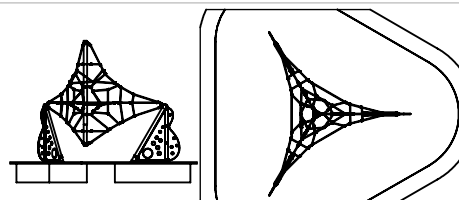


Levigator 3 Installation Instructions

Rubber Surface

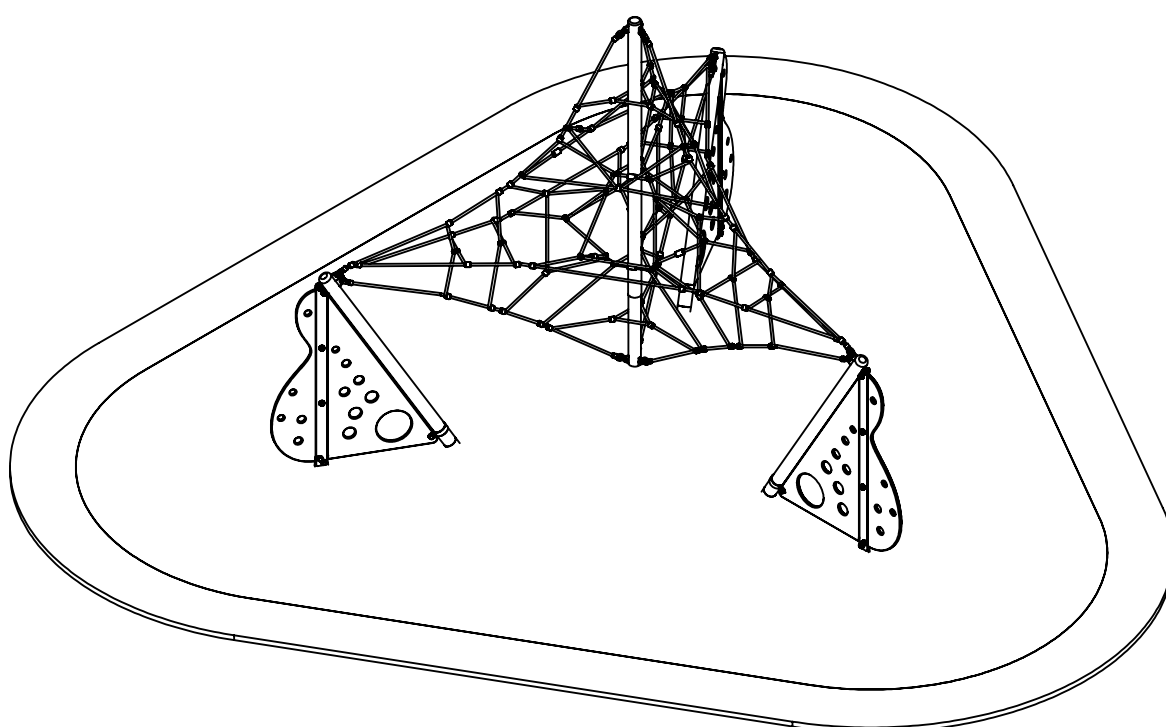


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Product overview

The Levigator 3 has been designed to be used by children from 3 years to 18 years of age, and has been manufactured to exceed the European playground standards EN1176-1(2008) and EN1176-11(2014)

The following installation instructions should be adhered to in order that the equipment functions in a safe manner.



Special Points of interest

Telescopic stainless steel mast and legs 240 grit polished

16mm Steel wire reinforced braided nylon rope

One piece hydraulically pressed aluminium joints

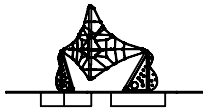
Legs 15mm Fahr Industries CNC Cut Plastic Insert

Foundation Stainless Steel Feet

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Space requirements & Safety Clearances

The requirements for space and safety clearances are extracted from the following standards BS-EN1176-1

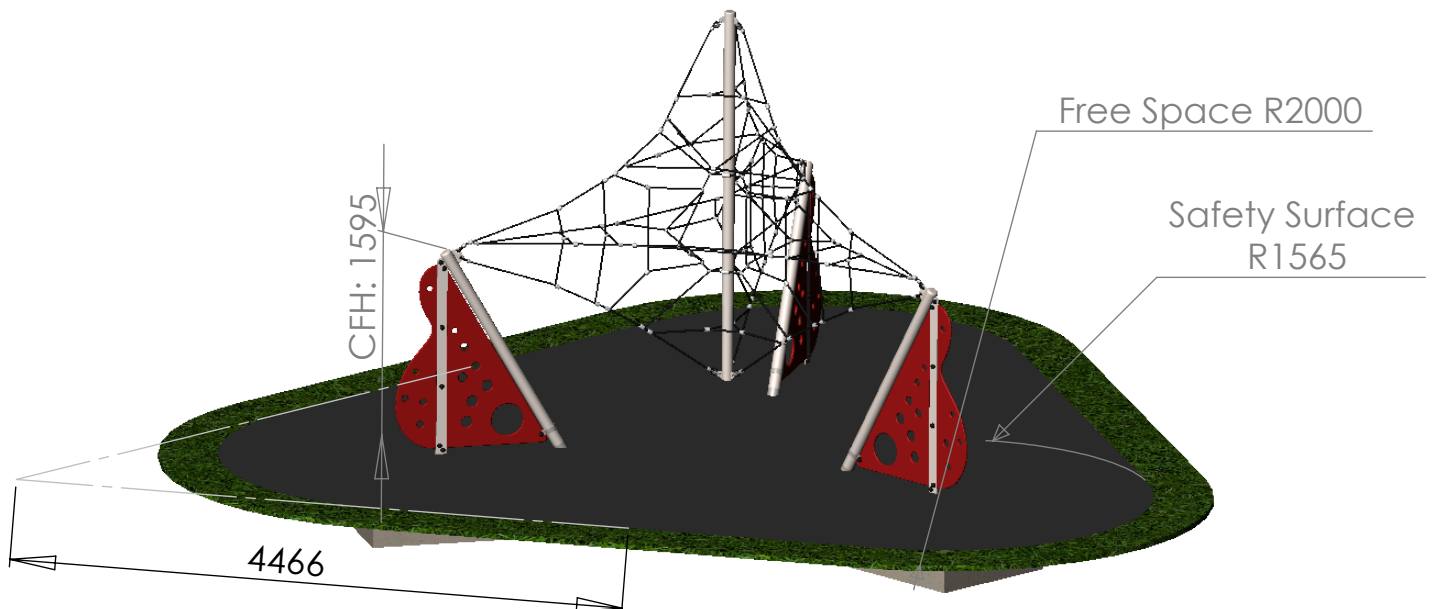
BS-EN1176-1
BS-EN1176-1

Section 4.2.8
Section 4.2.8.2.3

Zones
Free space

The equipment should be situated to allow 2.0m free space from the edge of the product at ground level. This translates into a 9.245 metre equilateral triangle with 1.565 metre radius corners, as shown below.

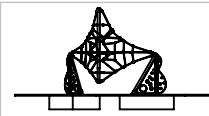
Finished assembly showing the recommended safety zones



Free Height of fall

The maximum height at which a child can stand, and fall unimpeded, is 1.595m this is considered to be the free height of fall according to BS-EN 1176 part 11 section 4.3. And therefore a suitable 6.5 metre, equilateral triangle, Rubber safety surface as shown above, is needed. See table below for recommended Surface Types and Depths:

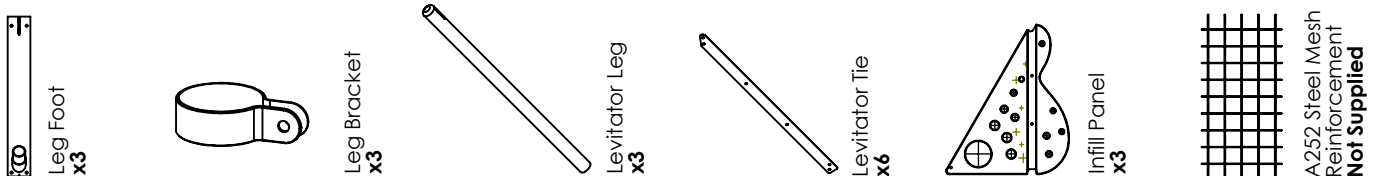
Material a)	Description (mm)	Minimum depth (mm) b)	Critical fall height (mm)
Turf/Topsoil			≤ 1000
Bark	20 - 80 grain size	200	≤ 2000
		300	≤ 3000
Woodchip	5 - 30 grain size	300	≤ 2000
		200	≤ 3000
Sand c)	0,2 - 2 grain size	200	≤ 2000
		300	≤ 3000
gravel c)	2 - 8 grain size	200	≤ 2000
		300	≤ 3000
Other materials and other depths	As tested to HIC (see EN 1177/EN 1176-2)		Critical fall height as tested
a) Materials properly prepared for use in children's playgrounds			
b) For loose particulate material, add 100mm to the minimum depth to compensate for displacement			
c) No silty or clay particles, grain size can be identified by use of a sieve test			



Installation instructions

The **Levitator 3** is delivered in two sections

1. The central mast with the net attached
2. The dismantled corner legs with fixings for easy assembly



Only section 2. is required at this point so the first piece should be left wrapped and stored safely until the groundwork's have been completed and the concrete been given sufficient time to cure.

Foundation requirements

General

The Levitator Net has been designed to allow a rubber safety surface to be placed below the net, the surface thickness should be based on the CFH of 1595mm.

It is recommended the area is prepared accordingly prior to commencing installation of the net.

Equipment & Tools

The following equipment is recommended to assist in the accurate installation of the foundation anchors.

- 1) Laser Level
- 2) 20m Measuring Tape
- 3) JCB Excavator
- 4) Set Timber
- 5) Manual Tools: Spade, Sledge Hammer, Claw Hammer & Nails
- 6) A252 Steel Reinforcement Mesh

It is recommended that you have a minimum of three people to lift and assemble the Levitator.

Time Management

Day One:

- 1) Set out the Area
- 2) Accurately Position and Excavate Holes
- 3) Secure for concreting
- 4) Press Reinforcement Mesh Into the top of fresh concrete.

Day Two:

- 1) Concrete Foundations

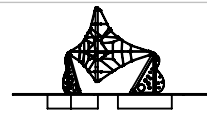
Day Three*:

- 1) Set out Levitator Feet Positions.
- 2) Bolt feet into concrete foundations.
- 3) Laying of rubber safety surface material

Day Four:

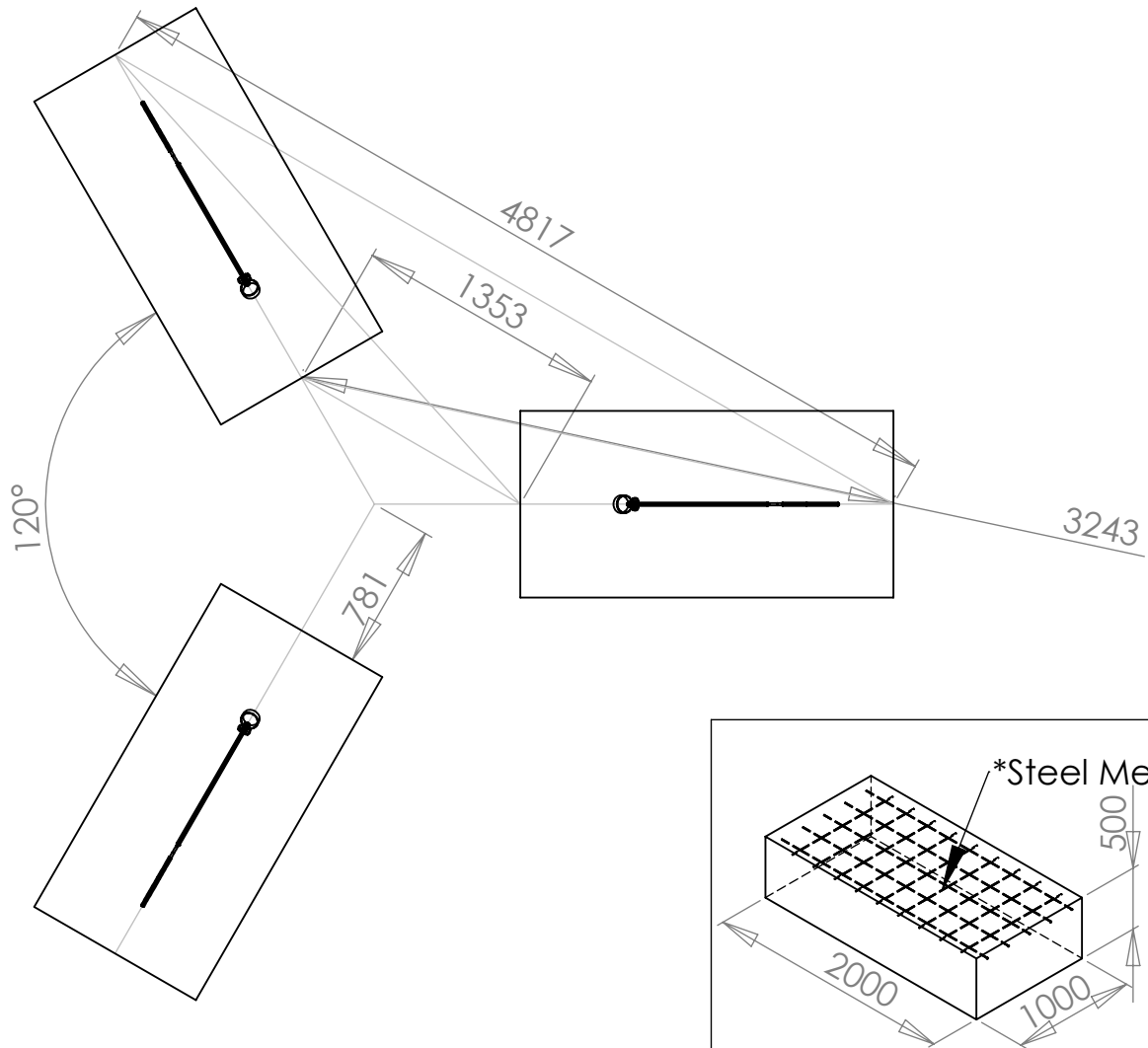
- 1) Assemble Leg Assemblies
- 2) Ensure netting is fixed to central mast first.
- 3) Insert keys into correct positions to finish product assembly.
- 4) Expand central mast to tension the rope.

***The foundation should be left for approximately seven days to achieve maximum strength prior to assembling the remaining elements.**



Foundation Positioning

When setting out the concrete blocks and feet positions, mark down the first two blocks positions using the measurements given. Repeat this process around the 360 degrees.



Foundation Procedure

Setting Out

There are a total of Three holes that need to be excavated. The excavated holes will fix the three Levitator legs positioned evenly around the floating central mast. All foundation concrete blocks must be at the same level.

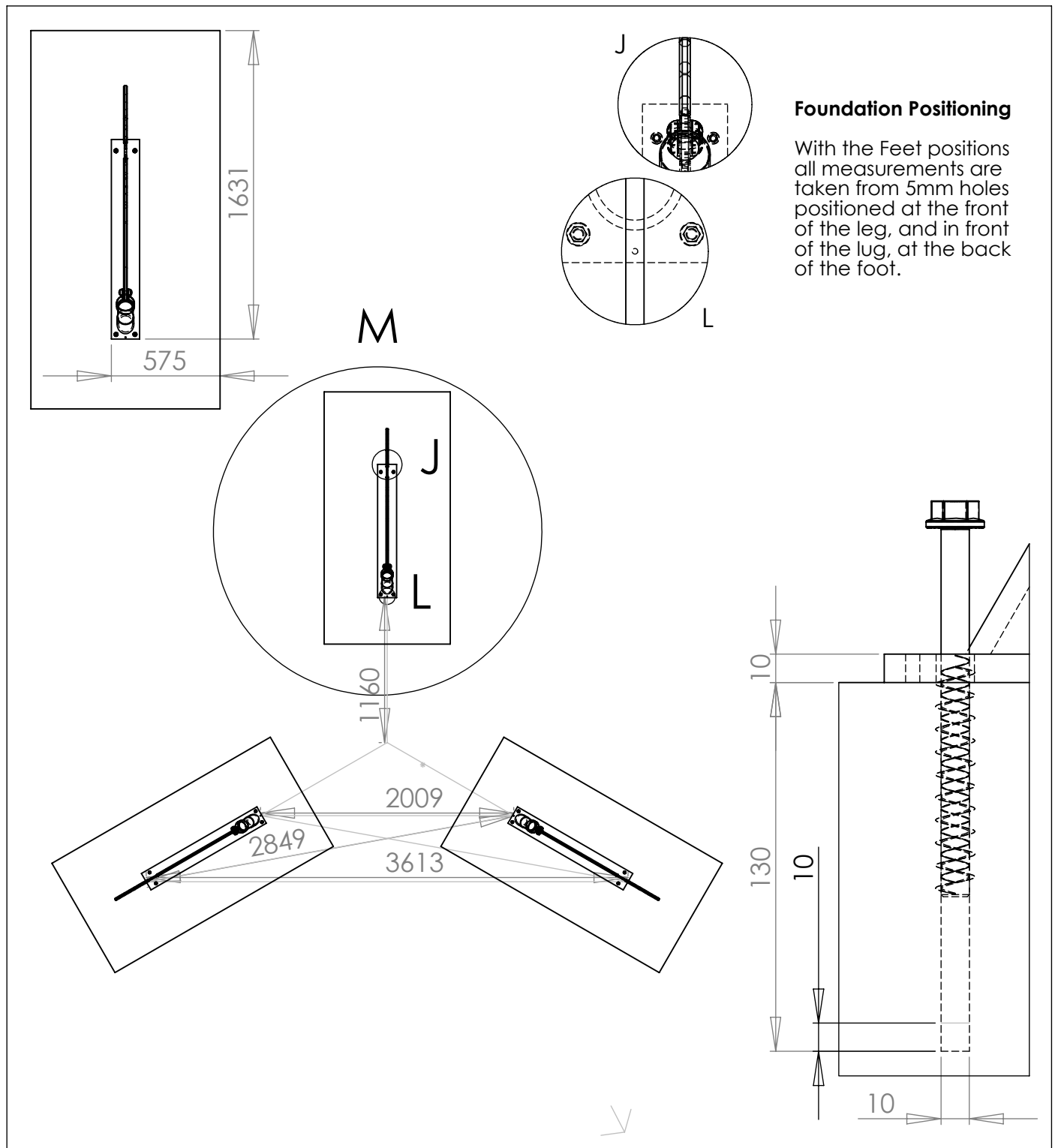
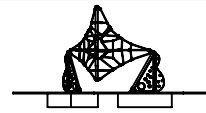
Once the correct position of the holes has been marked prior to excavation, The use of a datum peg is highly recommended in order to easily relocate the exact foundation position.

Excavation & Foundation Positioning

Procedure

In loose ground, it may be necessary to use timber framework (or shuttering) to prevent soil falling into the hole. It will also prevent an unnecessary excess volume of concrete being used. Concrete to be in 30/N mm2 mix. Total volume required: three cubic metre. It is important to ensure that the concrete blocks are level.

*A sheet of A252 mesh reinforcement should be pressed into the top of the fresh concrete, to cover the entire surface ensuring at least 50mm cover.

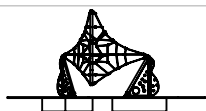


Excavation & Foundation Positioning

Procedure

Once the concrete has cured the feet can be attached to the concrete blocks. Measure and layout the feet using the measurements above.

Bore 10mm holes, 130mm deep for the feet to be bolted directly on top of the concrete surface using the Hilti Bolts supplied (See lower right image). A sheet at the end of the installation instructions has been supplied to help install Hilti Anchor Bolts.



Assembly Instructions

1) With the Feet and Foundations now fixed in place you can start to assemble the three legs. Place each of the Levitator legs (2) into the feet (5).

For plastic insert (4):

Basic Panel: Skip to Stage 2.

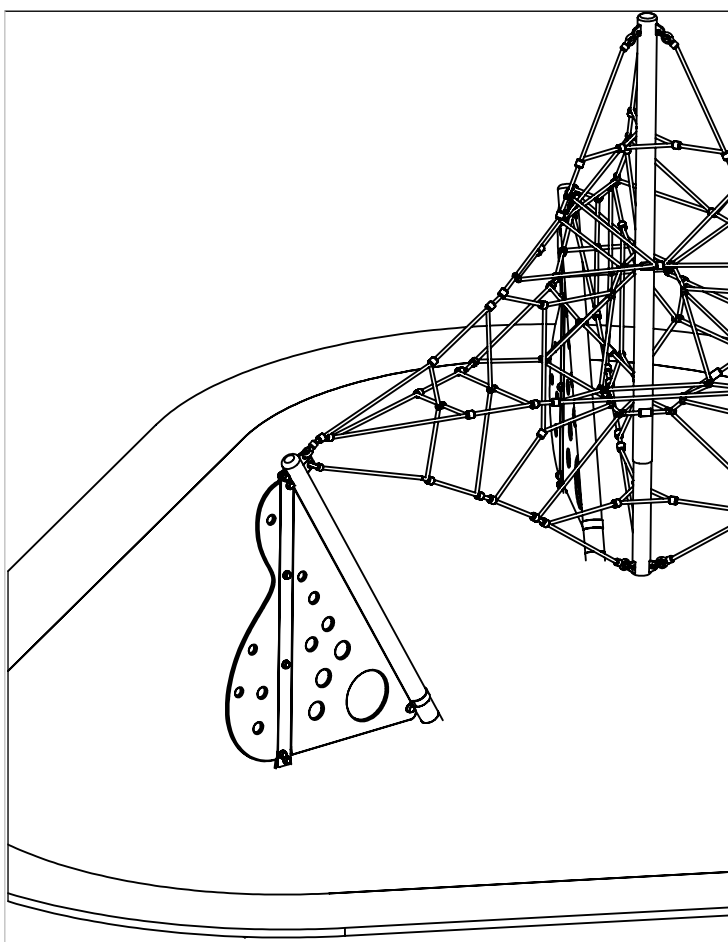
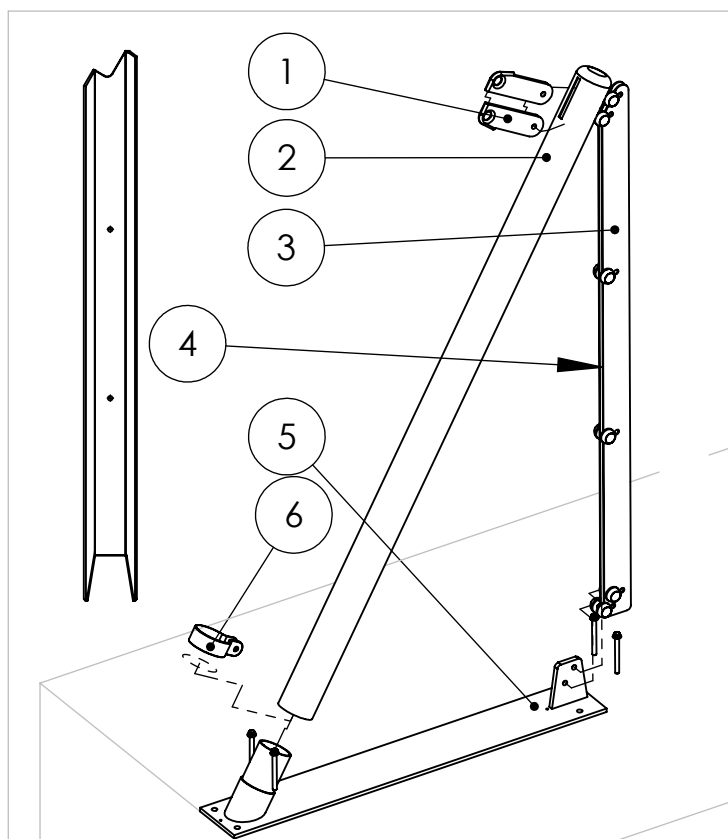
Full Panel: Slide the bracket (6) over the leg (2) before advancing any further.

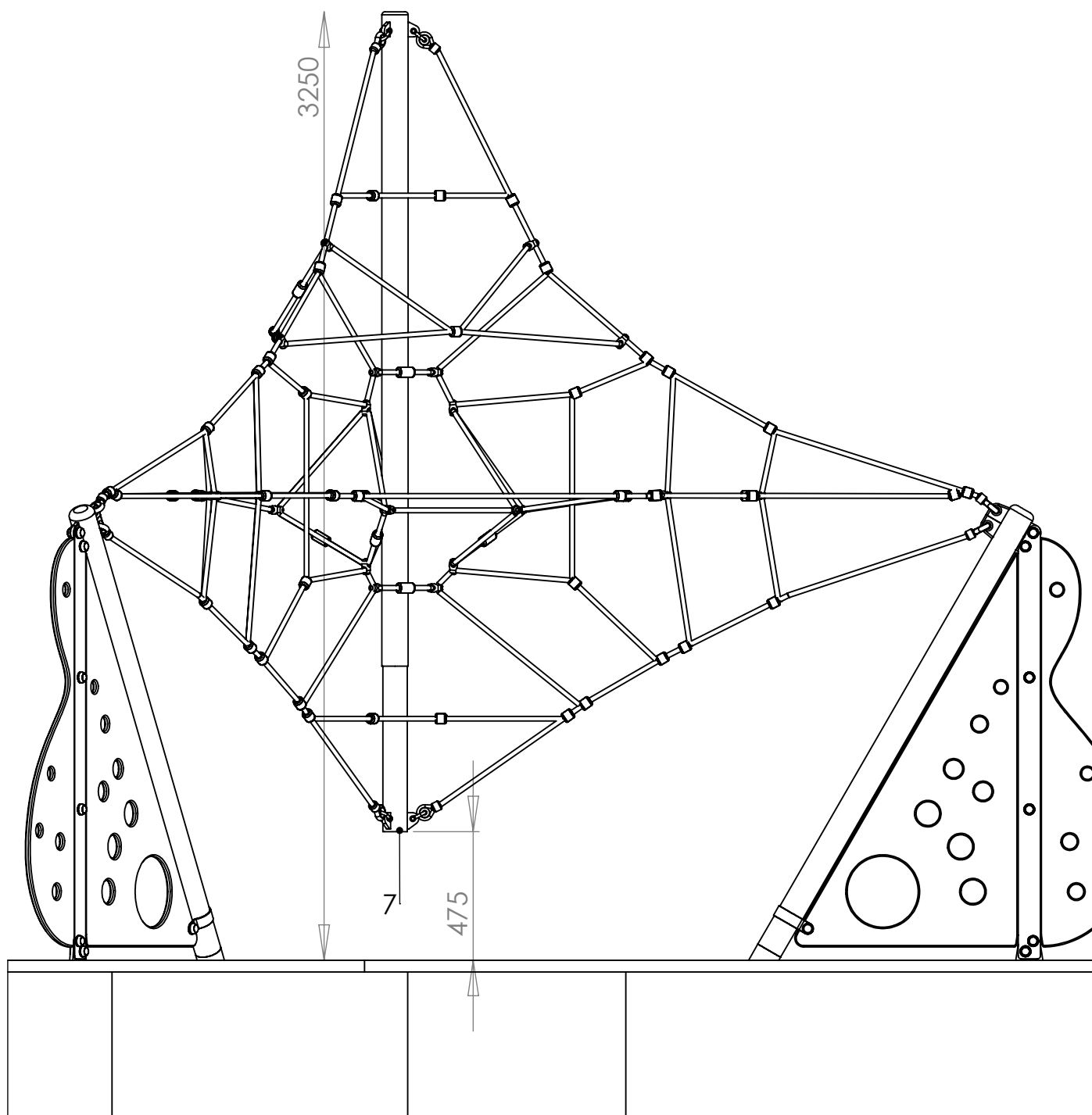
2) You can now unwrap the mast and net assembly and stand in the correct orientation.

The netting will be attached to the lugs at the top of the central mast.

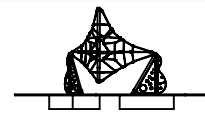
Work your way around matching the numbered keys (1) with the correct legs, bolting each key in place with the ties (3), plastic inserts (4) and bolt covers.

Once each of the keys are fitted, lift up the mast and attach the bottom shackles.



**Tighten the Net**

4) Before using the product, Tension the net by using a wrench in the bottom of the central mast (7), torquing the central pole, this torque should be limited to 20Nm in keeping with safety testing.



Maintenance & Inspection

General

The **Levigator 3** should be inspected and maintained in accordance with the recommendations as detailed in BS-EN 1176 part 7: Guidance on installation, inspection, maintenance and operation for playground equipment.

If any part of the equipment is found to be unsafe during an inspection and that part cannot be repaired or replaced immediately, the equipment unit or part(s) concerned should be secured against use. This may involve immobilisation or removal from site.

Important note: The frequency of inspection will vary with the type of equipment or materials used and other factors, e.g. heavy use, levels of vandalism, coastal location, air pollution, age of equipment etc.

Routine Visual Inspection

A routine visual inspection enables the identification of obvious hazards that can result from vandalism, use or weather conditions, e.g. broken parts.

A daily routine visual inspection is recommended especially for playground equipment that has heavy use and/or is subject to vandalism and should include the inspection of the following as a minimum:

1. General equipment and surface cleanliness
2. Equipment ground clearances are maintained
3. Foundations not exposed, loose in the ground or cracked
4. Parts not missing or damaged
5. Surface finishes not damaged, rusting or deteriorating
6. Connections and bolts are secure and tight
7. Bearings are free running
8. Safety surface (if installed) not compacted, damaged or contaminated

Retension the Rope

Periodic checks on tension will help assist in the durability of the product.

After initial tension is complete, the net will stretch approximately 1% over the first two weeks of use. Following this initial period, the net needs to be fully retension by the original installation - Tighten the Net.

It is recommended that subsequent checks on tension should be carried out at monthly intervals and adjusted as required.

This item is not manufactured by Sutcliffe Play and as such our Sutcliffe Play warranty does not apply. The warranty is as stated by the original manufacturer and subject to following the recommended usage and maintenance guidelines.