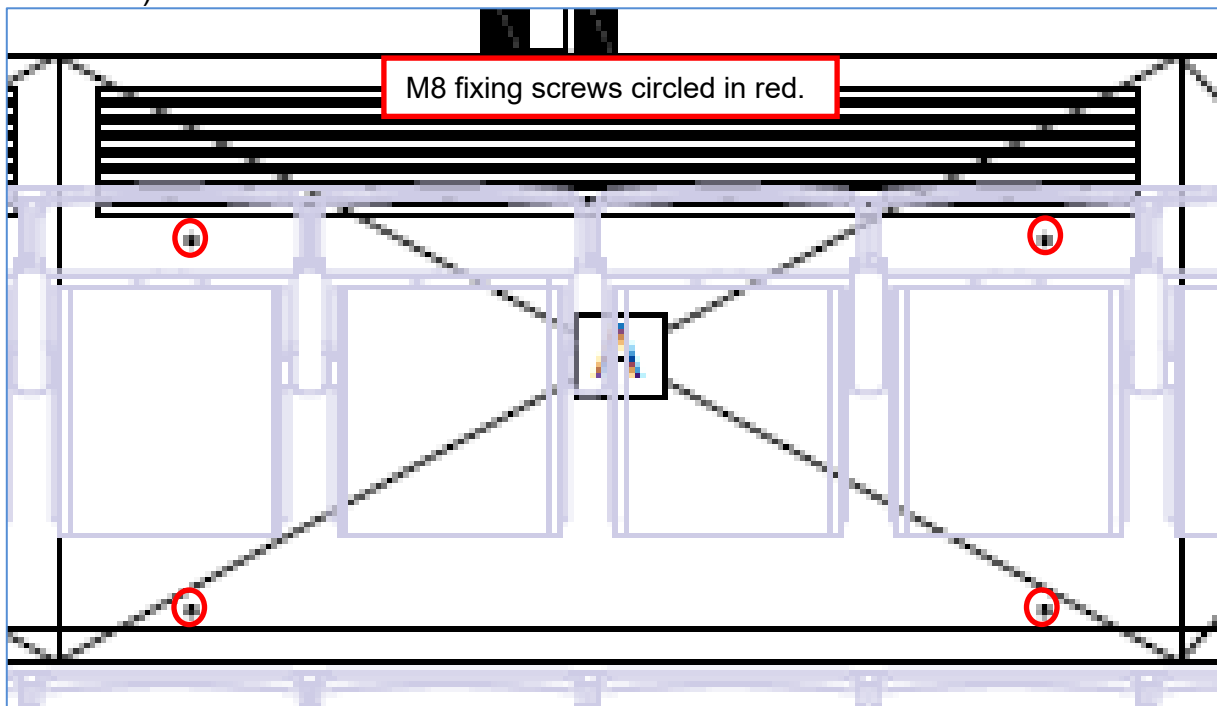
4. Attach fascia to platform with either 2 or 3 (see below) M8 x 50mm stainless steel countersunk socket screws using a 5mm Hex Key that fix to M8 nuts welded to the inside of the platform frame.



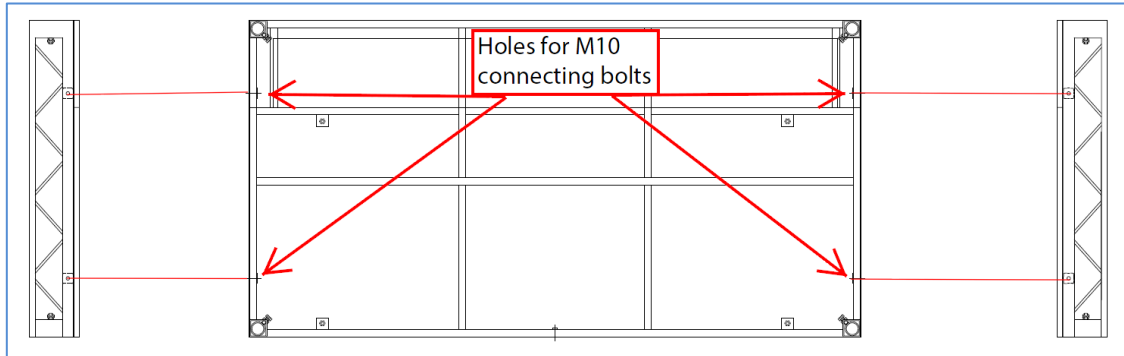
5. The A and B platforms have removable tops to aide ease of assembly and reduce weight of individual elements (see below).



6. These are fixed in place with M8 x 50mm stainless steel countersunk socket screws using a 5mm Hex Key covered with caps by others (see diagram and photos below).



7. In the next platform along remove the top, insert legs, and position frame next to previous platform and connect platforms using M10 x 65mm bolts and nuts through the holes indicated below.



8. Add Fascia as per 6.3.4 above.
9. Fix wooden top back on to frame with M8 x 50mm stainless steel countersunk socket screws using a 5mm Hex Key.
10. For the next 3 platforms repeat steps 6.3.5 to 6.3.9.
11. Finally fit platform C or D as per 6.3.2 to 6.3.4. *If finishing with platform D see instructions by others for how to fit the handrail.*



## 7 Maintenance

### 7.1 Routine Maintenance - NIVOflex MULTI

All platforms should be kept clean, wiping mechanism with a dry cloth when necessary.

Platforms should be inspected for damage and excessive wear regularly. Under no circumstances should alterations be made to the mechanism or installation of these platforms.

### 7.2 Routine Maintenance – Steeldeck and SteelBase Platforms

All Steeldeck platforms are maintenance free.

Platforms should be inspected for damage and excessive wear whenever they are moved.

Under no circumstances should alterations be made to the platforms – if in doubt, please contact the Steeldeck.

### 7.3 Routine Maintenance – Cleaning

The Mixer Position Pit should be kept clean and free from dust and rubbish.

### 7.4 Replacement Parts and Accessories

Replacement parts as well as a full range of additional platform systems and accessories can be obtained through:

Steeldeck  
Unit B, 207 Manor Road, Erith DA8 2AD  
United Kingdom



Tel: +44 20 8692 9721  
Fax: +44 20 8691 4263  
[info@steeldeckuk.com](mailto:info@steeldeckuk.com)  
[www.steeldeckuk.com](http://www.steeldeckuk.com)

## **8 Appendices**

- 8.1 *Steeldeck Test Certificate***
- 8.2 *StageBase Calculations and Test Certificate***
- 8.3 *NIVOflex Multi TUV Certificate***
- 8.4 *Residual Risk Register***
- 8.5 *Drawing 10335 d150rC SCO Concert Hall Stage Extension Rostra***
- 8.6 *Drawing 10335 d154rE SCO Concert Hall Mixer Area***
- 8.7 *Drawing 10335 d155rF SCO Concert Hall Choir Rostra***
- 8.8 *Acoustic Foam Data Sheet***
- 8.9 *NIVOflex Multi Spare Parts***
- 8.10 *NIVOflex Multi leaflet***
- 8.11 *NIVOflex Multi Rail leaflet***
- 8.12 *NIVOflex Operating Instructions***

# Test Report



Report No	286/7373454	This Report consists of 5 pages
Client	Steeldeck Rentals Ltd 42-72 Verney Road London SE16 3DH	
Authority & date	BSI Quotation Acceptance Form Number BSI 0000207830 Dated 14 May 2009	
Items tested	Steel staging units	
Specification	Steeldeck Load Test Scope J384 Steeldeck Revision: P1 dated 4 February 2009 published by Webb Yates Engineers and various methods agreed with the Client	
Results	See text	
Prepared by	G R Essam 	Principal Engineer
Authorized by	M Mayo 	Laboratory Manager
Issue Date	11 August 2009	
Conditions of issue	This Test Report is issued subject to the conditions stated in current issue of CP0322 'Conditions of Contract for Testing'. The results contained herein apply only to the particular sample/s tested and to the specific tests carried out, as detailed in this Test Report. The issuing of this Test Report does not indicate any measure of Approval, Certification, Supervision, Control or Surveillance by BSI of any product. No extract, abridgement or abstraction from a Test Report may be published or used to advertise a product without the written consent of the Managing Director, BSI Testing Services, who reserves the absolute right to agree or reject all or any of the details of any items or publicity for which consent may be sought.	

## **TESTING, EXAMINATION AND ASSESSMENT OF STEEL STAGING UNITS SUBMITTED AS INDEPENDENT TEST SAMPLES**

### **INTRODUCTION**

At the request of Steeldeck Rentals Ltd the steel staging units, detailed below, were tested and assessed against the method described in Steeldeck Load Test Scope J384 Steeldeck Revision: P1 dated 4 February 2009 published by Webb Yates Engineers and various methods agreed with the Client as indicated on the following pages of this Report. This request was made in a BSI Quotation Acceptance Form Number BSI 0000207830 dated 14 May 2009. It is emphasized that assessments were not made against the other clauses of the Specification.

This Report only relates to the actual samples which have been tested and assessed. The results obtained do not necessarily relate to samples from the production line and in no way imply that the performance or quality of the continuing production will be maintained.

The testing described in this report was supervised at the Verney Road site of Steeldeck Rentals Ltd on 29 July 2009.

### **TEST ITEMS**

Arena Pattern 2438mm x 1218mm (8' x 4') Steel Staging Units  
Fork Pattern 2438mm x 1218mm (8' x 4') Steel Staging Units

**EXAMINATION AND TEST****CLAUSE  
2****LOAD TESTS****ASSESSMENT**

The steel staging units were fitted with legs and loaded uniformly over their upper surfaces to determine whether collapse occurred. At each loaded and unloaded condition the vertical deflections were recorded after 1 minute of loading or unloading. All deflections were recorded to the nearest millimetre.

**Loading conditions;**

<b>Uniformly distributed load</b>	<b>Mass used</b>
5 kN/m <sup>2</sup>	1.5 tonnes
7.5 kN/m <sup>2</sup>	2.25 tonnes
12.1 kN/m <sup>2</sup>	3.6 tonnes
20 kN/m <sup>2</sup>	6.0 tonnes

<b>Sample</b>	<b>Uniformly distributed load</b>	<b>Centre deflection (mm)</b>	<b>Centre of long edge deflection (mm)</b>	<b>Corner leg deflection (mm)</b>
---------------	-----------------------------------	-------------------------------	--	-----------------------------------

**Arena pattern staging unit with four 585mm legs**

1	Datum	0	0	-*	
	5 kN/m <sup>2</sup>	9	6	-*	
	No load	3	0	-*	
	7.5 kN/m <sup>2</sup>	11	8	-*	
	No load	4	0	-*	
	No collapse occurred				Pass

\* Deflections not recorded at corner leg for this sample

2	Datum	0	0	0	
	5 kN/m <sup>2</sup>	7	4	1	
	No load	0	3	0	
	7.5 kN/m <sup>2</sup>	8	6	1	
	No load	1	0	0	
	No collapse occurred				Pass

3	Datum	0	0	0	
	5 kN/m <sup>2</sup>	4	4	3	
	No load	3	0	2	
	7.5 kN/m <sup>2</sup>	11	4	3	
	No load	2	0	2	
	12.0 kN/m <sup>2</sup>	-*	9	2	
	No load	2	0	2	
	12.1 kN/m <sup>2</sup>	-*	9	3	
	No load	3	0	3	
	No collapse occurred				Pass

\* Centre deflections not recorded for these conditions

**EXAMINATION AND TEST (CONTINUED)****CLAUSE  
2****LOAD TESTS (CONTINUED)****ASSESSMENT**

<b>Sample</b>	<b>Uniformly distributed load</b>	<b>Centre deflection (mm)</b>	<b>Centre of long edge deflection (mm)</b>	<b>Corner leg deflection (mm)</b>	
<b>Fork staging unit with four 585mm legs</b>					
1	Datum	0	0	0	
	5 kN/m <sup>2</sup>	7	4	2	
	No load	0	1	1	
	7.5 kN/m <sup>2</sup>	9	6	2	
	No load	2	1	1	
	No collapse occurred				Pass
2	Datum	0	0	0	
	5 kN/m <sup>2</sup>	7	7	2	
	No load	0	3	2	
	7.5 kN/m <sup>2</sup>	7	7	3	
	No load	0	3	3	
	No collapse occurred				Pass
<b>Arena pattern staging unit with six 585mm legs</b>					
1	Datum	-*	0	0	
	12.1 kN/m <sup>2</sup>	-*	3	0	
	20 kN/m <sup>2</sup>	-*	6	1	
	No load	-*	1	1	
	No collapse occurred				Pass

\* Centre deflections not recorded for these conditions

**Arena pattern staging unit with four 1220mm legs**

The staging unit was loaded to 12.1 kN/m<sup>2</sup> without collapse  
 While the above load was applied a horizontal force of 2.45 kN  
 was applied to the centre of a short side without collapse Pass

While the above load was applied a horizontal force of 4.9 kN  
 was applied to the centre of a short side without collapse Pass

**EXAMINATION AND TEST (CONTINUED)****CLAUSE****2****LOAD TESTS (CONTINUED)****ASSESSMENT****Lower frame member bending test**

A 2m length of 19mm x 19mm steel section, used for the lower frame member, was loaded at the centre of a 1.5m span to determine three point bending deflections.

<b>Load applied</b>	<b>Deflection (mm)</b>
Datum	0
245 N (25 kg)	5
0 N	0
490 N (50 kg)	30
0 N	2
589 N (60 kg)	40
0 N	5
735 N (75 kg)	59
0 N	14
834 N (85 kg)	75
952 N (97 kg)	Collapse load

## Design of StageBase Units

### Check StageBase Units which are up to 2000 x 1000 mm

Design calculations to EC3 are presented below.  
Steel box sections are assumed to be E220 ERW Sections.

For units with plywood deck, estimate design moments and resulting stresses if the unit is subject to a uniformly distributed load.

Design to the relevant Eurocodes and initially allow for a characteristic variable (superimposed) load of 5 kPa

Initially consider a generic unit with 3 No long beams (one central beam and 2 each side) and 3 No cross beams (one central beam and one each side) and assume that these beams have the same bending stiffness (EI)

### 1) Actions (Loads)

Initially take

$$g_k := 0.25 \cdot \text{kPa} \quad q_k := 5 \cdot \text{kPa}$$

$$e_k := g_k + q_k \quad e_k = 5.25 \cdot \text{kPa} \quad e_d := 1.35 \cdot g_k + 1.5 \cdot q_k \quad e_d = 7.838 \cdot \text{kPa}$$

### 2) Beam Properties

$$d := 75 \cdot \text{mm} \quad b := 25 \cdot \text{mm} \quad t := 1.5 \cdot \text{mm} \quad A_b := d \cdot b - (d - 2 \cdot t) \cdot (b - 2 \cdot t) \quad A_b = 2.91 \text{ cm}^2$$

$$I_b := \frac{b \cdot d^3 - (b - 2 \cdot t) \cdot (d - 2 \cdot t)^3}{12} \quad I_b = 19.462 \text{ cm}^4 \quad W_{elb} := \frac{2 \cdot I_b}{d} \quad W_{elb} = 5.19 \text{ cm}^3$$

$$W_{plb} := \frac{b \cdot d^2 - (b - 2 \cdot t) \cdot (d - 2 \cdot t)^2}{4} \quad f_y := 220 \cdot \text{MPa} \quad M_{dRb} := f_y \cdot W_{plb} \quad W_{plb} = 6.644 \text{ cm}^3$$

$$M_{dRb} = 1.462 \text{ kN} \cdot \text{m}$$

### 3) Estimate elastic moments and deflections in beams

#### a) Consider how plywood will distribute udl onto beams

The loads and moments in the beams under udl will depend upon the relative stiffness of the plywood and steel beams. Hence initially consider strength and stiffness of plywood as follows.

Consider 18 mm plywood with E perpendicular to the grain of 2500 - 5000 MPa

$$EI_{ply1} := \frac{2.5 \cdot \text{GPa} \cdot (18 \cdot \text{mm})^3}{12} \quad EI_{ply2} := 2 \cdot EI_{ply1} \quad L_1 := 1000 \cdot \text{mm} \quad L_2 := 2000 \cdot \text{mm}$$

$$EI_{ply1} = 1.215 \cdot \frac{\text{kN} \cdot \text{m}^2}{\text{m}} \quad EI_{ply2} = 2.43 \cdot \frac{\text{kN} \cdot \text{m}^2}{\text{m}} \quad A_u := L_1 \cdot L_2$$

For plywood spanning 1000 mm over simple span

$$\Delta_{plss1} := \frac{5}{384} \cdot \frac{e_k \cdot L_1^4}{EI_{ply1}} \quad \Delta_{plss2} := \frac{\Delta_{plss1}}{2} \quad \Delta_{plss1} = 56.263 \cdot \text{mm} \quad \Delta_{plss2} = 28.131 \cdot \text{mm}$$

For plywood over 2 No continuous 500 mm spans

$$\Delta_{plc1} := \frac{1}{185} \cdot \frac{e_k \cdot L_1^4}{16EI_{ply1}} \quad \Delta_{plc2} := \frac{\Delta_{plc1}}{2} \quad \Delta_{plc1} = 1.46 \cdot \text{mm} \quad \Delta_{plc2} = 0.73 \cdot \text{mm}$$

$$M_{dply} := \frac{e_d \cdot (0.5 \cdot L_1)^2}{8} \quad W_{elply} := \frac{(18 \cdot \text{mm})^2}{6} \quad \sigma_{dply} := \frac{M_{dply}}{W_{elply}} \quad \sigma_{dply} = 4.536 \cdot \text{MPa}$$

### **b) Estimate beam deflections and moments under udl**

From the above it is clear that, for design purposes the plywood may be considered to be "flexible" and the steel frame "rigid". Hence 62.5 % of the udl on the plywood will be taken on the long central beam and 18.75 % on each of the long side beams.

Total Load  $E_k := e_k \cdot A_u \quad E_k = 10.5 \cdot \text{kN} \quad E_d := e_d \cdot A_u \quad E_d = 15.675 \cdot \text{kN}$

Consider the proportion of total load shed on to central beam as being  $\alpha := 0.625$

assuming that the plywood is one way spanning and that the load on the steel beam is therefore uniformly distributed

Consider point load shed from main central beam to cross beam at centre of unit as

$$\beta := 18.51852\% \quad F_k := \beta \cdot E_k \quad F_d := \beta \cdot E_d \quad F_k = 1.944 \cdot \text{kN} \quad F_d = 2.903 \cdot \text{kN}$$

Note  $\beta$  is chosen to ensure compatibility of deflections as demonstrated below

#### **For end beams**

$$E_s := 210 \cdot \text{GPa} \quad I_b = 19.462 \text{ cm}^4 \quad EI := E_s \cdot I_b$$

$$F_{kebu} := \frac{\alpha \cdot E_k - F_k}{2} \quad F_{debu} := \frac{\alpha \cdot E_d - F_d}{2} \quad M_{debu} := \frac{F_{debu} \cdot L_1}{4} \quad \Delta_{kebu} := \frac{F_{kebu} \cdot L_1^3}{48 \cdot EI}$$

$$M_{debu} = 0.862 \cdot \text{kN} \cdot \text{m} \quad \Delta_{kebu} = 1.177 \cdot \text{mm}$$

#### **For side beams**

$$M_{ksbu} := \left[ \frac{E_k \cdot (1 - \alpha) \cdot (L_2)}{2} \cdot \frac{(L_2)}{8} + \frac{F_k \cdot (L_2)}{2} \cdot \frac{(L_2)}{4} \right] \quad M_{ksbu} = 0.978 \cdot \text{kN} \cdot \text{m}$$

$$M_{dsbu} := \left[ \frac{E_d \cdot (1 - \alpha) \cdot (L_2)}{2} \cdot \frac{(L_2)}{8} + \frac{F_d \cdot (L_2)}{2} \cdot \frac{(L_2)}{4} \right] \quad M_{dsbu} = 1.46 \cdot \text{kN} \cdot \text{m}$$

$$\Delta_{ksbu} := \left[ \frac{5}{384} \cdot \frac{E_k \cdot \left( \frac{1 - \alpha}{2} \right) \cdot (L_2)^3}{EI} + \frac{F_k \cdot (L_2)^3}{2 \cdot 48 \cdot EI} \right] \quad \Delta_{ksbu} = 8.98 \cdot \text{mm}$$

**For central longitudinal beam**

$$\Delta_{kcbu} := \left[ \frac{5}{384} \cdot \frac{E_k \cdot \alpha \cdot (L_2)^3}{EI} - F_k \cdot \frac{(L_2)^3}{48 \cdot EI} \right] + \Delta_{kebu} \quad \Delta_{kcbu} = 9.97 \cdot \text{mm}$$

$$M_{dcbu} := \left[ E_d \cdot \alpha \cdot \frac{(L_2)}{8} - F_d \cdot \frac{(L_2)}{4} \right] \quad M_{kcbu} := \left[ E_k \cdot \alpha \cdot \frac{(L_2)}{8} - F_k \cdot \frac{(L_2)}{4} \right]$$

$$M_{dcbu} = 0.998 \cdot \text{kN} \cdot \text{m}$$

$$M_{kcbu} = 0.668 \cdot \text{kN} \cdot \text{m}$$

**For transverse beam**

$$M_{dtbu} := \frac{F_d \cdot L_1}{4} \quad M_{ktbu} := \frac{F_k \cdot L_1}{4} \quad \Delta_{ktrbu} := \left( \frac{F_k \cdot L_1^3}{48 \cdot EI} + \Delta_{ksbu} \right)$$

$$M_{ktbu} = 0.486 \cdot \text{kN} \cdot \text{m}$$

$$M_{dtbu} = 0.726 \cdot \text{kN} \cdot \text{m}$$

Check compatibility of deflections and adjust  $\beta$  to suit

$$\Delta_{kcbu} = 9.974 \cdot \text{mm} \quad \Delta_{ksbu} = 8.983 \cdot \text{mm} \quad \Delta_{ktrbu} = 9.974 \cdot \text{mm}$$

$$\frac{\Delta_{kcbu}}{\Delta_{ktrbu}} = 1$$

From the above it would seem that if the structure is linear elastic then the side beams and central transverse beam will be critical and the moments in these beams will be as follows

$$M_{ksbu} = 0.978 \cdot \text{kN} \cdot \text{m} \quad M_{dsbu} = 1.46 \cdot \text{kN} \cdot \text{m} \quad M_{ktbu} = 0.486 \cdot \text{kN} \cdot \text{m} \quad M_{dtbu} = 0.726 \cdot \text{kN} \cdot \text{m}$$

**4) Check Beams in Elastic Working Condition**

From the above, critical moments in elastic condition under characteristic udl is

$$M_{kmax} := \max(M_{ksbu}, M_{dcbu}, M_{ktbu}) \quad M_{kmax} = 0.998 \text{ kN} \cdot \text{m}$$

$$\sigma_{kmax} := \frac{M_{kmax}}{W_{elb}} \quad \sigma_{kmax} = 192.267 \text{ MPa} \quad \frac{\sigma_{kmax}}{f_y} = 0.874$$

**5) Check Beams in Plastic Condition under udl**

$$M_{db} := \frac{e_d \cdot L_1}{3} \cdot \frac{L_2^2}{8} \quad M_{db} = 1.306 \text{ kN} \cdot \text{m} \quad \frac{M_{db}}{M_{dRb}} = 0.894$$

Hence - Steel will not yield under working loads

Steel will not collapse under ultimate loads

Under working loads, maximum central deflection will be

$$\Delta_{kcbu} = 9.974 \text{ mm}$$

Assumed allowable deflection under imposed load =  $\frac{L_2}{200} = 10 \text{ mm}$  Hence OK

95 Winchester Road, Romsey, Hants SO51 8JF  
 Tel: 0794 830199, Fax: 0794 512744



## CERTIFICATE OF CONFORMITY

OUR REF. JOB NO. F/1042/T

YOUR ORDER No. 3803/95

TO Andalite Ltd  
 Unit 21, Hopkinson Way  
 West Fordingham  
 Andover, Hants, SP10 3LLF

CONTRACT NAME / DETAIL \_\_\_\_\_

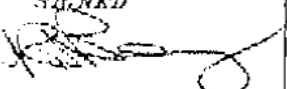
PART / COMPONENT NAME	No. Off	DRAWING No.	SPECIFICATION	P/L	N.W.T.
Slag Base Unit	1		2" x 1" x 16 gauge ERW 2m x 1m in Brick wall configuration	2000kg	1000kg

CERTIFIED THAT THE WHOLE OF THE SUPPLIES HEREON HAVE BEEN INSPECTED, TESTED & UNLESS OTHERWISE STATED ABOVE, CONFORM IN ALL RESPECTS WITH THE REQUIREMENTS OF THE ORDER.

ABOVE ITEMS ARE COMPLETE ORDER

PART ORDER

COMPLETION OF ALL OUTSTANDING ITEMS

SIGNED 	QUALITY REP / INSPECTOR	DATE 27-08-95	MATERIAL CERTS. & / OR HEAT TREATMENT TESTING CERTS. ETC.	HELD BY US
				ATTACHED
				TO BE SENT

QM021



**Sign approval certificate no: 3510.02038.Z04**  
**Mark Approval Certificate No.**

(only valid with terms and conditions overleaf and Mark Approval Contract / only valid with terms and conditions overleaf and Mark Approval Contract)

Permit holder:  
License holder

Bühnenbau Schnakenberg GmbH & Co KG  
Rosenthalstraße 16, 42369 Wuppertal

Production facility:  
Manufacturing location

Bühnenbau Schnakenberg GmbH & Co KG Rosenthalstraße 16,  
42369 Wuppertal

File reference  
3510.02038

Test report  
Test report  
3510.02038.B01, 5725/16/01

Date of issue Date  
of issue  
01.08.2022

Test mark:  
Test mark

Basic variant  
Basic layout

Alternative variant (permissible according to ProdSG for sign height up to max. 2 cm)  
alternative layout (admissible according to mark height up to max. 2 cm)



**Stage platform - single element**  
**NIVOflex-Multi incl. guardrails, stairs and accessories**

**Technical description:**  
Technical description

Working load: max. 7.5 kN/m<sup>2</sup> (with 1/20 horizontal equivalent load),  
mass: min. 44 kg, max. installation height: 2 m, panel thickness: 25  
mm, for further details see Appendix 1

**Safety tested according to:**  
Safety tested according to.

DIN 15921:2015-09, EK5/AK1 11-01.3:2016 PfG for the safety of platforms for stages, AfPS GS 2019:01 PAH, ChemVerbV, Regulation (EC) 1907/2006 Annex XVII (REACH)

The product(s) listed above meet(s) the requirements of Section 5 of the German Product Safety Act (ProdSG) of November 8, 2011. Approval is hereby granted to use the GS mark shown above in compliance with the proportions in accordance with the conditions printed overleaf. The transfer of the mark approval by the approval holder to third parties is not permitted.

The product is specified above fulfils/fulfil the requirements according to chapter 5 of the German Product Safety Act (ProdSG) from 8th November 2011. Approval for using the GS-mark illustrated above complying with the proportions and in accordance with the contractual conditions printed overleaf, is hereby given. The license holder is not authorized to transfer the mark approval to a third party.

**This card is valid until 31.07.2027**  
This certificate is valid until/ JA.07.2027



Check validity online  
Check validity online

This certificate consists of: 1 sheet, 1 annex page 1-2  
This certificate consists of 1 sheet, 1 annex page 1 - i



Dipl.-Ing. Be üning  
Deputy Head of the Certification Body  
Deputy head of certification body

**Technical description:****NIVOflex-Multi incl. guardrails, stairs and accessories NIVOflex-****Multi:**

- Stage platform - aluminum construction
- Foot type: Plug-in foot
- Pedestal size: 200 x 100 cm
- Frame height: 98 mm
- Weight (without feet): with blockboard: approx. 44 kg  
with screen printing plate:  
approx. 57 kg
- vertical live load: 5.0 kN/m<sup>2</sup>
- Maximum installation height: 1,66 m
- Horizontal live load:k 1/10=
- vertical live load: 7.5 kN/m<sup>2</sup>
- Maximum installation height: 2,00 m
- Horizontal live load:k 1/20=
- Safety factor overload test: 1,7
- Panel thickness: 25 mm
- materials used:
- Frame: Foot mounts: AIMgSi05F25
- Plug-in feet: Pedestal  
plates: EN AW 6005A T6 AIMgSi05F22  
(60x60x3.5 mm)
- Blockboard Screen printing  
board
- Special features: Fixing the feet via eccentrics

**Fall protection:**

NIVOflex-Multi **platform railing box shape** 1 m according to Zg. PM-BG-1-017 dated 07.11.2014

NIVOflex-Multi stage railing box shape 2 m according to Zg. PM-BG-2-017 dated 07.11.2014

**NIVOflex-Multi/Event stage stair railing (box shape)**

- Steel construction
- Corrosion protection: Powder coating
- Railing length: 998 mm for falling edge 1 m
- Railing length: 1998 mm for fall edge 2 m
- Railing height: 1000 mm
- free space: 2 knee rails, max. 356 mm
- Mass: Stage railing 1 m: 11.5 kg  
Stage railing 2 m: 17.7 kg  
Stage stair railing: 12.5 kg
- maximum horizontal force: 0.3 kN/m in direction of fall
- Area of application: Stage railings in accordance with DIN 15921:2015-09 Section 4.4.2

NIVOflex-Multi railing 1 m **box shape** according to Zg. GL 4112 04 from 19.04.2017

**NIVOflex-Multi railing 2 m box shape according to Zg. GL 4112 015 dated 22.12.2015**

**NIVOflex-Multi stair railing box form** according to Zg. HL-MU-01-017 dated 06.07.2009

- Steel construction
- Corrosion protection: Powder coating
- Railing length: 997 mm for falling edge 1 m
- Railing length: 1997 mm for fall edge 2 m
- Railing height: 1100 mm
- Distance vertical bar: max. 118 mm
- Distance baseboard-  
pedestal: Railing  
dimensions: 1 m: 22 kg  
2 m: 43 kg  
24.5 kg
- Stair railing dimensions: 1 kN/m in fall direction 0.5kN/m  
against fall direction
- maximum horizontal force:



AV  
Sauer

- Railing connection: Plug-in system
- Area of application: Railing according to DIN 15921:2015-09 point 4.4.2

**NIVOflex-Multi-REL railing NIVOflex-Multi-REL stair railing**

- Fall protection steel construction
- Corrosion protection: Powder coating
- Railing length: 891.3 mm for falling edge 1 m
- Railing length: 1891.3 mm for fall edge 2 m
- Railing height: >1100 mm
- Distance vertical bar: max. 117 mm
- Distance baseboard-pedestal: 10 mm
- Railing dimensions: 23.5 kg / 41 kg
- Stair railing mass Maximum horizontal force: 26.5 kg
- Stair railing mass Maximum horizontal force: 1 kN/m in direction of fall
- Railing connection: Area of application: 0.5 kN/m against the direction of fall Plug-in system
- Railing connection: Area of application: Railing according to DIN 15921:2015-09 point 4.4.2

**Stairs:**

**NIVOflex multi-staircase according to Zg. PM-TR-1-2017 from 22.03.2017**

- Stairs - Aluminum construction
- NIVOflex multi staircase: Construction based on NIVOflex Multi
- Overall width: 1000 mm
- Stair tread: 300 mm
- Staircase gradient: max. 200 mm (depending on the platform height)
- Mass: 17 kg per step
- Attachment to the platform: Holder for multi-pedestals, foot-foot connector
- Platform panels: blockboard, screen printing plate
- Base type: Plug-in foot 60 x 60 x 3.5 mm
- Area of application: Stairs according to DIN 15921:2015-09 PKt. 4.3.1

**NIVOflex event staircase acc. No. PE-TR-1-2017 dated 22.03.2017**

- Stairs - Aluminum construction
- NIVOflex event staircase: Construction based on NIVOflex Event
- Overall width: 1000 mm
- Stair tread: 300 mm
- Gradient: max. 200 mm
- Mass:
 

1st stage	9.2 kg
2. Step	10.0 kg
3. Step	10.8 kg
4. Step	11.6 kg
- Attachment to the platform: Holder for event pedestals, foot-foot connector blockboard,
- Step plates: screen printing plate
- Foot type: Plug-in foot 50 x 50 x 2 mm
- Area of application: Stairs according to DIN 15921:2015-09 PKt. 4.3.1.

**Accessories:**

- Corner connector for box railings
- Clamp connector for C-channel
- Railing support for Multi-REL

**Area of application:** Podeste für Szenenflächen (Bühnen) und Tribünen



Handwritten signature in blue ink.



# Residual Risk Register for NIVOflex MULTI used as Auditorium Platforms in the Schwarzman Centre, Concert Hall

Notes:

1. This residual risk register is provided as guidance to the client / end user as to the residual risks in the installation that cannot be eliminated. These are often due to the client’s design team specification or are inherent to the product or system.
2. The client / end user must ensure that these are addressed in any risk assessments and method statements they implement.
3. It is essential that the client / end user makes their staff and other users of this installation familiar with O&M manual for the installation, and any relevant risk assessments and method statements.
4. It is essential that the client / end user makes due provision for the required and predictable usage and maintenance activities associated with the installation especially with regard of safe access and manual handling.
5. The client / end user must revise and update this schedule as he uses this installation in conjunction with equipment and installations provided by others.

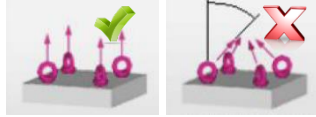
<b>Note: Multiply Occurrence Likelihood by Potential Severity to obtain Risk Factor</b>					
<b>Occurrence Likelihood</b>	1 = Remote-Would not happen in 5 years	2 = Unlikely – Would not happen in 2-3 years	3 = Likely – Could happen once a year	4 = Very Likely – Could occur 2 or 3 times a year	5 = Certainly – Likely to happen at any moment
<b>Potential Severity</b>	1 = Minor injury	2 = Lost time injury	3 = Major injury	4 = Single fatality	5 = Multiple fatality
	<b>Risk Factor 1-5 = TRIVIAL or LOW</b> Risk Factor above 5 = improve if possible	<b>Risk Factor 6-11 = MEDIUM</b> Risk Factor above 11 = implement measures noted to reduce risk		<b>Risk Factor 12-25 = HIGH or VERY HIGH</b> Implement measures and consider alternative work methods	

# Residual Risk Register - Analysis of risk & mitigation

## 10335 Schwarzman Centre, Oxford – Concert Hall

Prepared by Brod Mason, Steeldeck Project Manager, 22-Dec-25



#	Installation Element	Detail of hazard	Who is at Risk?	Likelihood	Potential Severity	Risk Factor	Recommended measures to reduce risk <i>(xx) = risk analysis after control measures in place</i>
1	NIVOflex MULTI Platform	Manual Handling of Platforms up to 86Kg, all platforms have weights marked	Operatives	3(1)	2(2)	6(2)	<ul style="list-style-type: none"> <li>Check platform's marked weight.</li> <li>Platforms are at least a two-person lift. Manual handling posture and lifting methods adopted should be as Venue Risk Assessment.</li> <li>Steel toecap footwear should be worn</li> </ul>
2	Platform metal structure	Electrocution when electrical items used in contact with platforms	Operatives	2(1)	4(4)	8(4)	<ul style="list-style-type: none"> <li>Only qualified electrician to install or work on electrical items</li> <li>Earth bond metal platforms</li> </ul>
3	Steeldeck & StageBase Platform	Manual Handling of Platforms up to 70Kg, all platforms have weights marked	Operatives	3(1)	2(2)	6(2)	<ul style="list-style-type: none"> <li>Check platform's marked weight.</li> <li>Where possible remove timber top first.</li> <li>Platforms are at least a two-person lift. Manual handling posture and lifting methods adopted should be as HSE recommendations.</li> <li>Steel toecap footwear should be worn</li> </ul>
4	StageBase Pick-up Points	Failure of Eyebolts: the supplied eyebolts are only for straight lifts and should never be used at an angle as a bridle. 	Operatives	3(1)	3(3)	9(3)	<ul style="list-style-type: none"> <li>Remove caps by others to reveal integral lifting point.</li> <li>Only use supplied eyebolts to perform straight manual lifts.</li> <li>Only competent persons to lift platforms mechanically.</li> <li>If lifting platforms mechanically either use a lifting frame that imposes a correct straight load on eyebolts or use other suitably rated eyebolts.</li> <li>Contact Steeldeck for further information.</li> </ul>

**Note: Multiply Occurrence Likelihood by Potential Severity to obtain Risk Factor**

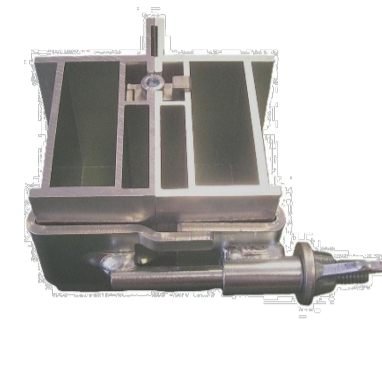
<b>Occurrence Likelihood</b>	1 = Remote-Would not happen in 5 years	2 = Unlikely – Would not happen in 2-3 years	3 = Likely – Could happen once a year	4 = Very Likely – Could occur 2 or 3 times a year	5 = Certainly – Likely to happen at any moment
<b>Potential Severity</b>	1 = Minor injury	2 = Lost time injury	3 = Major injury	4 = Single fatality	5 = Multiple fatality
	<b>Risk Factor 1-5 = TRIVIAL or LOW</b> Risk Factor below 5 = improve if possible		<b>Risk Factor 6-11 = MEDIUM</b> Risk Factor 6 or above = implement measures noted to reduce risk		<b>Risk Factor 12-25 = HIGH or VERY HIGH</b> Risk Factor 12 or above = Implement measures immediately and consider alternative work methods



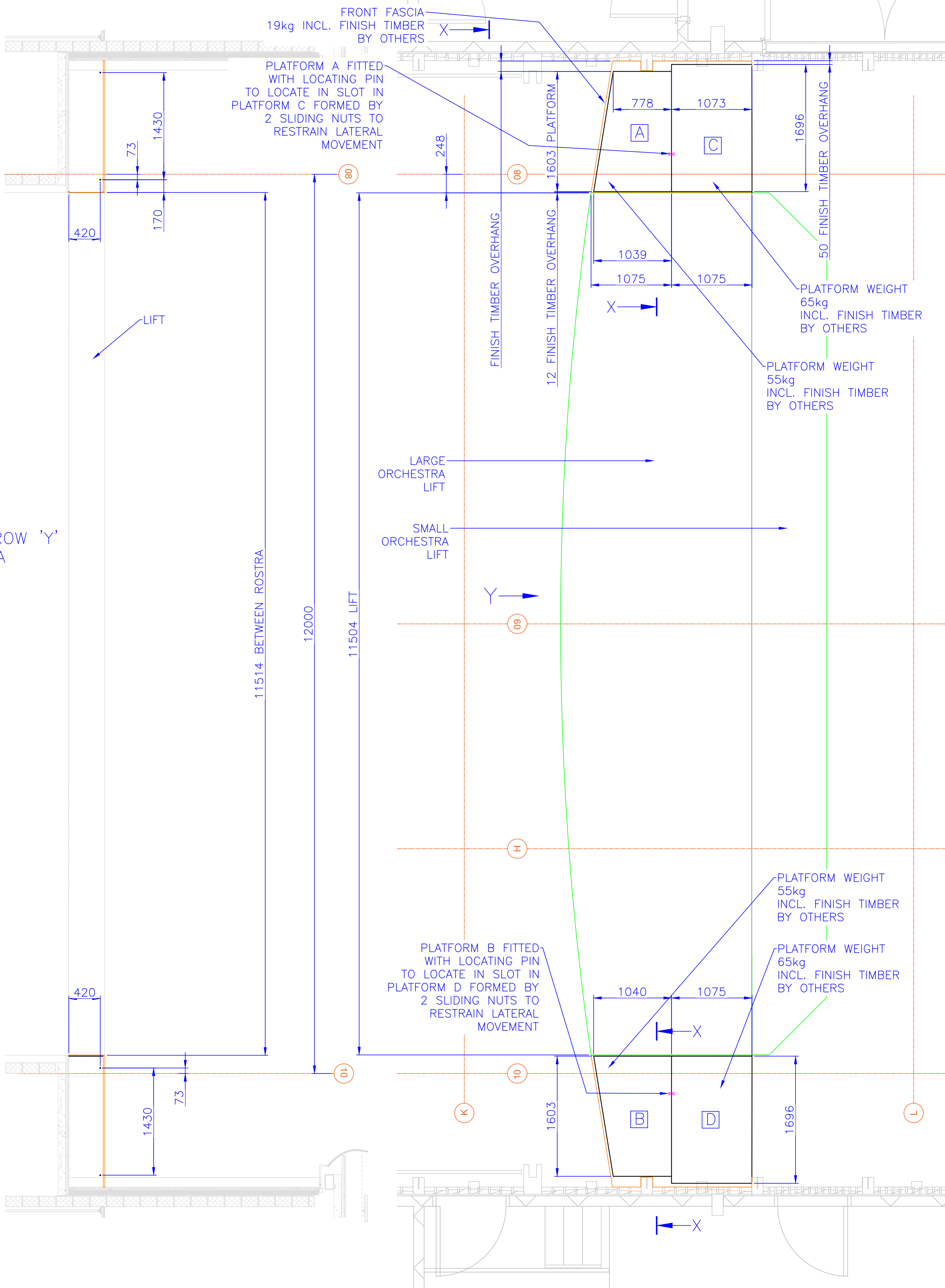
Adjacent platform locating pins for lateral restraint



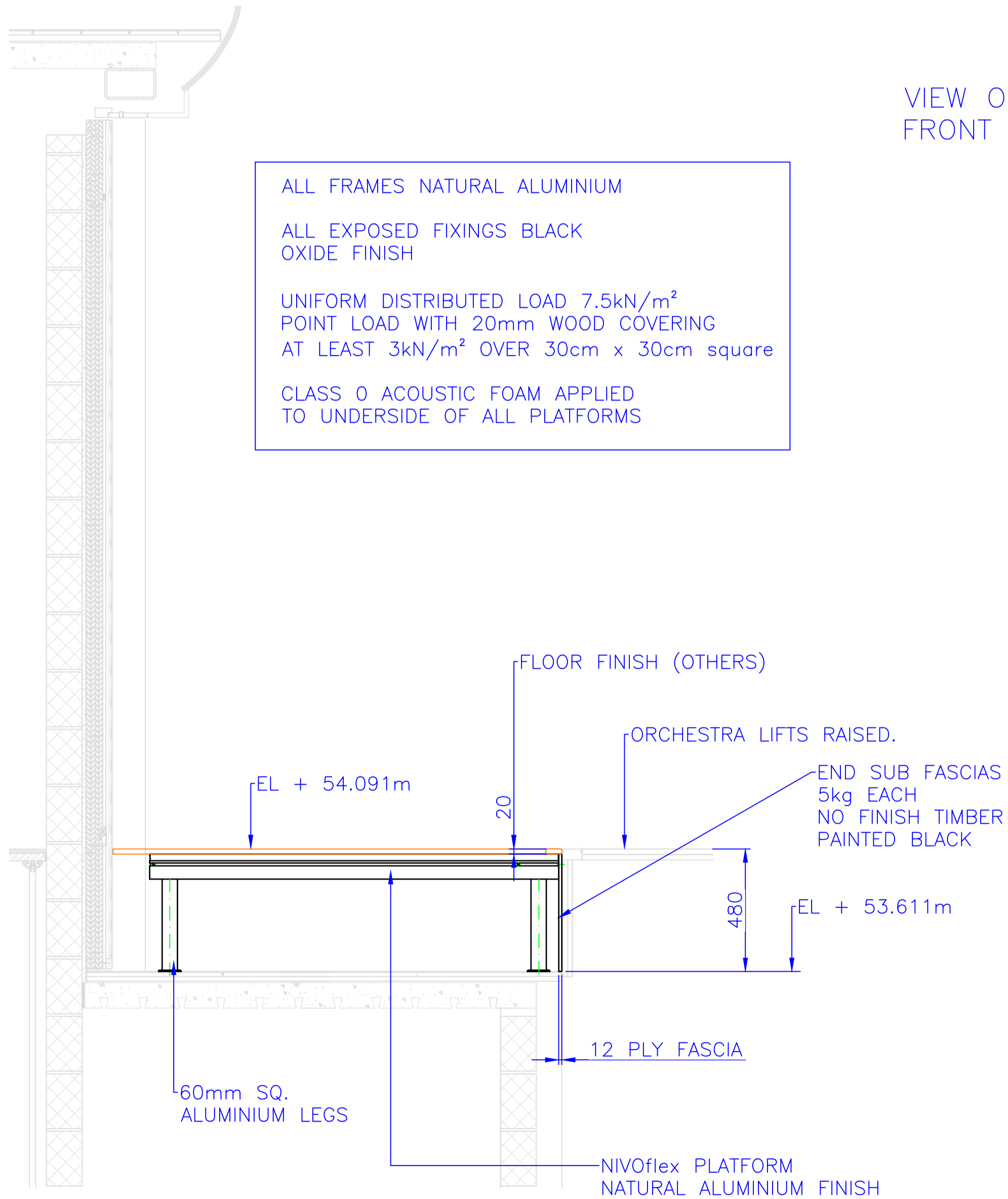
PLATFORM CLAMPING ARRANGEMENT



Bottom flange clamp to prevent 'pull-apart' of adjacent platforms  
All loose items must be stored in suitable storage containers so they are not lost.



ALL FRAMES NATURAL ALUMINIUM  
ALL EXPOSED FIXINGS BLACK OXIDE FINISH  
UNIFORM DISTRIBUTED LOAD 7.5kN/m<sup>2</sup>  
POINT LOAD WITH 20mm WOOD COVERING AT LEAST 3kN/m<sup>2</sup> OVER 30cm x 30cm square  
CLASS 0 ACOUSTIC FOAM APPLIED TO UNDERSIDE OF ALL PLATFORMS



REVISIONS	
A	SC - FIRST ISSUE
B	SC - 21.01.2025 UPDATED TO CUSTOMER COMMENTS
C	SC - 20.02.2025 UPDATED TO CUSTOMER COMMENTS
D	- -

**STEEL DECK**

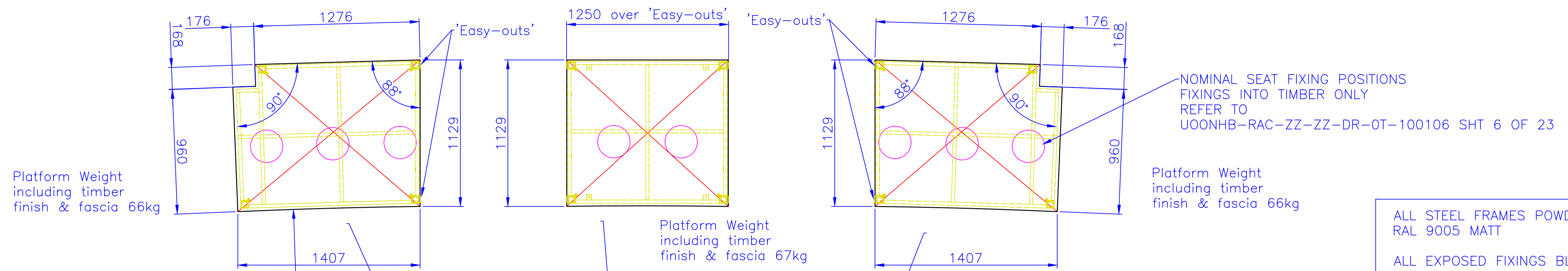
©STEELBECK INDUSTRIES Ltd 2019  
203-207 Manor Road,  
Erith, London DAB 2AA UK.  
TEL +44 (0)20 8 692 9721

Venue -

Project  
Schwarzman Centre, Oxford

Drawing  
Stage Extension Rostra

Drawing No. e10335 d150	Rev. C
Scale 1:30 @ A1	Date 07/01/2025
	Drawn By SCD

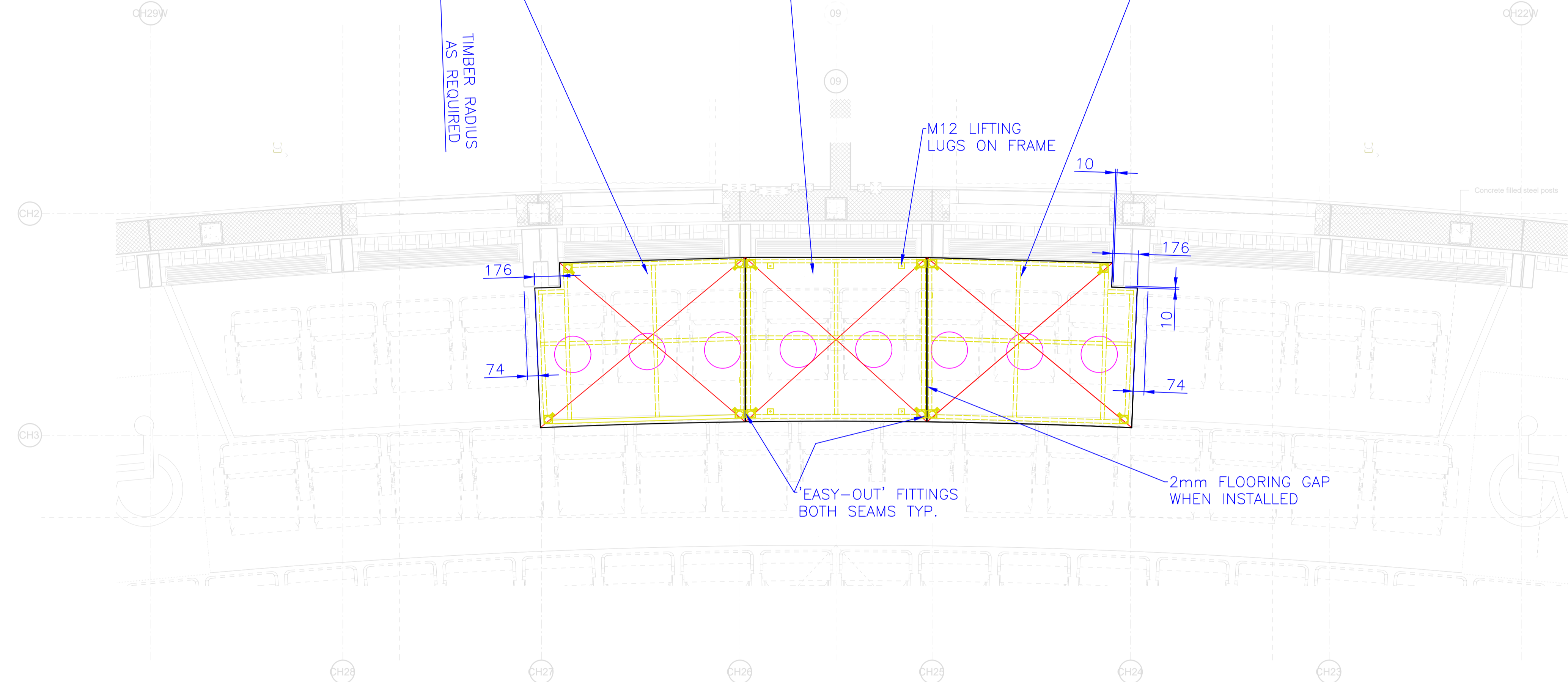


ALL STEEL FRAMES POWDERCOATED  
RAL 9005 MATT

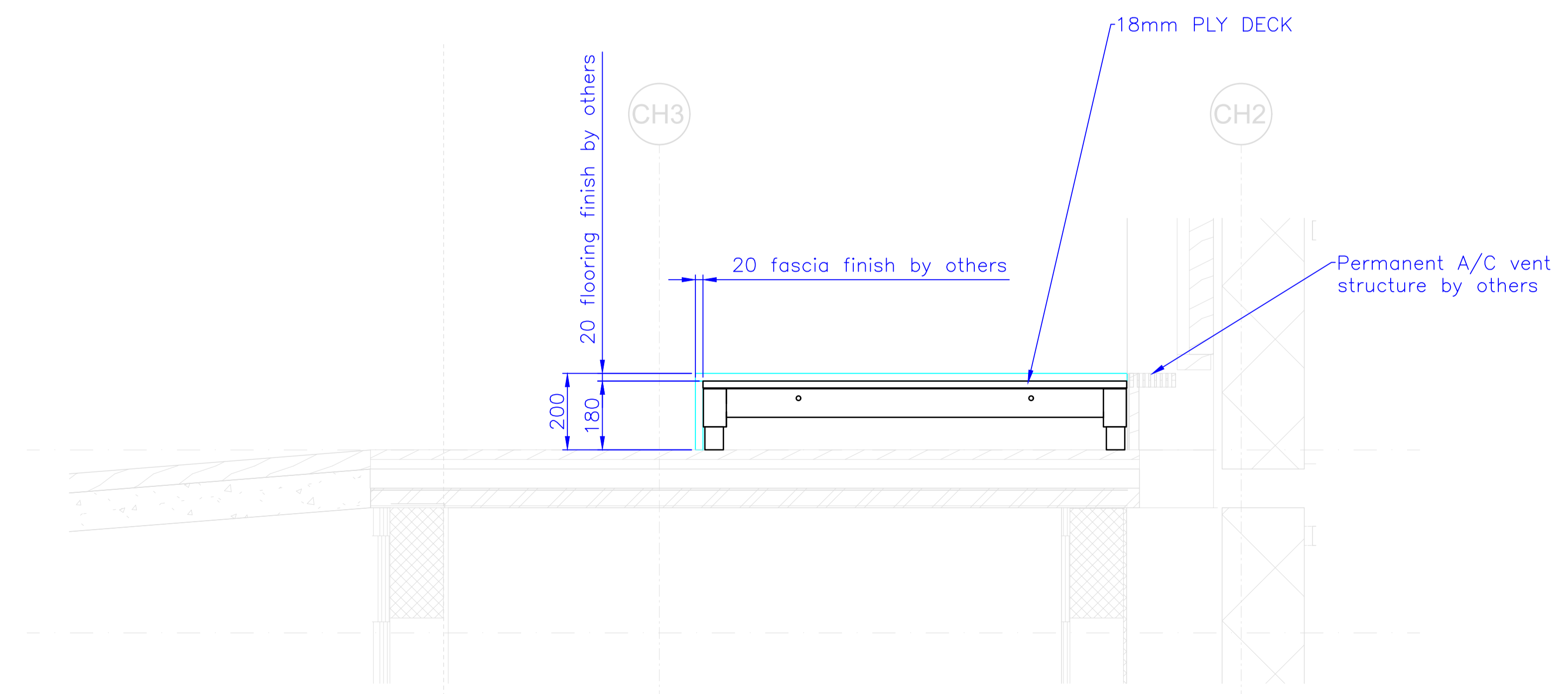
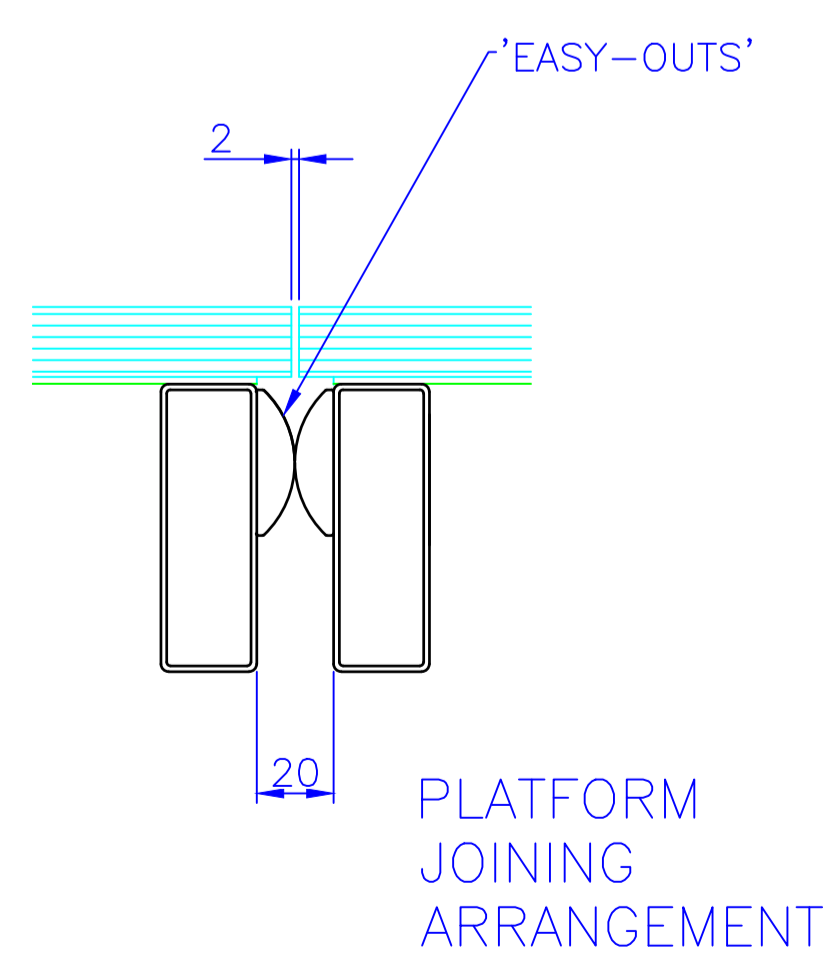
ALL EXPOSED FIXINGS BLACK  
OXIDE FINISH

UNIFORM DISTRIBUTED LOAD 5kN/m<sup>2</sup>  
POINT LOAD WITH 20mm WOOD COVERING  
AT LEAST 3kN/m<sup>2</sup> OVER 30cm x 30cm square

CLASS 0 ACOUSTIC FOAM APPLIED  
TO UNDERSIDE OF ALL PLATFORMS



PLAN ON ROSTRA



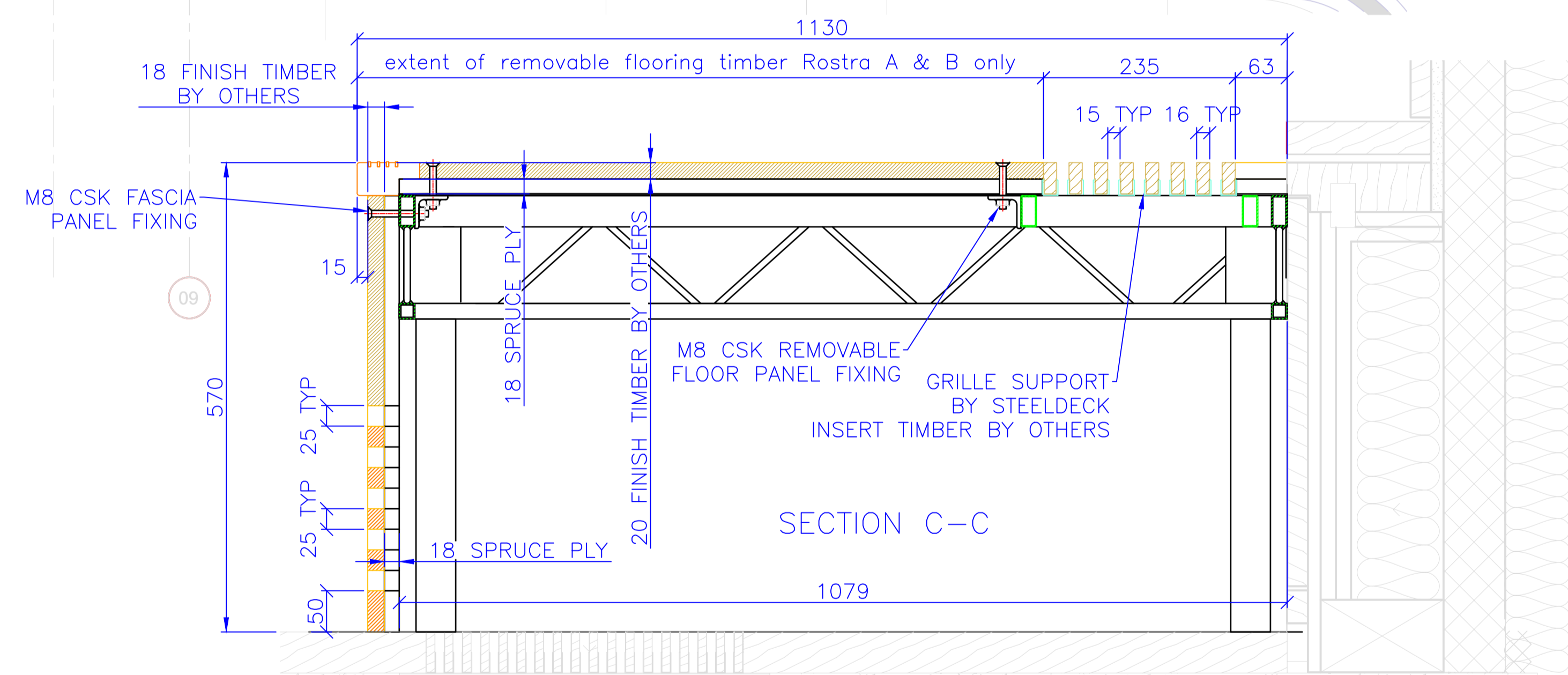
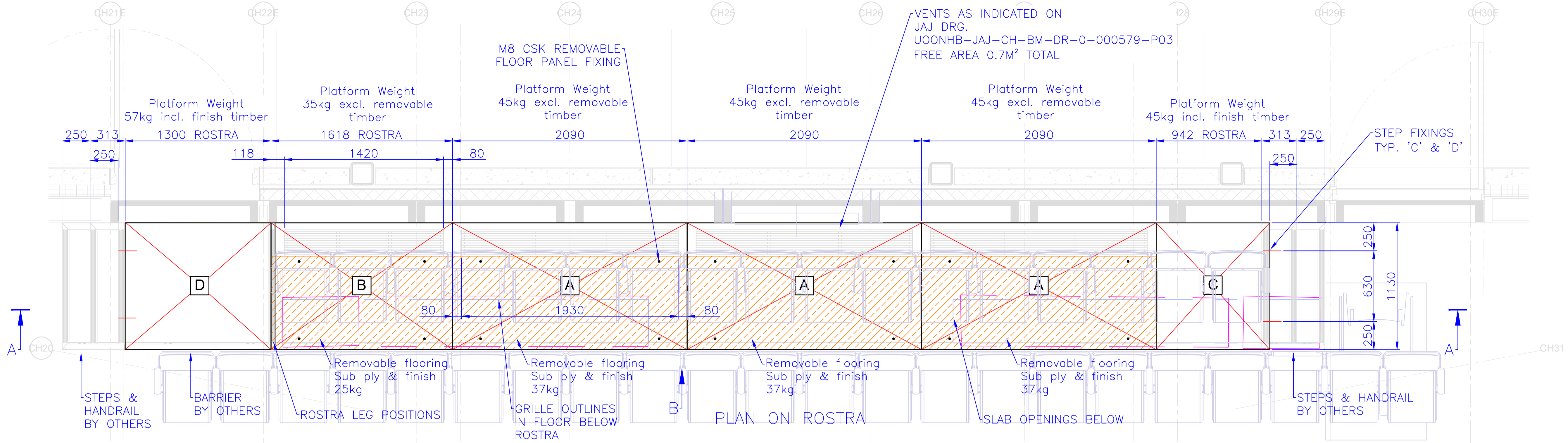
SECTION THRO' ROSTRA

REVISIONS	
A1	-
FIRST ISSUE	
B	SC 20/01/2025
UPDATED TO CUSTOMER COMMENTS	
C	SC 19/02/2025
UPDATED TO CUSTOMER COMMENTS	
D	SC 10/03/2025
UPDATED TO CUSTOMER COMMENTS	
E	SC 10/03/2025
UPDATED TO CUSTOMER COMMENTS	



©STEELDECK INDUSTRIES Ltd 2019  
203-207 Manor Road,  
Erith, London DA8 2HA UK.  
TEL +44 (0)20 8 692 9721

Venue	-
Project	Schwarzman Centre, Oxford
Drawing	Concert Hall Control Desk Rostra
Drawing No.	e10335 d154
Rev.	E
Scale	1:20 @ A1
Date	08/01/2025
Drawn By	SCD

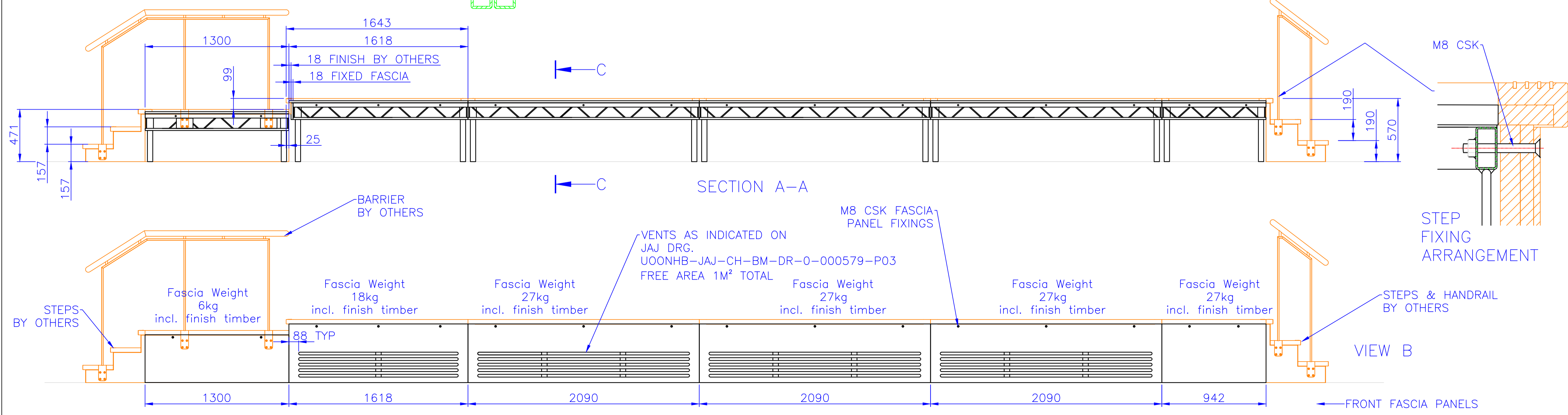
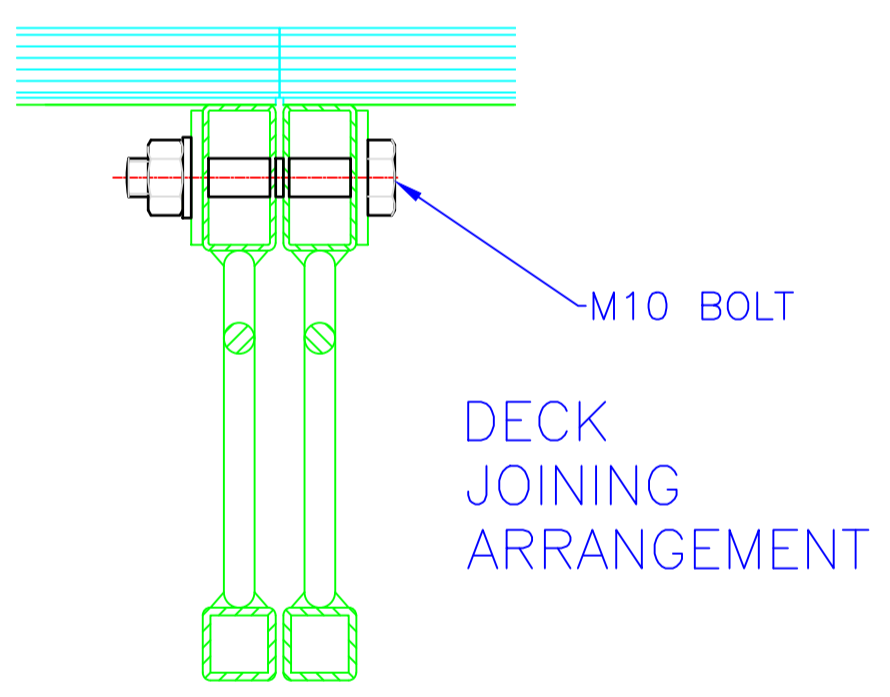


ALL STEEL FRAMES POWDERCOATED RAL 9005 MATT

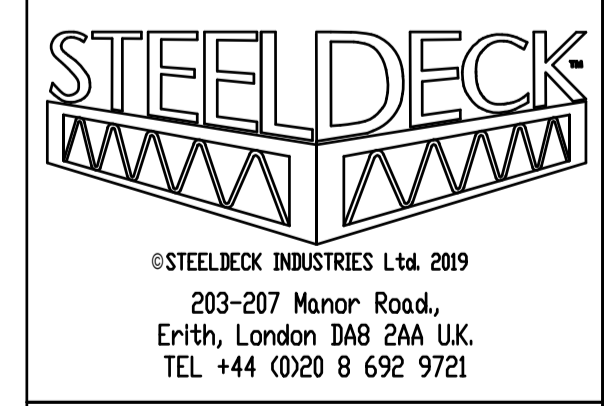
ALL EXPOSED FIXINGS BRUSHED STAINLESS STEEL FLUSH WITH FINISHED SURFACE

UNIFORM DISTRIBUTED LOAD 5kN/m<sup>2</sup>  
POINT LOAD WITH 20mm WOOD COVERING AT LEAST 3kN/m<sup>2</sup> OVER 30cm x 30cm square

CLASS 0 ACOUSTIC FOAM APPLIED TO UNDERSIDE OF ALL PLATFORMS



REVISIONS	
A	-
FIRST ISSUE	
B	20/1/25
UPDATED TO CUSTOMER COMMENTS	
C	19/2/25
UPDATED TO CUSTOMER COMMENTS	
D	10/3/25
UPDATED TO CUSTOMER COMMENTS	
E	12/3/25
UPDATED TO CUSTOMER COMMENTS	
F	14/3/25
ROSTRA D EXTENDED 6mm	



Venue		-
Project		Schwarzman Centre, Oxford
Drawing		Concert Hall Choir Rostra
Drawing No.	e10335 d155	Rev. F
Scale	1:20 @ A1	Date 10/01/2025
		Drawn By SCD

# PYROSORB-S-GC1

**PYROSORB-S class 'O' acoustic foam faced with heavy duty woven glass cloth. Facing colour - natural**

**PRODUCT FROMAT:** Sheet material. Standard sheet size. 2000 x 1220 mm.  
**Standard Thickness':** 6, 10, 12, 15, 20, 25 mm.  
Others available on request.

**PROPERTIES:**

**Foam**

Thermal conductivity @ 5 C  
0.0545 W/mK (BS874 part 2 1986)  
See **PYROSORB-S** Brochure.  
Absorption co-efficients as per unfaced foam.

**Facing**

Facing is acoustically transparent.  
Base fabric Loomstate fibreglass.  
Weight - 200gsm.

**FIRE RATING:**

**BS4735:** 1971 - Self Extinguishing  
FMVSS302 - Self Extinguishing  
BS476 Part 7 - Class 1  
BS476 Part 6 -  $I_1 < 12, i_2 < 6$   
BS476 Part 4 - Non combustible  
Moisture Resistant  
High Chemical Resistance  
Electrical Insulator  
**Working Temperature Range:**  
-10°C - +450°C

**TEMPERATURE RANGE:**

-40 to +70°C (Continuous)

**USAGE:**

- (a) Thermal barrier in air conditioning equipment.
- (b) Acoustic lining in engine covers.

**PRODUCT OPTION:** **PYROSORB-S-GC1-AD** (self-adhesive)

REF: C1502965 PSGC1

**PYROSORB-E**, is open celled acoustic/thermal impregnated polyurethane foam. **PYROSORB** was originally developed as safety critical foam, **PYROSORB-E** has been developed to meet the European Harmonized Flammability test. Acoustic performance is good and absorption coefficients are typical for a cellular material, but unusually high deadening performance is attributable to the high density of approximately 100 kgm<sup>3</sup>. The high mass helps to reduce vibration in metal enclosures hence drumming and noise breakout.

## PYROSORB-E

### FLAMMABILITY PROPERTIES

METHOD	RESULT
BS 476 Part 5	Non-Ignition
BS 476 Part 6	$I \leq 12, I_1 \leq 6$
BS 476 Part 7	Class "1"
BS 476 P6 & P7 Building Regulations	Class "O"
BS EN ISO 4589-3	No ignition, tested at 240°C, 300°C, 360°C and 380°C
UL94	V-0, 94-5V
BS6853:1987 App. B.5.3	$A_{0(max)} < 5$
NES 713	<3.0
EN 13501-1:2007 + A1:2009	B-s2, d0
EN ISO 11925-2 and EN13823	



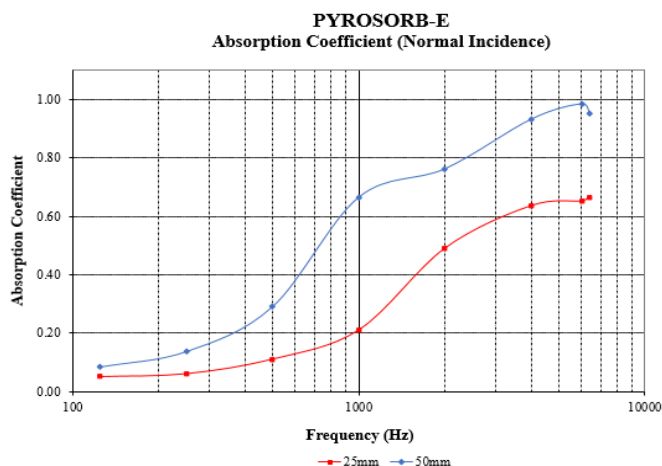
### PHYSICAL PROPERTIES

METHOD	RESULT
Density (Kg/m <sup>3</sup> )	>100
Hardness (N)	160 – 200
Tensile Strength (Kpa)	>70
Elongation at Break (%)	>90%
Thermal Conductivity (W/mK)	0.048 – 0.051
Erosion Resistance	6000 ft/min
Working Temperature (°C)	-40 - ~+110
CFC Free	Yes



### ACOUSTIC PERFORMANCE OF PYROSORB-E

ASTM and BS EN 20354 (previously BS3638: 1963) are both standard tests for measuring absorption coefficients. ASTM C384 is a laboratory scale test measuring normal incidence coefficients. Both methods give an indication of the potential performance of the material under the test. Whilst the latter reverberation room method may prove more relevant in most practical situations, neither test can predict overall performance in a real application.



## VITEC IMPREGNATION

### TYPICAL PRODUCT COMPOSITION

#### PYROSORB-S CLASS “O” ACOUSTIC FOAM

DESCRIPTION	PERCENTAGE BY WEIGHT
Polyurethane Foam	20.0
Alumina Trihydrate( $Al_2O_3 \cdot 5H_2O$ )	70.8
Acrylic Latex	7.1
Octyl Phenol	<0.1
Carbon Black	1.4
Surfactant(**)	<0.1
Thickener	0.4
Antioxidant(*)	<0.1

(\*) is Butlyated Para Cresol

(\*\*) is Dioctyl Sodium Sulphosuccinate – which has 5% by weight of sulphur meaning that the formulation could in theory contain 0.005% by weight of sulphur.

Doc. Ref. C3006981 Chemical Composition PYR-S

# NIVOflex-MULTI

## Ersatzteilliste Liste de piece de rechange

## Spare Parts List Lista de Recambios

SET Nr.	Bezeichnung Denomination, Designation, Denominación		Maße Measures, mesures, medidas	Stck.
1.017	Klemmverbinder	Connector; Accouplement; Conexiones		1
1.018	Winkelschraubendreher lang	Wrench; Clé; Llave		1
12.008	Bedienschlüssel für Multiecke	Hexagon key-handle, llave hexagonal		1
12.011	Podestplatte Tipla natur lasiert	Pedestal; Plaque; Placa	<b>1993 x 993 x 25 mm</b>	1
	Spaxschraube	Screw; Vis; Tornillo	4,5 x 40	16
12.069	Aluminium-Laufschiene	Rail; Glissière; Carril de rodadura	<b>2000</b>	1
	Sechskantschraube DIN 933	Screw, Vis, Tornillo	8 x 25	2
	Unterlegscheibe	Wascher,	8,4 mm	2
12.070	Aluminium-Kopfstück	Rail; Rail; Carril	<b>1000</b>	1
	Sechskantschraube DIN 933	Screw, Vis, Tornillo	8 x 25	2
	Unterlegscheibe	Wascher	8,4 mm	2
12.071	Fußaufnahme Kpl.	Corner Casting, Fixation Equerre, Esquina		1
	Sechskantschraube	Screw, Vis, Tornillo	M 8 x 30	2
	Unterlegscheibe		8,5	2
12.072	Siebdruckplatte	Silkscreen	<b>1993 x 993 x 25 mm</b>	1
	Spaxschraube	Screw;Vis;Tornillo	4,5 x 40	
12.073	Podestplatte Tipla braun lasiert	Pedestal;Plaque;Placa	<b>1993 x 993 x 25 mm</b>	1
	Spaxschraube	Screw;Vis;Tornillo	4,5 x 40	16
12.074	Podestplatte Tipla schwarz lasiert	Pedestal;Plaque;Placa	<b>1993 x 993 x 25 mm</b>	1
	Spaxschraube	Screw;Vis;Tornillo	4,5 x 40	16
12.081	Andruckwinkel	pressing angle, conector esquina		1
12.082	Spannexzenter	Excenter, Excentrica		1
Mindestauftragswert (+ Porto + Verpackung)		Commande minimal (+ livraison + emballage)		
Minimum Order value (+ freight + package)		Valor minimo de pedido (+ flete + embalage)		



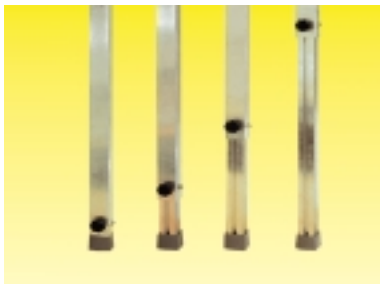
## NIVOflex®-Multi

### The premium plug-in foot platform



NIVOflex®-Multi. The optimum system for special heights, special sizes and special shapes.

- for the professional event area
- up to 200 cm in height without lateral bracing
- available with all offered surfaces
- telescopic feet for uneven floors
- proven static equilibrium in accordance with DIN 4112, 1055, 15920



Plug-in feet 60 mm, can be telescoped.

#### Assembling and dismantling

The plug-in feet can be quite simply plugged into the quick-lock mechanism and retained without applying any force. A small turning of the lever is sufficient. The platform can be quickly and simply joined with the joining clamp.



Plug-in feet 60 mm, fixed length.



Quick-lock mechanism.

#### Product description

TüV-tested plug-in foot platform for extreme heights and loads at professional events, for the presentation of products and the levelling out of unevenness at industrial production events. With heavy duty aluminium frame and integrated multi-function track. Thereby the Multi-Platforms can be linked together, like all NIVOflex® platforms, by means of clamp binders and accessories like flats, railings, product descriptions, holders for prospectuses and catalogues, price tags and many more. The 25 mm load-bearing area is available with all offered surfaces. Special coatings on request. The optimum system for special heights, special sizes and special shapes.

#### Areas of operation

With the largest platform heights or with uneven ground surfaces, e.g. in the open air or with varying topographies, e.g. on steps. NIVOflex-Multi is approved for stages and tribune constructions up to 200 cm in height without additional lateral bracing. With such an additional lateral bracing stages and tribune constructions up to 400 cm in height and more are possible.

**Presentation of events**

**Presentation of products**

**Industry**

#### Technical data NIVOflex®-Multi

- Standard dimensions 2 m x 1 m
- Load 750 daN/m<sup>2</sup>
- Build-up height without lateral bracing up to 200 cm, build-up height with lateral bracing up to 400 cm
- Weight 39 kg
- Storage height 9.8 cm
- Support plate 25 mm



## NiVOflex®-MultiRel

### The railing platform



Railing platform NIVOflex®-MultiRel.

#### Product description

Multi-purpose safety platform system with sturdy receptacle for plug-in railings, according to DIN 4112 and TÜV tested certificate. The patented sturdy railing receptacle is inserted into the platform feet and can be used for a number of applications. Through this principle the 100 kg/m lateral load of the railings required by the DIN standards can be absorbed.

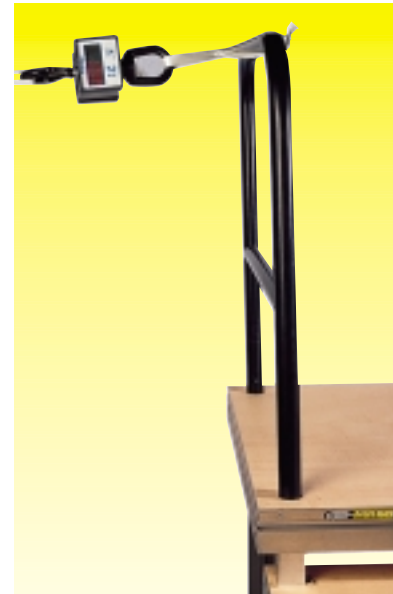
The platform and plug-in foot construction share the same features as the heavy duty NIVOflex®-Multi with a 25 mm thick load-bearing surface. For □ 60 mm diameter plug-in feet (fixed lengths or telescopic).

- for the domain of professional events
- railing tested in accordance with DIN 4112
- plug-in railings for 100 kg/m lateral loads
- up to 200 cm high without lateral struts
- only two plug-in feet for rostrums
- compatible with all standard platform models

#### Multi-purpose support device

The stable railing-holding device can be used to attach a number of different components, e.g.:

- stage constructions
- stage backgrounds
- stands and display panels
- stacked platforms
- acoustic walls
- sports equipment
- ramps
- rostrum constructions
- constructions of every type



MultiRel railing in lateral-load test up to 100 kg/m.



This holding device can be used to fasten railings and other constructions.

#### Areas of operation

**Presentation of events**

# Bedienungsanleitung

## Operation instruction

## Instructions d'utilisation

## Instrucción de uso



NIVOflex<sup>®</sup>-Professional, NIVOflex<sup>®</sup>-Stabilo, NIVOflex<sup>®</sup>-Comfort, NIVOflex<sup>®</sup>-Airstage, NIVOflex<sup>®</sup>-Light, NIVOflex<sup>®</sup>-Multi, NIVOflex<sup>®</sup>-MultiRel, NIVOflex-Event



## Höheneinstellung

### Für NIVOflex®-Professional und NIVOflex®-Stabilo

Die richtige Handhabung der Podeste ist die wichtigste Voraussetzung für einen funktionsgerechten und sicheren Aufbau.

Podest an beiden Kopfseiten des Oberrahmens leicht anheben, um die Rastbolzen zu entlasten. Dann mit der rechten Hand den Bowdenzuggriff unter der Platte ziehen (Abb. 1). Podest ein Stück über die gewünschte Höhenrastung anheben. Griff loslassen.

Oberrahmen absenken, bis die Bolzen hörbar einrasten (Abb. 2).

Überzeugen Sie sich durch Sichtkontrolle, daß alle vier Bolzen eingerastet sind.

### For NIVOflex®-Professional and NIVOflex®-Stabilo

The correct handling of the platforms is one of the most important condition for a functional and safe installation.

Lift the platform a little bit at the short sides of the upper frame to release the bolts. Pull with the right hand the bowden-grip below the platform-top (picture 1), lift the platform to the desired height. Release the grip and lower upper-frame until the bolts are clicked inside the pre-drilled holes (picture 2).

Please also check visually that all four bolts are locked.

### Höhe 20 und 40 cm bei NIVOflex®-Professional

Die Höheneinstellung 20 cm erfolgt nicht durch Einrasten der Bolzen. Hierzu sind die an der Innenseite der Scherenprofile eingeklemmten Sicherungsbolzen (Abb. 3) in die hierfür vorgesehenen Bohrungen der Scherenarme einzustecken.

Für die Höheneinstellung 40 cm (33 1/2 cm) müssen die Bolzen einrasten. Zusätzlich müssen jedoch Sicherungsbolzen in die vorgesehenen Bohrungen der Scherenarme eingesteckt werden. Beachten Sie hierzu bitte die Hinweise an den Scherenarmen (Abb. 4).

### Height 20 and 40 cm at NIVOflex®-Professional

The height-adjustment for 20 cm does not happen by locking the bolts of the bowden-cable into the holes. But please find inside the scissor-arms safety-bolts (picture 3) which have to be inserted into the particular borings within the scissor-arms.

For 40 cm (33 1/2 cm) the bolts of the bowden-cable have to be locked in but additional the safety-bolts are to be inserted into the particular borings within the scissor-arms (picture 4).

## Ajustement en hauteur

### adminisaPour NIVOflex®-Professional et NIVOflex®-Stabilo

Le manieiment préalable importante pour un montage sûr et sans problèmes.

Soulever légèrement le podium sous le plateau de chaque côté étroit pour décharger les boulons d'arrêt. Ensuite, de la main droite, tirer la poignée Bowden sous le plateau (dessin 1).

Lâcher la poignée et abaisser le plateau légèrement au dessus de la hauteur désirée. Lâcher la poignée.

Abaisser le plateau jusqu'à ce que les boulons d'arrêt rentrent dans leur encoche (dessin 2).

### NIVOflex®-Professional y NIVOflex®-Stabilo

El buen manejo de las plataformas es fundamental para poder usarlas con seguridad. Levantar la plataforma en los cabezales para librar los bulones de alturas. Con la mano derecha se tira de la palanca para desencajar el bulon (Fig. 1).

Se levanta la plataforma un poco mas que la altura que se precisa y se suelta la palanca. Ahora se deja caer el marco superior hasta que encaje (Fig. 2).

Controle que los cuatro bulones estén encajados.

### Hauteur 20 et 40 cm de NIVOflex®-Professional

Les podiums peuvent être ajustés à une hauteur de 20 cm. Pour cela, prendre les goupilles de sécurité qui se situent à l'intérieur du pied en ciseaux et les glisser dans les perçages du pied prévus à cet effet (dessin 3).

Pour atteindre la hauteur de 40 cm (33 1/2 cm), il faut que les boulons soient bien dans l'encoche. Glisser également les goupilles de sécurité dans les perçages prévus à cet effet.

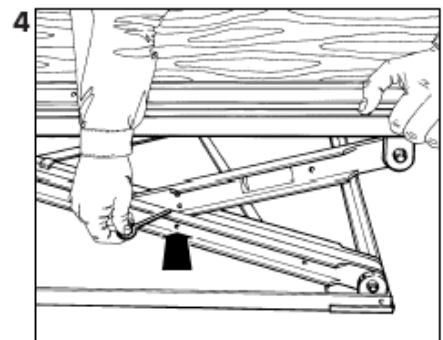
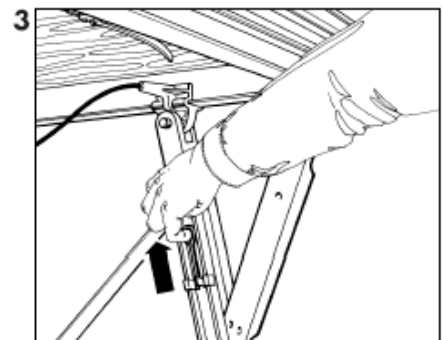
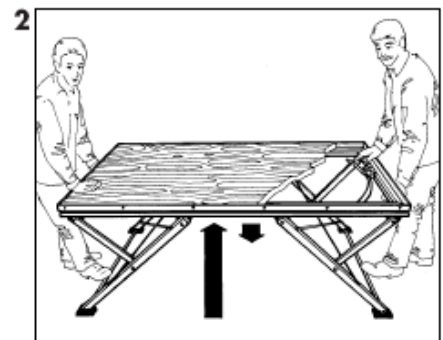
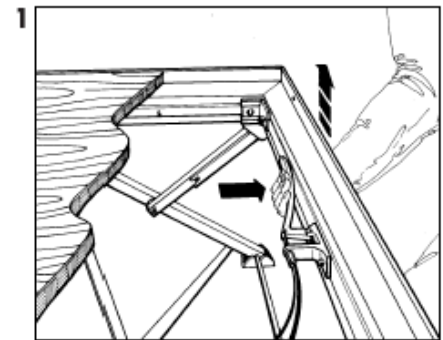
Nous vous demandons ici de respecter les indications situées sur les pieds (dessin 4).

### Alturas 20 y 40 cm NIVOflex®-Professional

La altura de 20 cm no encaja en los taladros de bulones. Para esto hay en las tijeras unos taladros en los que se encajan unos bulones sueltos (Fig. 3) que van fijados en la parte interior de la tijera.

Para la altura de 40 cm (33 1/2 cm) se procede igual que para la de 20 cm y se encajan los bulones de altura en el marco superior.

Veán también las pegatinas en los brazos de tijeras (Fig. 4).



## Height adjustment

### Höhe 20 und 40 cm bei NIVOflex®-Stabilo

Die Höheneinstellung 20 cm erfordert keine zusätzliche Sicherung.

Für die Höheneinstellung 40 cm sind zusätzlich die an den Ecken angebrachten Sicherheitsstützen nach unten zu klappen und auf das Rundrohr zu stellen (Abb. 5 und 6).

### Height 20 and 40 cm at NIVOflex®-Stabilo

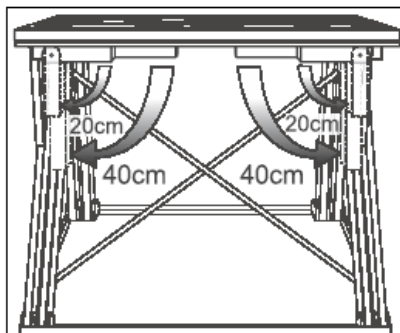
The heightadjustment for 20 cm does not require an additional support for safety. For the heightadjustment of 40 cm there are additional struts connected to the corners of the construction which are to be folded down and arrested to the bottomtube (picture 5 and 6).

### NIVOflex®-Comfort und -AirStage

Abdeckkappen mit dem Haken aus der Platte ziehen. Hebel in die Aufnahme stecken und ca. 90° drehen, damit der Hebel Kraft aufnehmen kann. Nur einer der beiden Hebel entriegelt die Höhenverstellung des Podestes (rot markierte Aufnahme). Der andere dient nur zum Heben und Senken auf dieser Seite. Wenn der Hebel auf der Entriegelungsseite noch um weitere 90° gedreht wird, läßt sich die Höhe des Podeste verändern. Es gilt das gleiche Prinzip wie oben unter Stabilo/Professional beschrieben (Abb. 7 und 8).

### NIVOflex®-Comfort and -AirStage

Remove plastic covers out of the wooden top with the hook at the end of the T-bar handle. Put T-bar on to the bolts and turn 90° in order that the T-bar can take force. Only one of the T-bars unlocks/locks the mechanism. ( see red marks). The other T-bar is used only for lifting and lowering. In case that the handle is still turned 90° the height of the platform can be adjusted. The same principle like Stabilo/Professional (picture 7 and 8).



### Höhe 20 und 40 cm bei Height 20 and 40 cm at Hauteur 20 et 40 cm de Altura 20 y 40 cm de NIVOflex®-AirStage

## Ajuste de alturas

### Hauteur 20 et 40 cm de NIVOflex®-Stabilo

Le réglage en hauteur de 20 cm nécessite aucune sécurité supplémentaire.

Pour atteindre la hauteur de 40 cm, il faut déplier les supports de sécurité situés à l'intérieur des pieds juste en dessous des angles et placer ces supports sur le tube rond (dessins 5 et 6).

### Alturas 20 y 40 cm NIVOflex®-Stabilo

La altura de 20 cm no requiere un soporte de altura.

Para la altura de 40 cm hay que encajar unas patillas que van montadas en los ángulos superiores sobre los tubos inferiores de las patas (Fig. 5 y 6).

### NIVOflex®-Comfort et -AirStage

Retirer les capuchons à l'aide du crochet. Introduire le levier dans le logement et faire une rotation de 90° environ jusqu'à ce que le levier trouve une résistance. Un levier seulement déverrouille le réglage en hauteur du podium (logement marqué en rouge). L'autre sert à monter ou à descendre de ce côté. On modifie la hauteur du podium en faisant une rotation supplémentaire de 90° sur le côté de déverrouillage. Le principe est le même que Stabilo/Professional décrit plus haut (dessin 7 et 8).

### NIVOflex®-Comfort y -AirStage

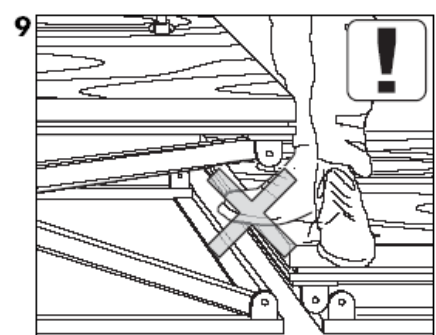
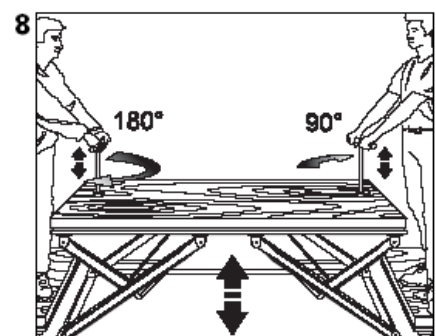
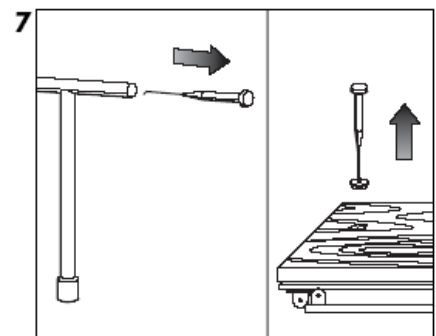
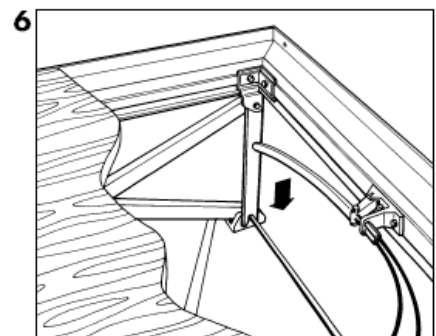
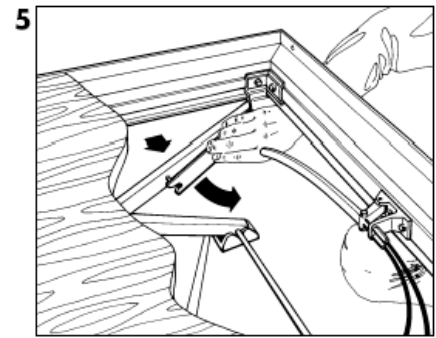
Quitar las tapas de PVC con el gancho. Introducir la palanca en la perforación y tomar aprox. unos 90°. Solamente una de las palancas es la que abre el mecanismo de cerradura (marcada de rojo). La segunda es solo para alzar al mismo nivel. Después de tomar la palanca otros 90° se podrá alzar o bajar la plataforma a la altura necesaria. El sistema funciona igual que el de Stabilo/Professional. (Fig. 7 y 8).

**Warnung: bei stationär eingebauten AirStage kann sich beim Absenken eine Scherkante ergeben. Vorsicht mit den Füßen (Abb. 9)!!**

**Important: In case of a stationary and fixed installation of the AirStage a jam danger might happen during lowering. Be careful with your feet (picture 9)!!**

**Attention: une arrête coupante peut se produire lors de l'abaissement avec l'installation stationnaire AirStage. Soyez prudent avec les pieds (dessin 9)!!**

**Importante: en caso de instalar AirStage de forma fija en la sala se producen unos cantos que pueden dañar los pies al bajarse la plataforma (Fig. 9).**



**NIVOflex<sup>®</sup>-Light**

Wechselfuß □ 40 mm oder Ø 48,3 mm in die Aufnahme stecken und Flügelschraube gleichmäßig anziehen.

**NIVOflex<sup>®</sup>-Light**

Changeable legs □ 40 mm or Ø 48,3 mm will be put into the corner casting and tighten wing-nut constantly. (picture 11)

**NIVOflex<sup>®</sup>-Event**

Wechselfüße □ oder Ø 40-60 mm in die Aufnahme stecken und Handrad fest anziehen. Die Elemente mit den integrierten Verbindungshaken nach Vorne bzw. zur rechten Seite Reihe für Reihe aufstellen, so dass immer das nächste Element in den Verbindungshaken greift. Über Höhe 150 cm sind Verstrebungen an den Steckfüßen notwendig. Fragen Sie dazu bitte Ihren NIVOflex-Partner.

Bei hohen Schub-Belastungen sollten die Bühnenpodeste untereinander mit in den T-Nutenkanälen liegenden Kunststoffklammern stabilisiert werden. Diese T-Nutenkanäle dienen ebenfalls zur Aufnahme der Zubehörteile. (Abb. 12)

**NIVOflex<sup>®</sup>-Event**

Insert the legs □ or Ø 40-60 mm in the corner socket and tighten the star knob. Platforms are fitted with integrated connecting hooks on two adjacent sides. Therefore, after inserting the legs arrange platforms so that the connecting hooks of one platform align with the plain side of an adjoining platform.

Cross bracing is not required for stages up to 150 cm high. For stages over 150 cm please contact your NIVOflex-supplier.

When there is likely to be high horizontal loads the platforms fit the plastic-clamps in the T-channel. This T-channel is also useful for connecting accessories. (picture 12)

**NIVOflex<sup>®</sup>-Multi und MultiRel**

Hebel in die Sechskant-Aufnahme stecken und bis zum Anschlag in Richtung „auf/open“ drehen. Wechselfuß □ 60 mm in die Aufnahme stecken und den Hebel kräftig in Richtung „zu/fix“ drehen.

Hinweis: Bei diesem Exzenter-Verschluß spüren Sie beim Schließen einen Exzenter-Druckpunkt, den Sie für optimale Festigkeit überschreiten sollten. Ab Höhe 200 cm sind Verstrebungen an den Steckfüßen notwendig. Bitte fragen Sie dazu Ihren NIVOflex-Vertriebspartner. (Abb. 13).

**NIVOflex<sup>®</sup>-Multi and MultiRel**

Put handle in hexagon-hole and turn in open-direction. Changeable legs □ 60 mm in corner casting and turn handle in direction fix.

Note: with this eccentric-fixation you will note during tightening a pressure-point which you should exceed for optimal fixation. For heights more than 200 cm additional strutting is necessary. Please contact your NIVOflex-Partner (picture 13).

**NIVOflex<sup>®</sup>-Light**

Introduire le pied variable □ 40 mm ou bien Ø 48,3 mm dans le logement et serrer régulièrement les écrous à ailettes. (dessin 11)

**NIVOflex<sup>®</sup>-Light**

Introducir la pata intercambiable de □ 40 mm o Ø 48,3 mm en la esquina y apretar las tuercas mariposas de forma simétrica. (fig. 11)

**NIVOflex<sup>®</sup>-Event**

Introducir las patas intercambiables de □ o Ø 40-60 mm en la toma de la esquina. Después apretar el tornillo fuerte. Las plataformas se han de montar de forma que el conector integrado este en la parte delantera o en la derecha. Así se ha de instalar fila por fila para que los conectores se agarren a la siguiente plataforma. Para montajes más altos de 150 cm se han de usar arriestramientos. Pregunte para más información a su Agente de NIVOflex.

En caso que se propongan altas fuerzas horizontales hay que añadir unas conexiones de plástico entre las plataformas que se fijan en los canes de forma T. Estos también se usan para fijar los accesorios. (dessin 12)

**NIVOflex<sup>®</sup>-Event**

Enfoncher les pieds amovibles de section □ ou Ø 40-60 mm dans leurs logements et serrer le volant. Placer les éléments à crochets d'assemblage intégrés vers l'avant et le côté droit, rangée par rangée, de telle sorte que ce soit toujours le prochain élément qui s'enclenche dans les crochets d'assemblage. Quand la hauteur dépasse 150 cm, il y a lieu de placer des entretoises sur les pieds de fixation. Consultez à cette fin votre partenaire NIVOflex.

Dans le cas d'une lourde charge, il est nécessaire de stabiliser les piédestals entre eux au moyen d'agrafes en plastique se trouvant dans les gorges en T. Ces gorges en T servent également de supports aux accessoires. (fig. 12)

**NIVOflex<sup>®</sup>-Multi et MultiRel**

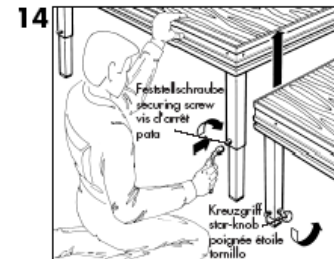
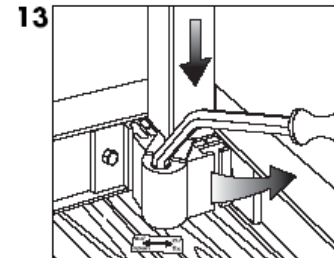
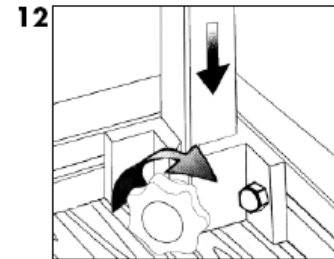
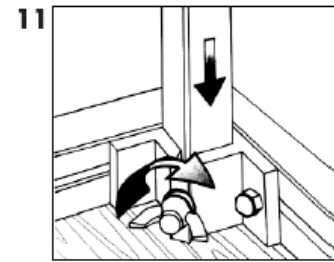
Introduire le levier dans le logement hexagonal et tourner dans le sens "auf/open". Introduire le pied variable □ 60 cm dans le logement et tourner le levier avec vigueur dans le sens „zu/fix“.

Remarque: Lors de ce blocage excentrique vous sentez une pression de l'excentrique que vous devez surmonter pour obtenir une résistance optimale. Des entretoises sont nécessaires entre le logement des pieds à partir d'une hauteur de 200 cm. Adressez-vous, s.v.p., à votre vendeur de NIVOflex (dessin 13).

**NIVOflex<sup>®</sup>-Multi y MultiRel**

Introducir la palanca en el taladro hexagonal y tomar en dirección "auf/open". Introducir la pata intercambiable de □ 60 mm en la esquina y apretar la palanca en dirección "zu/fix" hasta su tope.

Nota: Con el sistema de cerradura se nota un punto de 'apriete'. Este punto se ha de pasar ligeramente. A partir de la altura 200 cm son necesarios arriestramientos. Consulte a su Distribuidor NIVOflex (Fig. 13).



**Einstellung der Teleskopfüße**

Die Höheneinstellung der Teleskopfüße erfolgt durch Lösen bzw. Festdrehen des Kreuzgriffes und der Feststellschraube M 10 (Abb. 14).

**Ajustement des Pieds Télescopiques**

L'ajustage en hauteur des pieds télescopiques s'effectue en serrant et desserrant la poignée étoile M 10 et la vis d'arrêt (dessin 14).

**Ajuste de patas telescópicas**

El ajuste de las patas telescópicas se realizara soltando y fijando los tornillos en la pata (Fig. 14).

**Adjustment of telescoping legs**

The height-adjustment of the telescoping-legs is to be made by loosen or tighten the star-knob and the screw M 10 (picture 14).

## Flächenverbund

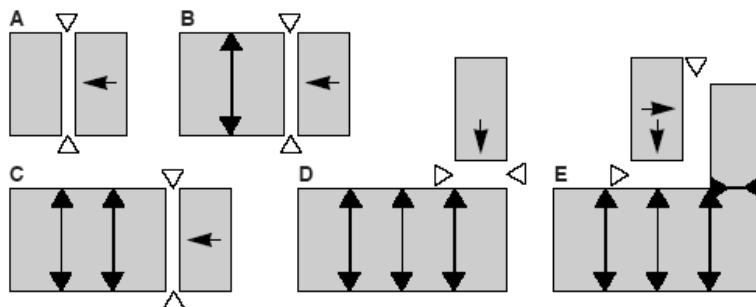
Pro Podestverbund werden zwei Klemmverbinder benötigt.  
Der Klemmverbinder wird in den oberen C-Kanal des Aluminiumrahmens eingeschoben und vorgespannt (Abb. 15).  
Danach den Klemmverbinder ganz einschieben und mittels Kugeldrehler festdrehen (Abb. 16).

Um die Verbindung wieder zu lösen, wird die Schraube des Klemmverbinders nach links gedreht. Anschließend können die Podeste getrennt werden (Abb. 17).

For each connection two clamp-connectors are necessary.  
The clamp-connector is to be put into the channel of the aluminum frame (picture 15) and tightened a bit. Put into totally and screw with ball screw driver into position (picture 16).

To loosen the connection the screw of the clamp-connector is to be turned left. Afterwards you can separate the platforms (picture 17).

### Verbundschema / Combination example / Schéma de montage / Esquema de conexión:



## Zubehör

### Geländermontage bei NIVOflex<sup>®</sup>-MultiRel

MultiRel-FüÙe (□ 60mm mit Innereinsatz) wie oben beschrieben einsetzen. Abdeckkappen mit dem Haken aus der Platte ziehen. Stahlbolzen durch die Platte in den Innereinsatz einstecken. Geländer aufsetzen und mit den seitlichen Schrauben sichern (Abb. 18 und 19).

## Liaison

Pour lier deux podiums entre eux, il vous faut deux accouplements de serrage.  
Glisser et serrer l'accouplement de serrage dans le canal C du cadre en aluminium (dessin 15).  
Ensuite, faire glisser entièrement l'accouplement de serrage et finir de le serrer à l'aide du tournevis (dessin 16).

Pour déserrer l'accouplement de serrage, tourner la vis de l'accouplement de serrage vers la gauche (dessin 17).

Para cada conexión se necesitan dos conectores.  
El conector se introduce en la canal C del marco de la plataforma y se fija con fuerza (Fig. 15 y 16).

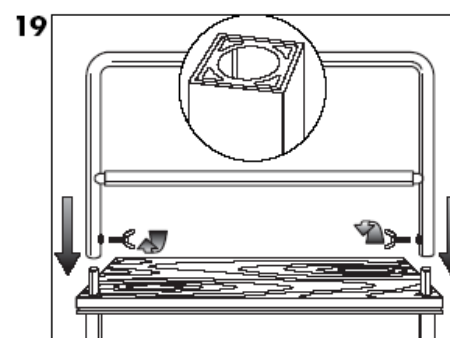
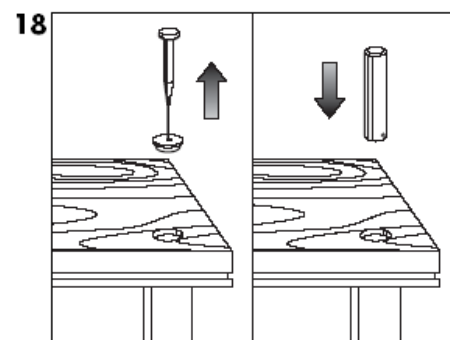
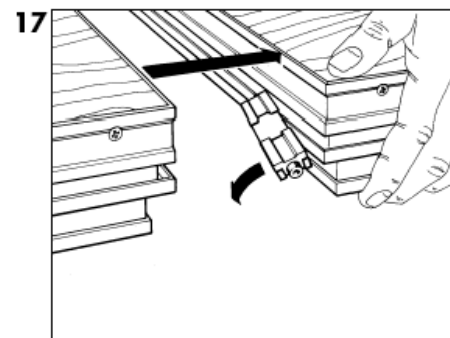
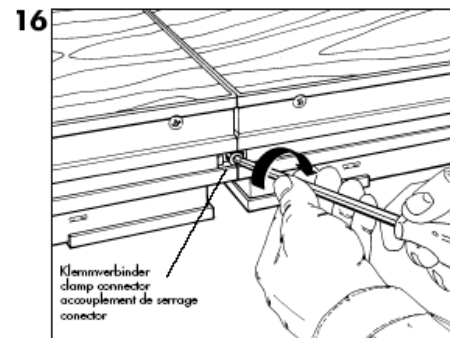
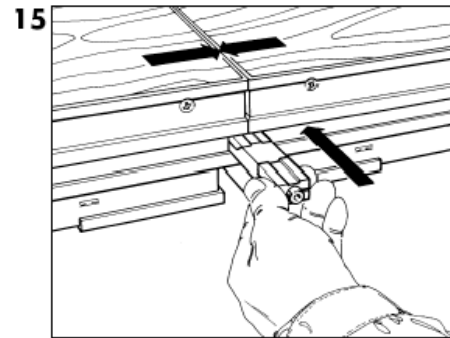
Para soltar la conexión se suelte el tornillo hacia la izquierda. Ahora se podrán separar las plataformas (Fig. 17).

## Accessoires

### Montage garde-corps NIVOflex<sup>®</sup>-MultiRel

Installer les pieds MultiRel (□ 60 mm à prise intérieure) suivant la description ci-dessus.  
Retirer les chapeaux du plateau avec le crochet. Introduire les broches en acier à travers la table dans le logement intérieur. Poser le garde-corps sur les broches et fixez-le avec les vis latérales (dessins 18 et 19).

## Connection



## Accessories

### Installation of safety-railing for NIVOflex®-MultiRel

MultiRel legs (□ 60mm with inserting) are to be fixed as per above mentioned description. Remove the cover with hook out of the wooden top. Put steel-bolt into the inserting, set-up railing and fix with screws at the sides (picture 18 and 19).

### Absturzsicherung

Nutenstein einlegen und mit Madenschraube und Imbus fixieren. Geländer mit Sterngriff am Nutenstein befestigen (Abb. 20).

Gleiche Vorgehensweise für sonstiges System-zubehör wie Holzverblendungen, Stuhlhalte-leisten etc., die am oberen C-Kanal befestigt werden.

### Safety-railings

Put linking-block into the C-channel and fix hexagon-socket-screw. Railings to be connected to linking-block with star-knob (picture 20). Same adjustment with other accessories like wooden-maskings, chair-stop-rails etc. which will be connected to the C-channel.

### Variable Anstelltreppe

Die einzelnen Treppenelemente zusammenstellen und mit Sechskantschrauben und Flügel-muttern durch die vorhandenen Verbundbohrungen verbinden/sichern (Abb. 21 und 21 A).

### Variable stair-case

Setup single steps together and combine/screw with wing-nuts through indicated borings (picture 21 and 21 A).

### Treppengeländer

Geländer mit Sechskantschrauben und Flügel-muttern seitlich an der montierten Treppe befestigen (Abb. 21 und 21 B).

### Banister-railing

Fix banister-railing with screws and wing-nuts to the stair-case (picture 21 and 21 B).

### Textilverblendung - Klettenhaftband

Die Schutzfolie entfernen, das Klettenhaftband ohne Zug in die Aussparung oberhalb des C-Kanals einkleben und festdrücken. Den Vorhang mit dem aufgenähten Flauschband andrücken (Abb. 22).

### Textile-masking - velcro-tape

Remove the interliner and put the male velcro-tape without tension into the nut within the aluminum-profile. Push the curtain/textilemasking with the female velcro to the male velcro-tape (picture 22).

Alle Schraubverbindungen regelmäßig überprüfen. Beim Abbau jeweils in umgekehrter Reihenfolge verfahren. Every screwed connection should be checked upon in due time. For demounting opposite seriation.

## Accesorios

### Montaje de Barandillas para NIVOflex®-MultiRel

Introducir patas MultiRel □ 60 mm con pieza interior) como antes descrito. Sacar las tapaderas de plástico con el gancho. Introducir el bulón de acero. Montar la barandilla sobre los bulones y fijar los tornillos de mariposa (Fig. 18 y 19).

### Garde-corps

Glisser le coulisseau, le fixer à l'aide de la vis sans tête et de la clé pour vis hexagonales. Fixer le garde-corps au coulisseau à l'aide de la poignée étoile (dessin 20).

Procéder de la même façon pour le montage de toutes les autres accessoires comme les panneaux de bois, les profils d'arrêt pour chaises etc. qui se fixent dans le canal C.

### Barandilla

Introducir la tuerca corredera en la canal C y fijarla con el tornillo. Fijar la barandilla con el tornillo de estrella a la tuerca corredera (Fig. 20).

El mismo tipo de fijación se usa para revestimientos de madera topes de sillas etc.

### Escalier variable

Assembler les différents éléments de l'escalier au moyen des vis hexagonales et écrous à ailettes (dessins 21 et 21 A).

### Escalera variable

Juntar los elementos y fijarlas con los tornillos y tuercas de mariposa (Fig. 21 y 21 A).

### Rampe d'escalier

Fixer la rampe sur le côté de l'escalier à l'aide des vis hexagonales et écrous à oreilles (dessins 21 et 21 B).

### Barandilla de escalera

Fijar la barandilla con los tornillos en el lateral de la escalera (Fig. 21 y 21 B).

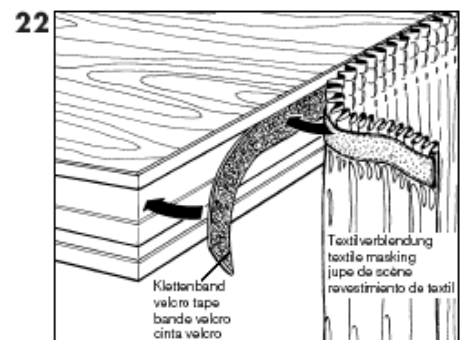
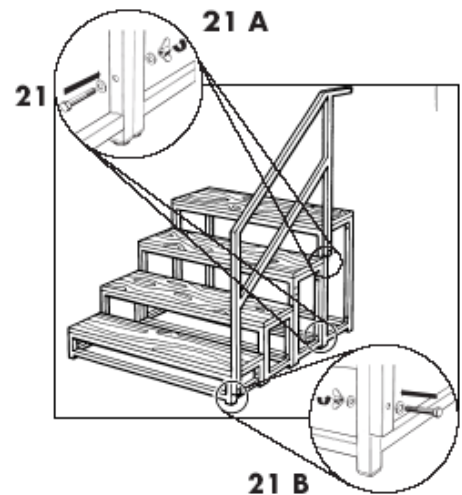
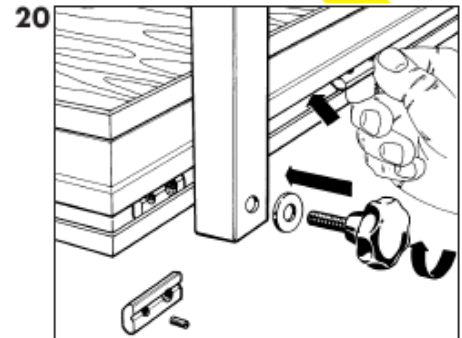
### Jupe de scène - bande velcro

Oter le film protecteur, coller la bande velcro dans la rainure qui se situe au-dessus du canal C et presser la pour qu'elle adhère bien. Y fixer le rideau équipé de l'autre velcro (dessin 22).

### Revestimiento de textil - cinta velcro

Pegar la cinta velcro en la canal superior de la plataforma. El revestimiento de textil se puede fijar ya que lleva la cinta velcro ya cosida (Fig. 22).

Vérifier régulièrement toutes les fixations par vis. Lors du démontage, il vous suffit de procéder dans le sens inverse. Todas las conexiones de tornillos se han de controlar periódicamente.



Hinweis für Außeneinsätze: die als Standard eingebaute lasierte Tischlerplatte ist nur bedingt für Außeneinsätze geeignet und darf nicht naß werden. Für Außeneinsätze empfehlen wir wetterfeste Siebdruckplatten.

Information for out-door use: the normal standard-wooden top, natural glazed, is only to be used qualified for out-door use and should not be wet. We would recommend to use a silk-screen top instead.

Information pour l'usage à l'extérieur: La surface standard glacée ne doit pas être exposée à la pluie. Nous recommandons pour l'usage à l'extérieur notre surface spéciale résistante contre l'humidité.

Información para el uso al aire libre: Las superficies estándar no se pueden mojar con líquidos ya que no se deben usar al aire libre. Nosotros recomendamos nuestras placas especiales para uso al aire libre.

Eine Standardtreppe besteht aus bis zu 5 Stufenelementen, die entsprechend der Bühnenhöhe ineinander gesteckt und an beliebiger Stelle am Podestrahmen befestigt wird. Bei 3-, 4- und 5 stufigen Treppen werden zwei Anstellfüße unter die Profile zwischen der 3. und 4. Stufe gesteckt um die Treppe zusätzlich zu stabilisieren. Treppenbreite: 100 cm, Stufenhöhe: 20 cm, Auftritt: 26 cm.

The standard stair consists of up to 5 stair-units, which will be plugged into each other for the required stage height. The set can be connected to the platform-frame at any position. For stairs with 3-,4- and 5 steps 2 additional struts are to be plugged into the lower profiles to stabilize the stair-case. Width: 100 cm, Height of step 20 cm, Tread: 26 cm.

Un escalier standard est constitué au maximum de 5 marches qui donne la hauteur des marches assemblées qui peuvent être monter à n'importe quel endroit sur le cadre du moment que celui-ci à une rainure. Pour 3-4 et 5 marches deux pieds viennent ce montés entre la 3 & 4 marches pour plus de stabilité.

Marche de 100 cm de large avec une profondeur de 26 cm.

La escalera Modular estandar se compone de maximal 5 escalones que según la altura necesaria del escenario se montarán. Despues se pueden fijar en cualquier sitio en la plataforma. En escaleras de 3-4 escalones es necesario de montar unas patas suspensoras debajo del escalone 3 y 4. Para estabilizar la escalera. Anchura de escalera: 100 cm ; Altura escalón: 20 cm, Profundidad escalón: 26 cm.

Treppenmontage bei allen Podestmodellen mit umlaufendem Funktionskanal. Benötigtes Werkzeug: Maulschlüssel SW 17

See installation for all NIVOflex platforms with surrounding C-Channel. Necessary Tool: Combination Wrench Size 17 mm

Montage de l'escalier à tout les podiums avec une rainure ou canal de fixation des accessoires. Outil nécessaire :Clé a fourche 17 mm

Montage de la escalera al Canal multifuncional de las plataformas NIVOflex. Herramienta necesaria: Llave de boca 17 mm

Treppenmontage bei allen Podestmodellen mit glattem Außenprofil. Benötigtes Werkzeug: Maulschlüssel SW 19

See installation for all NIVOflex platforms with plain / flat surrounding profile. Necessary Tool: Combination Wrench Size 17 mm

Montage de l'escalier sur les podiums à cadre lisse comme le modèle EVENT. Outil nécessaire :Clé a fourche 17 mm

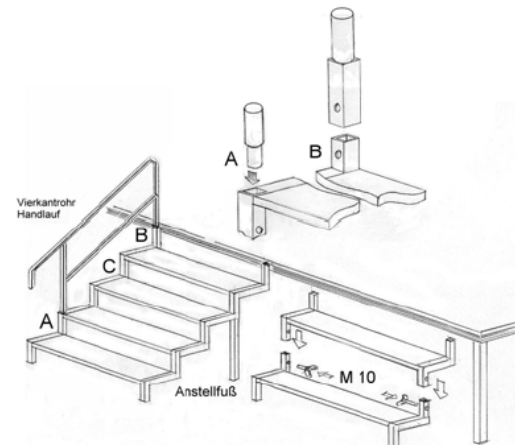
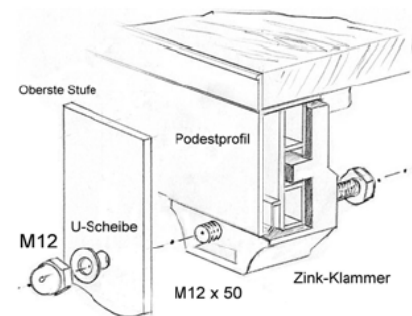
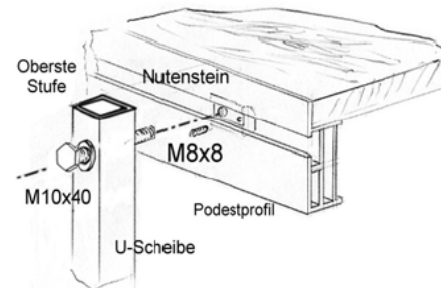
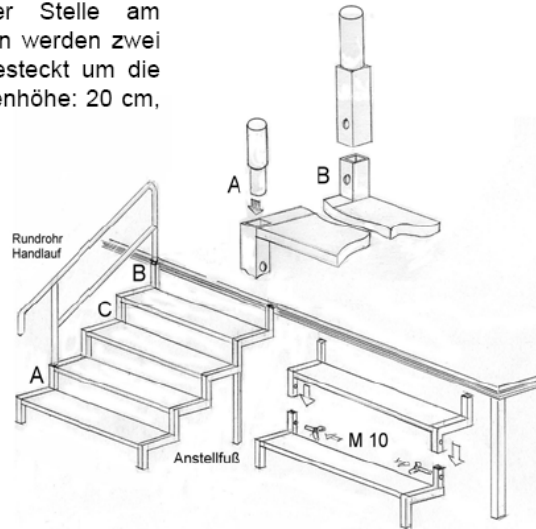
Montage de la escalera a plataformas con Perfil liso como la EVENT. Herramienta necesaria: Llave de boca 17 mm

Treppengeländer wird ab 2-stufiger Treppe durch aufstecken befestigt. Das Rundrohrgeländer bei A und B ( siehe 1), das Vierkantgeländer für EVENT Podeste bei A und C. ( Siehe 4 )

Banister railing can be connected be plugging-in from 2 steps upwards. Railings with tube for A+B ( see 1) and square tube for EVENT at A+C (see 4)

La main-courante pour escalier à partir de 2 marches. La main-courante ronde Ø 27 mm voir A et B schéma position 1, et pour tube carré pour podium EVENT voir A et C schéma position 4.

La barandilla se ha de montar a partir del segundo escalón. La barandilla de tubo redondo en A y B (ver 1); el tubo cuadrado para plataformas EVENT en A y C (ver 4).





DELIBERATELY LEFT BLANK

