

# GENERATION

# Ranger™ Stair User Guide

LW/06.19



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# GENERATION SCAFFOLDING AND ACCESS SUPPORT FOR CONSTRUCTION AND INDUSTRY

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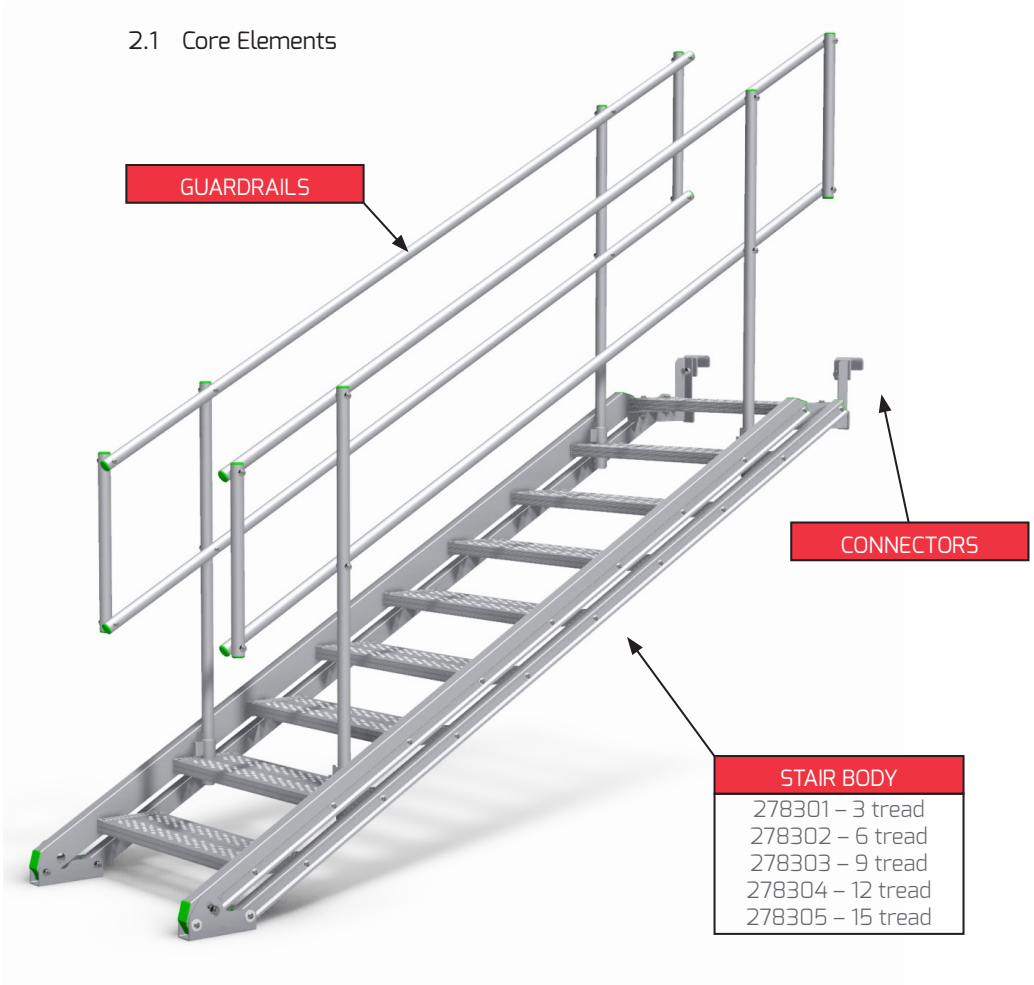
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## 1.0 INTRODUCTION

The DESSA RANGER™ Stair is a range of self-contained, pre-assembled aluminium stair units, flat packed, which automatically adjust to a wide range of lift heights, making them ideal for use in tube and fitting scaffolds along with other applications. The DESSA RANGER™ Stair is fully compliant with BS EN12811 for all possible configurations.

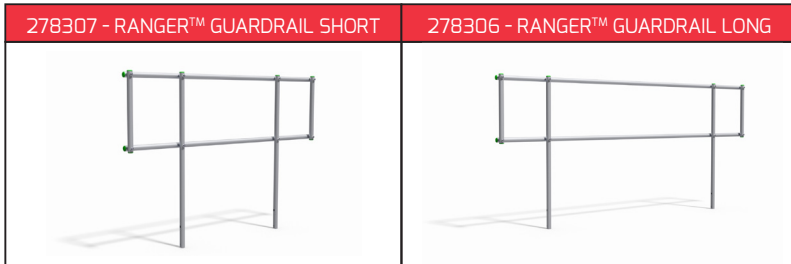
## 2.0 COMPONENT RECOGNITION

### 2.1 Core Elements



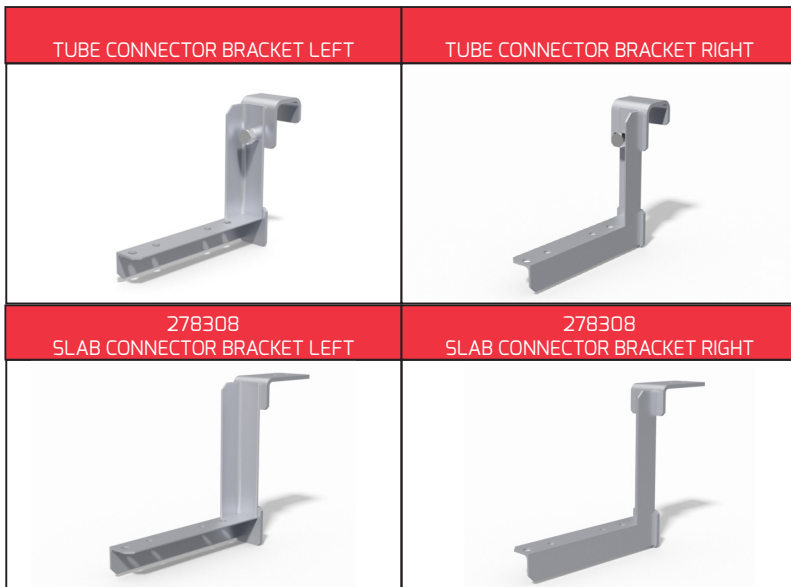
## 2.2 Guardrails

The DESSA RANGER™ Stair guardrails are available in two lengths to correspond to the stair body being used. Instructions of which guardrails are to be used with each stair body can be found in Section 4.1.3 of this document.



## 2.3 Connectors

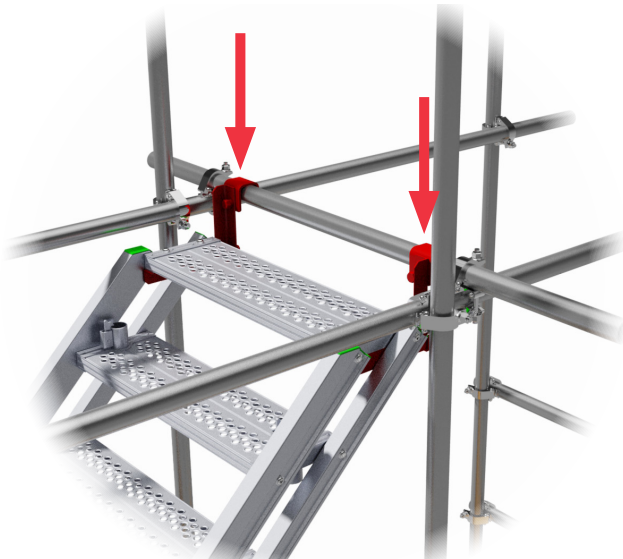
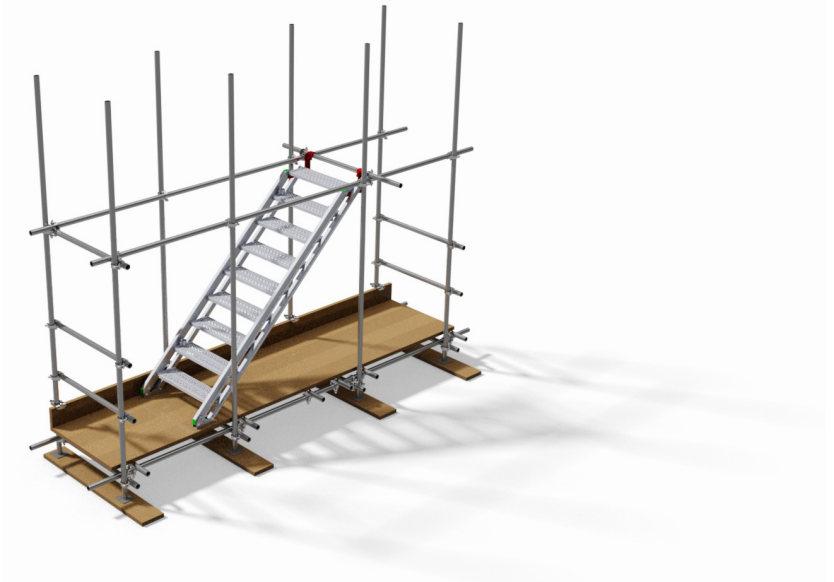
The DESSA RANGER™ Stair bodies include the tube connector brackets. There are also interchangeable brackets available for when the DESSA RANGER™ Stair is used for alternative applications.



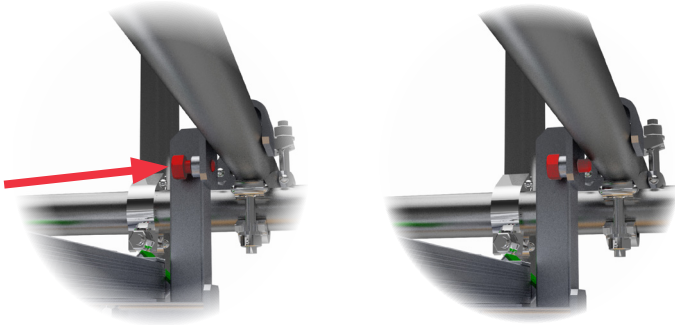
## 3.0 Assembly

### 3.1 Basic Assembly

Step #1 – Engage RANGER™ Stair assembly to tube using connector brackets.

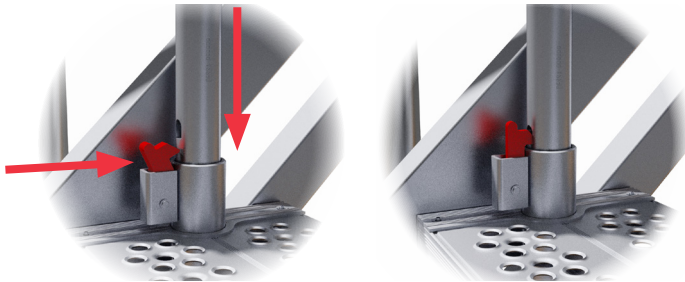
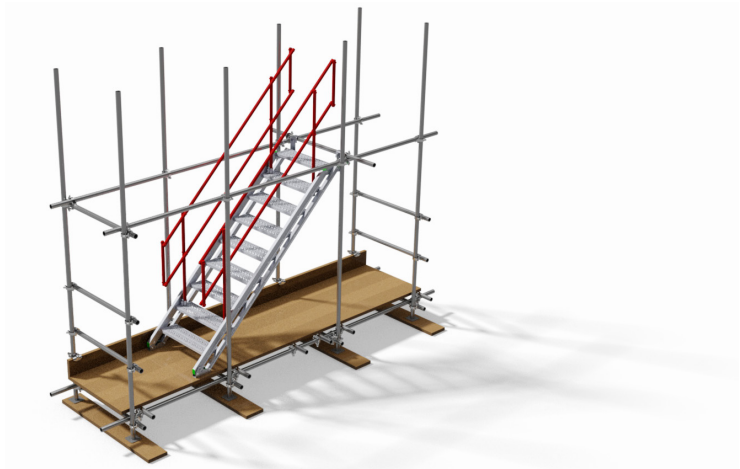


Step #2 – From a safe working level, tighten the integrated **anti-uplift bolts** on the underside of the tube connector brackets, using a standard scaffold spanner.

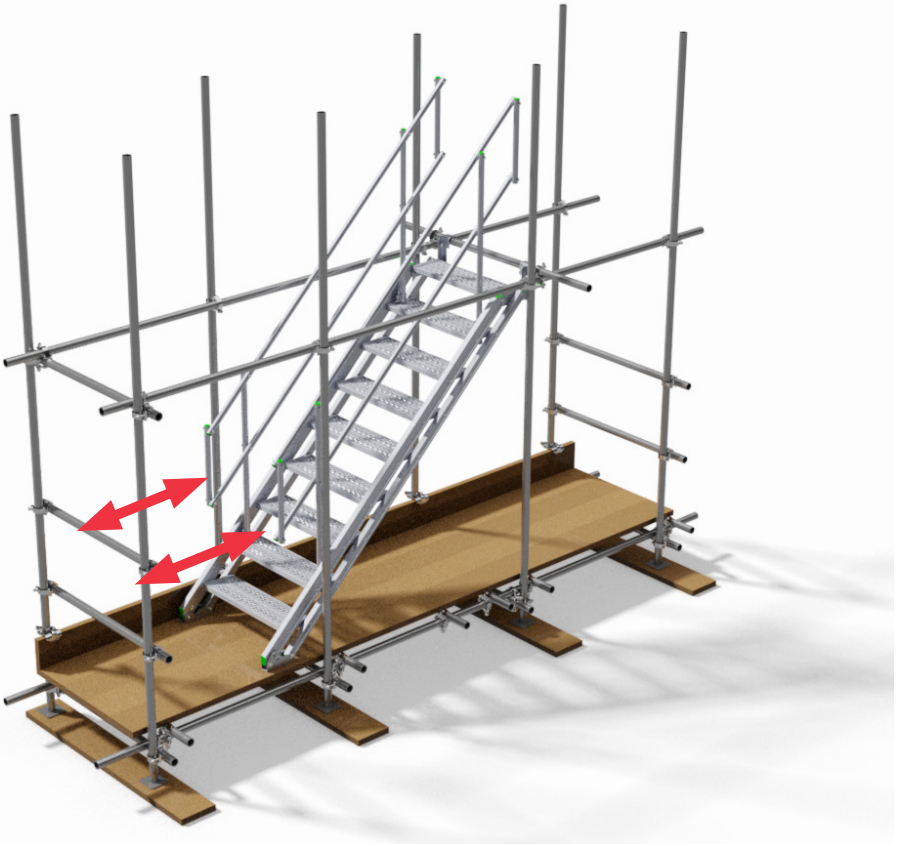


Do not overtighten the anti-uplift bolts.

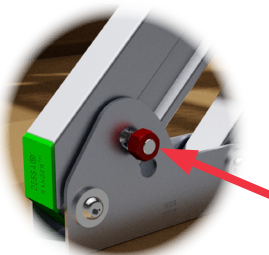
Step #3 – Insert **guardrail assemblies** into the guardrail sockets. The **built-in spring retainers** will lock these in place.



Step #4 – Articulate guardrails to find the optimal angle and level treads.



Step #5 – Lock the stair by engaging **locking nut** into footplate, using a standard scaffold spanner.

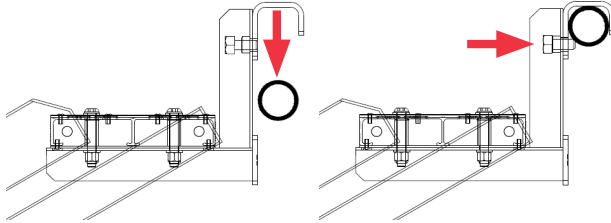


Ensure nut shoulder locates into one of the preformed holes in the footplate.



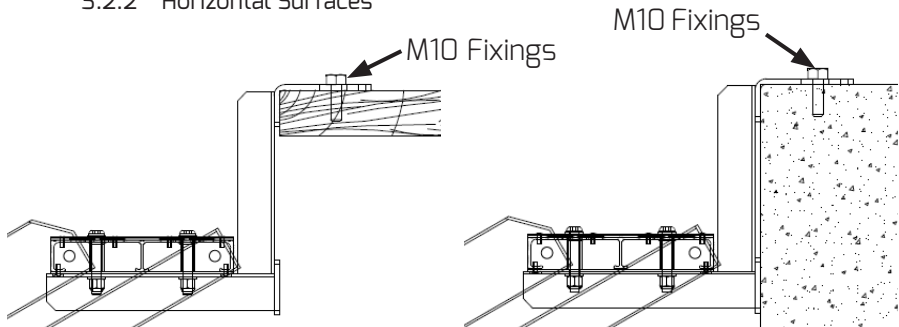
## 3.2 Alternative Connector Applications

### 3.2.1 48.3mm Tube



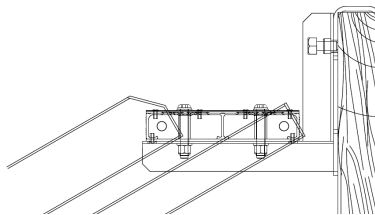
Use tube connector brackets to attach the DESSA RANGER™ Stair to 48.3mm scaffold tubes. The brackets can be secured to the tube using the integrated bolt fixing, thereby preventing uplift.

### 3.2.2 Horizontal Surfaces



For horizontal surfaces use brackets slab connector brackets 278308 with M10 fixings to secure.

### 3.2.3 Timber Joists



The tube connector brackets are also to be used with timber joists up to 50mm in width. The anti-uplift bolt can be used to secure the stair by tightening lightly into the timber joist.

## 4.0 Technical Data

### 4.1 Model Information

#### 4.1.1 Stair Assemblies

PART NUMBER	DESCRIPTION	WEIGHT (KG)
278301	RANGER™ Stair, 3 Tread	18.49
278302	RANGER™ Stair, 6 Tread	29.66
278303	RANGER™ Stair, 9 Tread	40.71
278304	RANGER™ Stair, 12 Tread	51.92
278305	RANGER™ Stair, 15 Tread	62.91

#### 4.1.2 Guardrail Units

PART NUMBER	DESCRIPTION	WEIGHT (KG)
278307	RANGER™ Guardrail Short	5.9
278308	RANGER™ Guardrail Long	7.3

#### 4.1.3 Stair Guardrail Requirements

DESCRIPTION	GUARDRAIL SHORT 278307	GUARDRAIL LONG 278306
RANGER™ STAIR, 3 Tread	-	-
RANGER™ STAIR, 6 Tread	2	-
RANGER™ STAIR, 9 Tread	-	2
RANGER™ STAIR, 12 Tread	4	-
RANGER™ STAIR, 15 Tread	2	2

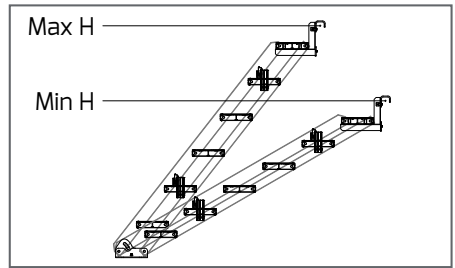
#### 4.1.4 Connectors

PART NUMBER	DESCRIPTION	WEIGHT (KG)
Inc. with Stair	Tube Connector Left	1.36
Inc. with Stair	Tube Connector Right	1.36
278308	Slab Connector Left	1.38
278308	Slab Connector Right	1.38

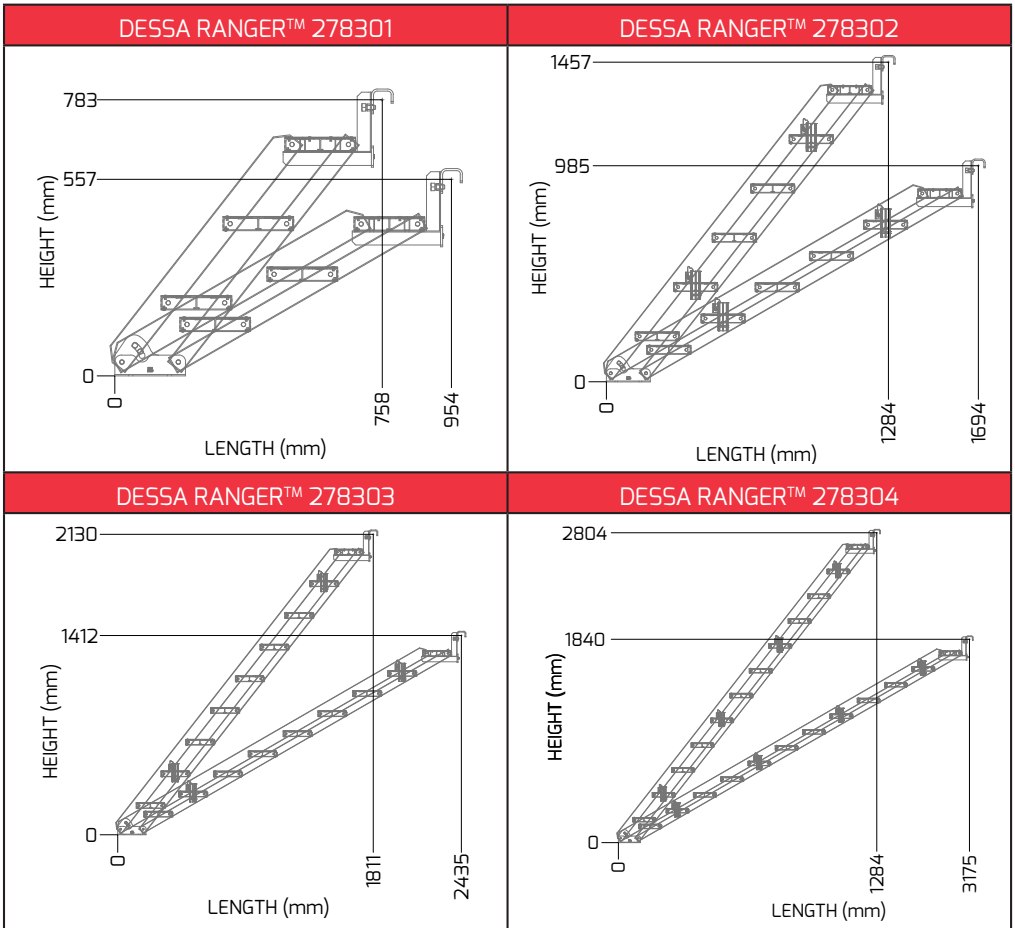
## 4.2 Model Geometry

### 4.2.1 Model Application Range

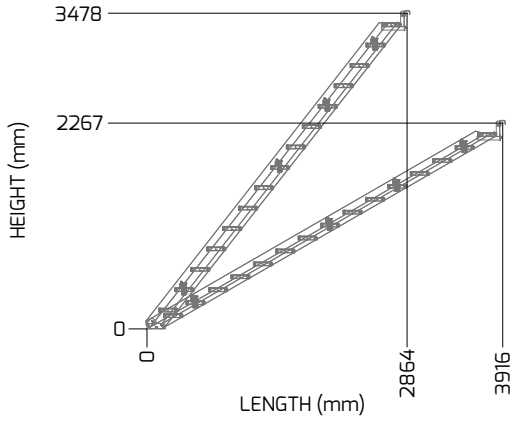
PART NUMBER	MINIMUM HEIGHT (MM)	MAXIMUM HEIGHT (MM)
278301	557	783
278302	985	1457
278303	1412	2130
278304	1840	2804
278305	2267	3478



Note: the above table relates to application range when using tube connector brackets only. The height measurement is taken to the centre of the scaffold tube to which the connector bracket engages.

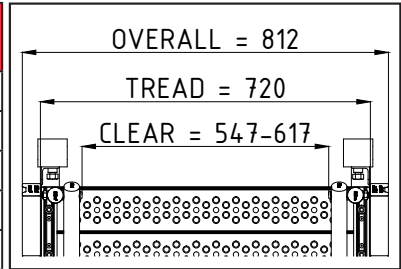


## DESSA RANGER™ 278305



### 4.2.2 Tread Details

PART NUMBER	NUMBER OF TREADS	TREAD WIDTH (MM)
278301	3	720
278302	6	720
278303	9	720
278304	12	720
278305	15	720



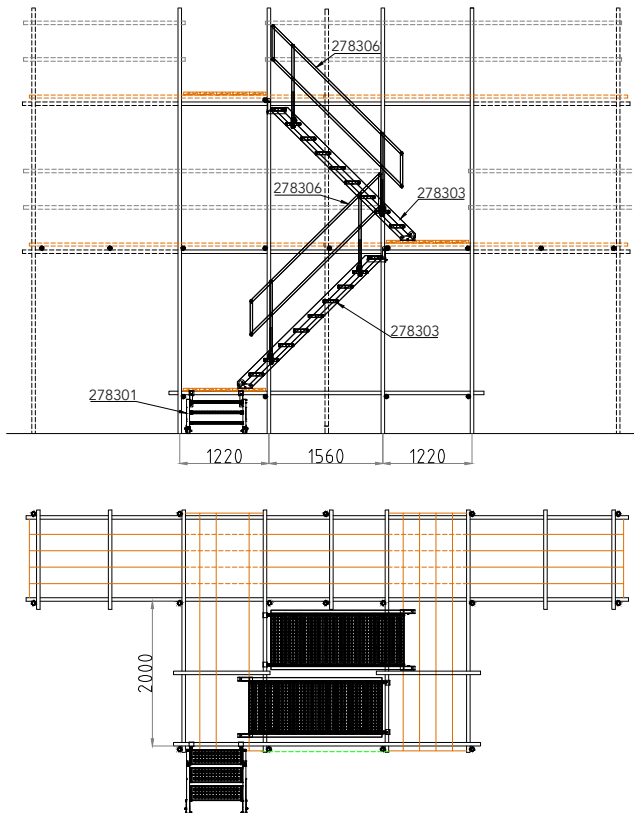
### 4.3 Structural Performance Data

MODEL NUMBER	UNIFORMLY DISTRIBUTED LOAD (kN/m <sup>2</sup> )	POINT LOAD (kN)
278301	>1.5	1.5
278302	>1.5	1.5
278303	>1.5	1.5
278304	>1.5	1.5
278305	=1.5	1.5

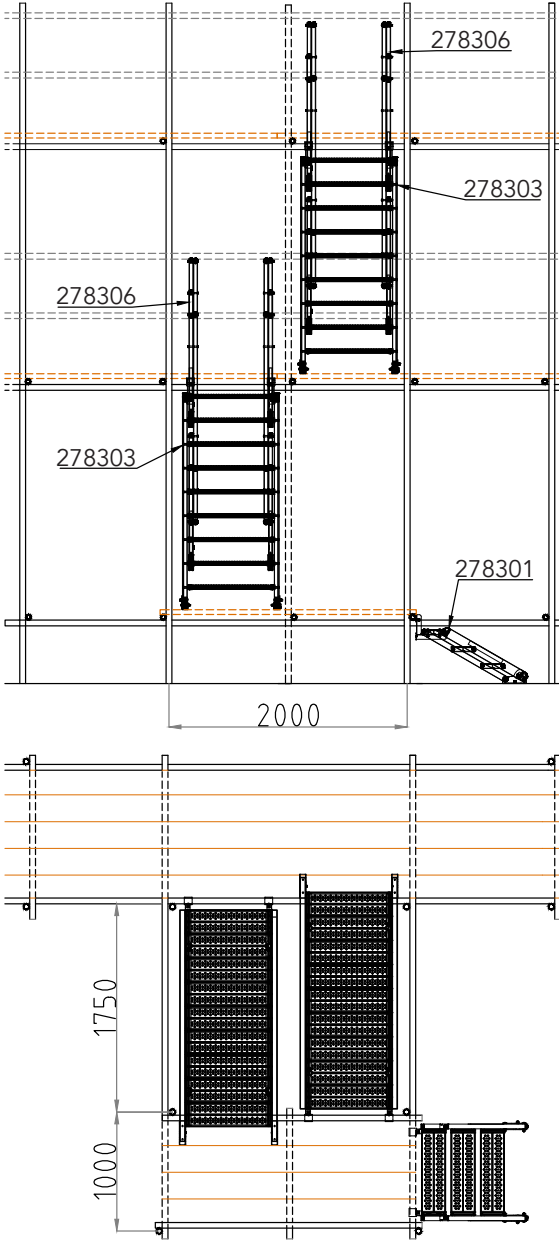
**NOTE: UNIFORMLY DISTRIBUTED LOAD CASE ASSUMES EVERY TREAD LOADED SIMULTANEOUSLY. POINT LOAD CASE IS MAXIMUM PER TREAD.**

### 4.4 Typical Layouts

#### 4.4.1 Tube and fitting scaffold, alternating direction, external, parallel



4.4.2 Tube and fitting scaffold, alternating direction, external, perpendicular



## 5.0 Specific Risk and Hazards to Health

### 5.1 During Installation

- Ensure that appropriate PPE is worn at all times during the installation process. As a minimum, this will entail gloves, steel toe cap boots and a hard hat.
- The manual handling, lifting and placement of the RANGER™ Stair units from RS0006 upwards require a minimum of two operatives.
- Avoid placement of objects between the treads at the tread/stringer intersection whilst the stair is being adjusted as this gap is variable whilst adjustments are being made.
- Ensure that all guardrails and toe boards are installed and secured safely at each landing position.

### 5.2 Post-Installation

- Ensure at least one hand is placed on the guardrails at all times whilst the RANGER™ Stair units are being traversed.
- Avoid running whilst entering, traversing and exiting the RANGER™ Stair units.
- Ensure that the RANGER™ stair treads are kept free from debris and loose materials at all times.
- Materials are not to be stored on the RANGER™ stair units.
- Ensure that the RANGER™ Stair treads are kept free from grease or oil spillages.
- Ensure that the locking stays are engaged at all times and are not tampered with.
- Ensure that the connector brackets are firmly engaged.
- Some corrosive environments and extreme temperatures may affect the performance and durability of the alloy stairway. Contact DESSA's technical team for advice if these are suspected to be influencing the DESSA RANGER™ Stair.

## 6.0 Inspection and Maintenance

### 6.1 Inspection

The following list requires inspection on a weekly basis, or prior to each installation of the DESSA RANGER™ Stair:

- Check all nuts and bolts are in position and tight.
- Check all bolts for looseness.
- Check all treads for damage.
- Check all stringers for damage.
- Check connector brackets for damage.
- Check guard rail sockets for damage.

### 6.2 Maintenance

The DESSA RANGER™ Stairs are a fully bolted construction and therefore any routine maintenance is straightforward using the minimum tools. Tools required: 12mm spanner, 8mm allen key.

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