

Linie M -Play Equipment „The Mountain“

Product Information

Important instructions - Please read carefully!

Scope of Delivery

Items listed below belong to the delivery scope of Linie M -Play Equipment
„The Mountain Ø 2 m “

No	Item	Weight	Unit of Weight
1	Delivery List		
1	Product Description		
1	Mounting Description		
1	Drawing		
1	Maintenance Instruction		
1	The Mountain	270	kg/unit
	Width x Height		
	Ø 2.200mm x approx. 1.050 mm		
1	Set of chemical Anchors (4 pcs.)		

Linie M - Play Equipment „The Mountain“

Product Description **A.) Mounting in loose fall protection**

Safety Play equipment “The Mountain” meets the requirements of DIN EN 1176: 2012 and was inspected by Frankfurt TÜV product service and obtained GS quality seal.

Age Children 3 years plus and adults.

Material Stainless steel, undermining protection made of galvanized steel

Dimensions \varnothing 2.200 mm, 1050 mm height

Dimensions from Playing Zone upwards

\varnothing 2.010mm mm, 750 mm height

Minimum Zone \varnothing 6.100 mm, height 3.000 mm.
Make sure that surrounding surface is in line with minimum zone and hazard free. In case of doubt, please contact your local Technical Supervisory Agency.

Free Fall Height 750 mm

Ground Characteristics

According to EN 1177: 2008

Type of Grounds	Description	Layer Thickness on Foundation
Wood Chippings	Mechanically cut up wood (no timber material), without bark or parts of leaves Particle size 5 mm to 30 mm	300 mm
Bark Mulch	Cut up bark of coniferous trees, Particle size 20 mm to 80 mm	300 mm
Sand	No silty or argillaceous components, washed, Particle size 0,2 mm to 2 mm	300 mm
Gravel	Round and washed, Particle size 2 mm to 8 mm	300 mm

Foundation 4 Concrete Pits of concrete C20/25,length 400 mm x width 400 mm x height 500 mm.

Foundation Surface 300 mm from top of foundation to playing zone.

Weight 270 kg

Maintenance Being made of stainless steel the play equipment “The Mountain” is nearly indestructible and thus suitable for highly frequented areas. A special maintenance only is required for the surrounding fall protection.

Scope of Delivery Play equipment “The Mountain” is delivered completely mounted. All fixing material required is included. Total weight: approx. 270 kg. For unloading a wheel loader with long enough forks, a forklift with suitable forks or an excavator with enough lifting capacity and long outreach is needed.

Product Description B.) Mounting in solid ground or synthetic fall protection

Safety Play equipment “The mountain” meets the requirements of DIN EN 1176: 2008 and was inspected by Frankfurt TÜV product service and obtained GS quality seal.

Age Children 3 years plus and adults.

Material Stainless steel, undermining protection made of galvanized steel

Dimensions Ø 2.200 mm, height 1.050mm

Dimensions from Playing Zone upwards

Ø 2.060 mm, height 850mm

Minimum Zone Ø 6.100 mm, height 3.000 mm.
Make sure that surrounding surface is in line with minimum zone and hazard free. In case of doubt, please contact your local Technical Supervisory Agency.

Free Fall Height 850 mm

Ground Characteristics

According to EN 1177: 2008

Type of Grounds	Description	
Topsoil		(Germany only)
Water-bound surface		(Germany only)
Synthetic Fall Protection	With HIC test (refer to DIN EN 1177)	allowed

Foundation 4 concrete Pits C20/25, length 400 mm x width 400 mm x height 500 mm

Foundation Surface 200 mm from foundation to playing zone.

Weight 270 kg

Maintenance

Being made of stainless steel the play equipment "The Mountain" is nearly indestructible and thus suitable for highly frequented areas. A special maintenance only is required for the surrounding fall protection.

Scope of Delivery

Play equipment "The Mountain" is delivered completely mounted. All fixing material required is included. Total weight: approx. 270 kg. For unloading a wheel loader with long enough forks, a forklift with suitable forks or an excavator with enough lifting capacity and long outreach is needed.

Mounting Instructions

Attention: The Mountain is made of stainless steel. Please make sure to avoid contact with regular steel as particles from the regular steel could cling to the stainless steel that might corrode under the influence of moisture and leave brown spots of rust at the stainless steel surface. In case of such spots please use a smooth abrasive cloth.

Mounting Instructions for**A.) Mounting in loose impact protection**

The Mountain is delivered as a one-piece item. For unloading a wheel loader with long enough forks, a forklift with suitable forks or an excavator with enough lifting capacity and long outreach is needed. For lifting make sure always to use textile lifting belts on cushioned lifting forks. Only use suitable means for unloading,

First step to be taken is the positioning of the item. Make sure local necessary safety area is given. It is strongly recommended to install the equipment in a shady area. The area of foundation requires a soil pressure of 100kN/m³.

For the correct positioning of the necessary concrete pits please refer to the enclosed drawing. The upper foundation surface must be horizontally leveled. Each pit must be of 50cm in depth and 40 x 40 cm length.

In a second step dig the necessary concrete pits and compress the bottom. Extremely muddy grounds must be replaced with a lean concrete layer. Consider bottom of foundation to be in frost-proof depth

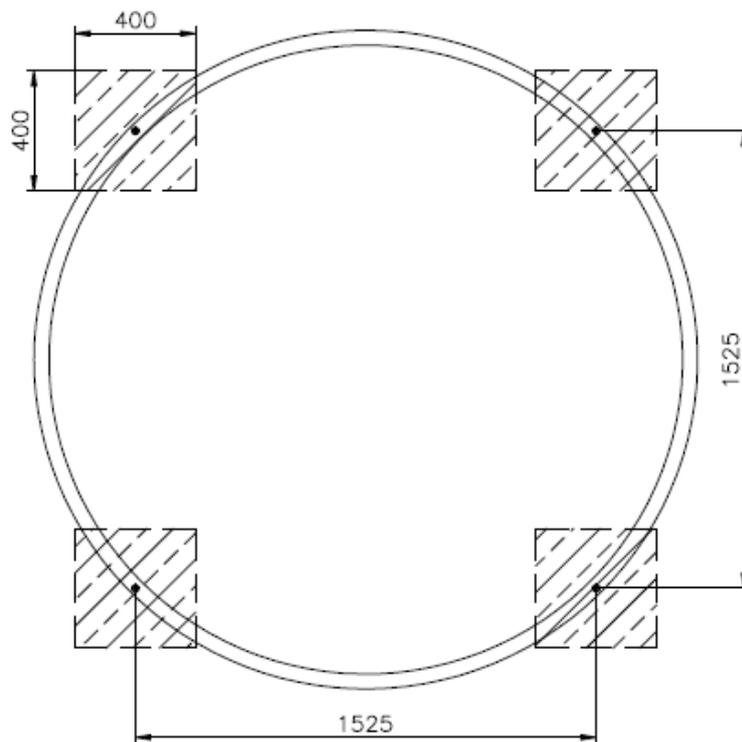
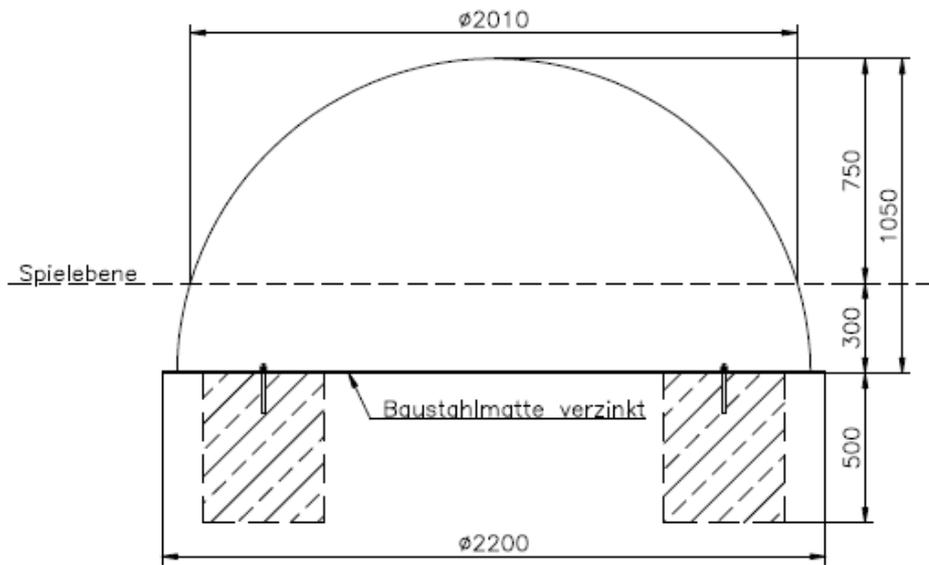
A third step is to fill the concrete pits with concrete (C20/25), compress the concrete and level them out horizontally. Leave a distance of 30cm between upper foundation edge to the play level for the covering.

As fourth step let dry up C20/25 concrete (usually 10-14 days are required depending on local weather conditions) and clean up foundation surface.

Install playground equipment on the foundation and align it if necessary. Afterwards drill three anchor points (Ø 14mm) through the holes of the base plate of the equipment into the concrete foundation. Install the shear connectors following to that and consider the tightening torque for the domed nuts must be 70Nm.

Last step is to fill up your fall protection material (approx. 30cms) to mark line of playground equipment.

A.) Einbau in losem Fallschutz



Fundamente:
L x B x H
400x400x500

Beton C20/25

Werkstoff		Maßstab	1:20
	Edelstahl	Seite	Pos.:

 Linie M Metall Form Farbe www.lfm.de	
Bearbeiter	G. Schmaogl
Datum	25.08.2016

Linie M - Spielgerät
Der Berg Ø 2 m

\\\\Produktdatei\\Aufbauzeichnungen\\Aufbau Berg 200 2016-08-25

B.) Mounting in solid ground or synthetic fall protection

The Mountain is delivered as a one-piece item. For unloading a wheel loader with long enough forks, a forklift with suitable forks or an excavator with enough lifting capacity and long outreach is needed. For lifting make sure always to use textile lifting belts on cushioned lifting forks. Only use suitable means for unloading,

First step to be taken is the positioning of the item. Make sure local necessary safety area is given. It is strongly recommended to install the equipment in a shady area. The area of foundation requires a soil pressure of 100kN/m^3 .

For the correct positioning of the necessary Concrete Pits please refer to the enclosed drawing. The upper foundation surface must be horizontally leveled. Each pit must be of 50cm in depth and 40 x 40 cm length.

In a second step dig the necessary concrete pits and compress the bottom. Extremely muddy grounds must be replaced with a lean concrete layer. Consider bottom of foundation to be in frost-proof depth

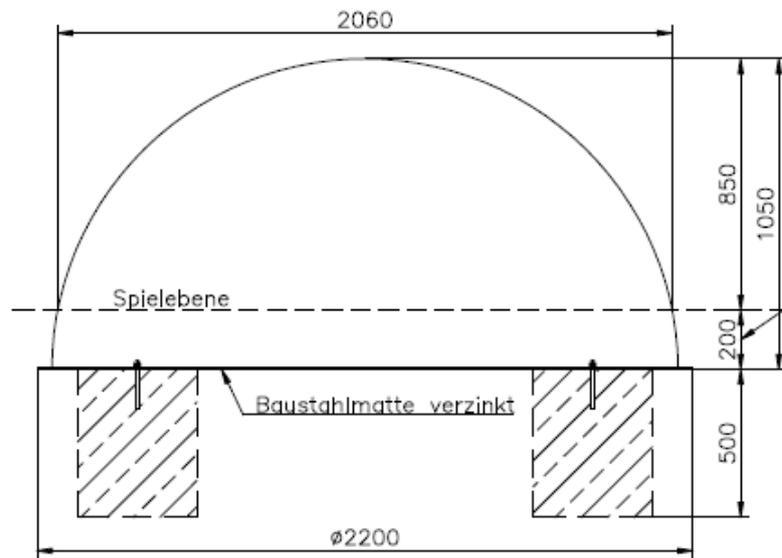
A third step is to fill the concrete pits with concrete (C20/25), compress the concrete and level them out horizontally. Leave a distance of 10cm between upper foundation edge to the play level for the covering.

As fourth step let dry up C20/25 concrete (usually 10-14 days are required depending on local weather conditions) and clean up foundation surface.

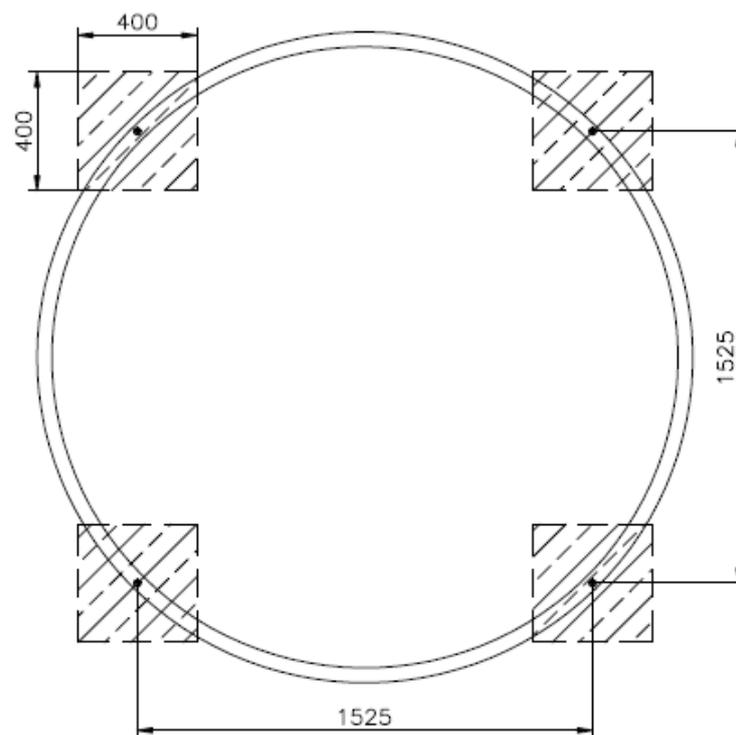
Install playground equipment on the foundation and align it if necessary. Afterwards drill three anchor points (\varnothing 14mm) through the holes of the base plate of the equipment into the concrete foundation. Install the shear connectors following to that and consider the tightening torque for the domed nuts must be 70Nm.

Last step now is to install your synthetic impact protection.

B.) Einbau in festen Fallschutzböden



Bei synthetischem Fallschutz kann dieses Maß verringert werden. Dadurch erhöht sich die Fallhöhe. Der Fallschutz muß für diese Fallhöhe zugelassen sein.



Fundamente:
L x B x H
400x400x500

Beton C20/25

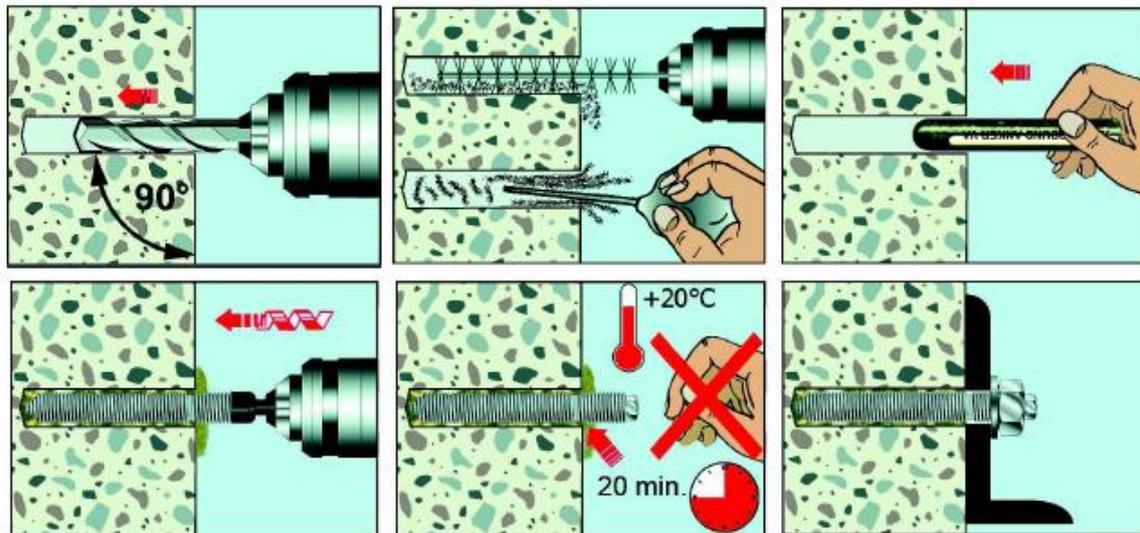


Bearbeiter G. Scharnagl
Datum 25.08.2016

Werkstoff	Edelstahl	Massstab	1:20
		Seite	Pos.:

**Linie M - Spielgerät
Der Berg \varnothing 2 m**

\\\\Produktdatei\\Aufbauzeichnungen\\Aufbau Berg 200 2016-08-25



Loads and performance data **Chemical Anchor V, stainless steel A4 / HCR** **M 8** **M 10** **M 12** **M 14¹⁾** **M 16** **M 20**

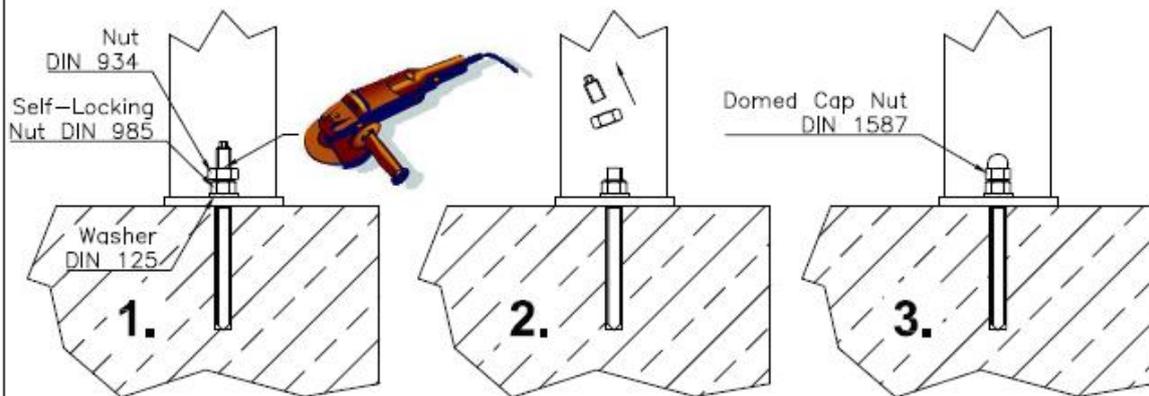
		non-cracked concrete						
Mean ultimate loads, tension	C25/30 N_{m}	[kN]	27,0	38,6	58,2	73,5	104,3	169,8
Mean ultimate loads, shear	C25/30 V_{m}	[kN]	15,4	24,4	35,4	48,4	66,0	103,0
Approved loads, tension	C12/15 ¹⁾ appr. N	[kN]	3,0	5,0	7,0	8,0	10,0	19,0
	≥ C20/25 appr. N	[kN]	7,9	11,9	15,9	12,0	19,8	29,8
Approved loads, shear	C12/15 ¹⁾ appr. V	[kN]	3,0	5,0	7,0	8,0	10,0	19,0
	≥ C20/25 appr. V	[kN]	6,0	9,2	13,3	12,0	25,2	39,4
Approved bending moments	appr. M	[Nm]	11,9	23,8	42,1	66,9	106,7	207,9

Spacing and edge distance

Effective anchorage depth	h_{ef}	[mm]	80	90	110	120	125	170
Spacing	s_{act}	[mm]	240	180	220	300	250	340
Edge distance	c_{act}	[mm]	120	90	110	150	125	170
Minimum spacing	s_{min}	[mm]	40	45	55	120	65	85
Minimum edge distance	c_{min}	[mm]	40	45	55	60	65	85
Minimum thickness of concrete slab	h_{min}	[mm]	110	120	140	170	160	220

Installation parameters

Drill hole diameter	d_o	[mm]	10	12	14	16	18	25
Clearance hole in the fixture	d_r	[mm]	9	12	14	16	18	22
Depth of drill hole	h_o	[mm]	80	90	110	120	125	170
Installation torque	T_{inst}	[Nm]	10	20	40	60	90	120
Width across nut	SW	[mm]	13	17	19	22	24	30
Width across nut (Threaded Stud)	SW	[mm]	5	6	8	10	12	14



Linie M
Metall Form Farbe GmbH

Installation Instructions
Chemical Anchor

Bearbeiter: G. Scharnagl
Datum: 23.02.2011

\\Produkt4aten\Einbauanleitungen\Verbundanker 11.02.23

Maintenance Instructions according to DIN EN 1176-1 : 2008

1. General

Use of premium material as well as high-quality manufacturing allow Conlastic® play equipment to have longest maintenance intervals possible according to DIN EN 1176. This is valid for play equipment which is not frequented permanently throughout the day.

According to DIN EN 1176 maintenance intervals depend on type of play equipment, material used and other factors, i.e. excessive frequency, vandalism, age of equipment, and environmental factors such as location in coastal areas or air pollution which may lead to shorter maintenance intervals.

Direct inspection of playground equipment should go along with inspection of minimum zone. Remove broken glass bottles or other litter which may lead to injury of body or health. Maintenance of fall protection includes check of its protection properties. Check filling level of loose material as well.

2. Visual Routine Inspection

Visual inspection identifies apparent risks resulting from vandalism, tear and wear and weather conditions. It includes checks of cleanliness, spaces between equipment and ground, filling level of loose material up to equipment mark, quality of ground surface, exposed foundations, sharp edges, missing parts, heavy tear and wear (especially of movable components) and stability.

Inspection as described above may be required on a daily basis in case of playgrounds at risk of vandalism.

3. Operative Inspection

Operative inspection comprises all checks as mentioned above under 1. and 2. Furthermore, every 6 months inspect all parts which are subject to normal tear and wear and check stability by vigorously shaking play equipment.

4. Yearly Main Inspection

The main inspection is intended to check safe-to-operate state of equipment, foundation and surfaces. It includes all checks listed in point 1. to 3. Furthermore, climatic effects, decay, corrosion shall be detected as well as any other change. Uncover foundations and check stability of equipment.

5. Measures to be Taken

Repair defects detected as listed under point 1. to 4. immediately.

If you doubt stability of equipment, uncover foundation and reestablish safe connection between equipment and foundation. Play equipment is made of galvanized steel which is rust-proof. In case of contact with regular steel small particles of it may cling to play equipment by abrasion and may lead to brown rust spots when in contact with humidity. Remove them using abrasive cloth (200 grit).

6. Spare Parts

Only use spare parts adequate to original spare part quality in order to guarantee safety and proper functioning of play equipment. Order original spare parts directly from:

Linie M – Metall Form Farbe - GmbH
Industriestraße 8
D-63674 Altenstadt

phone: +49 - (0)6074 - 97121
fax: +49 – (0)6074 - 97122
email: vertrieb@linie-m.de