

# To aid your playground planning here is a guide to using the plans and information featured on [www.playdale.co.uk](http://www.playdale.co.uk)

## EN 1176 Impact Area\*

(Layer 02):

The area that can be hit by a user after falling through the **falling space**.

Free height of fall	Extent of impact area
under 1.5m	1.5m
1.5m	1.5m
1.6m	1.57m
1.7m	1.63m
1.8m	1.70m
1.9m	1.77m
2.0m	1.83m
2.1m	1.90m
2.2m	1.97m
2.3m	2.03m
2.4m	2.10m
2.5m	2.17m
2.6m	2.23m
2.7m	2.30m
2.8m	2.37m
2.9m	2.43m
3.0m	2.50m

The extent of the impact area is dependent on the free height of fall. If the free height of fall is between 0.6m and 1.5m the extent of the impact area = 1.5m.

If free height of fall is between 1.5 and 3m, the extent of the impact area increases proportionately according to the adjacent table.

Note 1: Extent of impact area must allow for movement of equipment i.e. chains and ropes at full stretch.

Note 2: Impact areas for specific types of equipment i.e. swings, slides, runways, carousels and rocking equipment have different requirements from the above.

## Falling Space:

The space in, on or around the equipment that can be occupied by a user falling from an elevated part of the equipment.

Some plans may not have the EN1176 area therefore the Impact Area should be assumed as the straight lined Synthetic Surfacing area (Layer 02)

## Synthetic Surfacing

(Layer 02):

Surfacing giving a sufficient CFH i.e. exceeding the free height of fall of the unit must cover the whole of this area.

## Loosefill Area

(Layer 04):

Extent of loosefill safer surfacing required for this unit, also the minimum area required.

## Recommended Minimum Space\*

The minimum space which is recommended for the safe use of equipment. We would recommend fencing, walls, trees etc. MUST NOT be inside this area.

\*Some plans may not have the recommended Minimum Space therefore the Loosefill Area (Layer 04) should be used.

## Circulation Area

(e.g. Swings, Jungle Climbers...):

Additional space around the perimeter of selected equipment that must not contain any permanent structures such as walls, fencing, trees, & other pieces of equipment.

Please note this rule does not exclude the use of Adventure Trial equipment linking to some Jungle Climbers.

LAYER	ON THIS LAYER
EN 1176 Impact Area	EN 1176 Impact Area
LAYER 01	UNIT
LAYER 02	WETPOUR (IMPACT) LAYER
LAYER 03	RUBBER TILES (1m x 1m)
LAYER 04	LOOSEFILL AREA
LAYER 05	UNIT SPACING BOUNDARY
LAYER 06/07/09	NOT USED
LAYER 08	GRASSLOK
LAYER 10	FREE SPACE
RECOMMENDED MINIMUM SPACE	RECOMMENDED MINIMUM SPACE

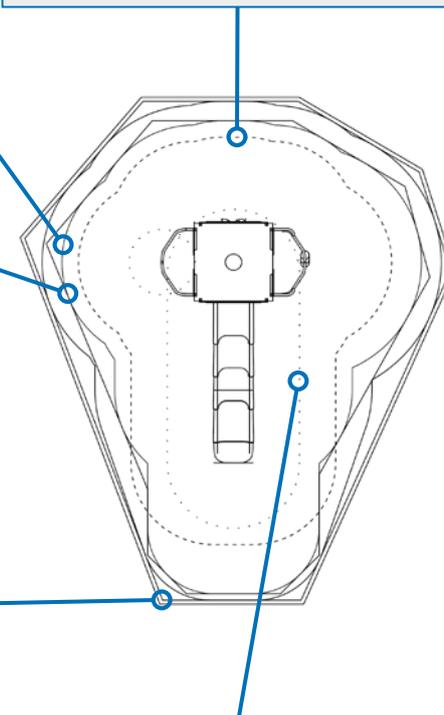
## Unit Spacing Boundary

(Layer 05):

Line used to enable correct spacing of more than one unit.

The unit spacing boundary has been positioned 1.25m from the extremity of the equipment, allowing for movement. Therefore two linked units will be at least 2.5m apart.

Please note that the above rule does not apply to Adventure Trail units, which are designed to be linked by log walks.



## Free Space

(Layer 10):

The space in, on or around the equipment that can be occupied by a user undergoing a movement forced by the equipment (i.e. swinging, sliding, rocking).

If loosefill surfacing is used it must be installed to a layer thickness of 100mm more than the thickness found to give sufficient **Critical Fall Height (CFH)**.

## CFH: Critical Fall Height:

The limit of free height of fall for which the surfacing provides acceptable levels of impact absorbency.

This is to allow for displacement through use. All loosefill materials specified by Playdale have been tested to BS EN 1176 and give sufficient CFH for 100mm thickness, therefore in excess of 200mm is specified (250mm).

## Playdale's guidelines on spacing of play units to BS EN 1176:

Area required should be taken as the loosefill edging board shown on plans.

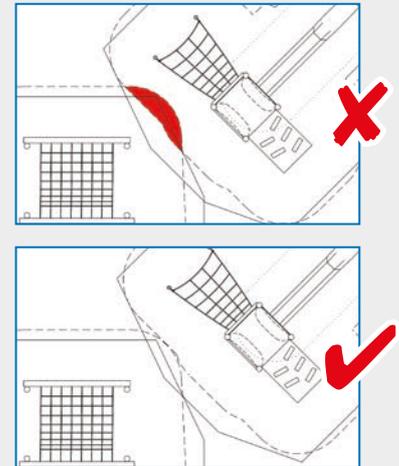
Equipment should be positioned a minimum of 1.8m away from fencing, walls, trees, etc.

Fencing, walls, trees, etc MUST NOT be inside the impact area. This means that fencing around high fall height units need to be more than 1.8m away from equipment.

Impact areas ——— of two adjacent units CAN overlap.

Free spaces ..... and impact areas ——— MUST NOT overlap.

Unit spacing boundaries - - - MUST NOT overlap.



Edging

Rule 1: Raised edging MUST be positioned outside the impact area and a minimum of 1.8m from the extremity of the equipment, allowing for movement of moving parts, i.e. chains, ropes, etc.

Rule 2: Flush edging should be positioned outside the impact area and a minimum of 1.0m from the extremity of the equipment, allowing for movement of moving parts, i.e. chains, ropes, etc.

## BS EN 1176 and BS EN 1177 safer surfacing requirements:

1. If free height of fall is over 600mm, surfacing giving a sufficient CFH is required.
2. Surfacing giving a sufficient CFH, i.e. exceeding the free height of fall of the unit must cover the whole of the impact area.
3. If free height of fall is below 600mm equipment can be installed on grass or a wear and tear surface.
4. If the existing grass is of good quality and meets certain criteria following assessment by a competent person the grass can be used as an impact absorbing surface with CFH of 1.5m
5. Any play equipment, regardless of fall height, should not be installed directly onto concrete or tarmac unless a risk assessment is carried out and shows it to be acceptable (this may depend on the type of equipment).

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