

Suspensions from hall ceilings

This factsheet supplements the Messe Frankfurt Technical Guidelines

This factsheet offers individual explanations of portions of the technical specifications and requirements for suspensions requiring approval for stand construction installations using the existing suspension points in the exhibition halls. Unless specified otherwise herein, the Messe Frankfurt Technical Guidelines shall apply.

Suspensions – an overview

The following overview details the possibilities for installing suspensions (suspensions for light loads (LL) – up to 50 kg – or for heavy loads (SL)) from the hall ceiling in accordance with the terms and conditions of ordering and supply of Messe Frankfurt Venue GmbH:

Hall	Light load	Heavy load
1.1	Can be ordered through the Shop for Exhibitor Service	Up to 250 kg possible on request
1.2 2 (Festhalle) 3.0 3.1	Possible on request	
4.0 4.1 4.2	Can be ordered through the Shop for Exhibitor Service	Up to 250 kg possible on request
5.0 5.1	Possible on request	
6.0 6.1 6.2	Can be ordered through the Shop for Exhibitor Service	Up to 250 kg possible on request
8.0	Possible on request Please note: Only permitted for certain events	
9.0 9.1 9.2 9.3	Can be ordered through the Shop for Exhibitor Service	Up to 250 kg possible on request
10.0	No suspensions are possible	
10.1 10.2 10.3	Can be ordered through the Shop for Exhibitor Service	Up to 250 kg possible on request
11.0	Can be ordered through the Shop for Exhibitor Service	Possible on request
11.1 Forum 12.0 12.1	Possible on request	



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Please note that for 50 kg suspension points, the transfer point is an approved cable end connection that can be independently adjusted if necessary. If required, other permissible load-securing devices (shackles, steel cables etc.) may be obtained from the corresponding Messe Frankfurt service partner on location for a fee.

The use of lifting equipment (e.g. manual and electric chain hoists) must be coordinated with Messe Frankfurt's technical service. Please be sure to also refer to Items 4.7.5.1 and 4.7.5.2 of the Messe Frankfurt Technical Guidelines, as well as the explanations below.

The lowest point for a suspension is 2.30 metres above hall floor level. The maximum event-specific construction heights also apply to the height of the truss system and must be observed accordingly.

As a rule, suspensions are not allowed outside the stand area.

Placing orders

Suspension points for light loads can be ordered through our Shop for Exhibitor Services. You will find the conditions in the terms and conditions of ordering and supply.

Please direct all enquiries regarding suspensions for heavy loads in the specified hall levels to Messe Frankfurt Venue GmbH / Infrastructure Services (abhaengungen@messefrankfurt.com). Following verification of their feasibility, customised offers will be provided.

Regardless of whether you require suspension points for light loads or for heavy loads, please submit the following information to Messe Frankfurt Venue GmbH / Infrastructure Services by no later than six weeks before the start of the trade fair:

- Dimensioned sketch with the positions of the desired suspension points
- Sketch must clearly show the position and orientation of your stand (including cardinal directions, neighbouring stand etc.)
- Loads to be suspended from each point
- Load plan showing the total load, individual loads and line loads (only for complex systems)
- Proposed installation aids ("Genie" lift, manual/electric chain hoists)
- Desired transfer height (for suspensions for heavy loads)

Statutory requirements

Companies may only commission persons to suspend loads above people if they are in possession of the necessary skills.

With regard to the provision and use of load-securing devices, load-handling attachments, lifting equipment, suspension elements, connecting elements, cable-end connections, secondary securing apparatuses and equipotential bonding, all applicable safety regulations and generally recognised engineering standards must be complied with.

In particular, the following must be observed:

DGUV 1 (formerly BGV A1) – General rules and regulations

DGUV 17/18 (formerly BGV C1) – Event and production locations for stage presentations



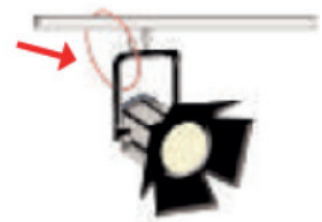
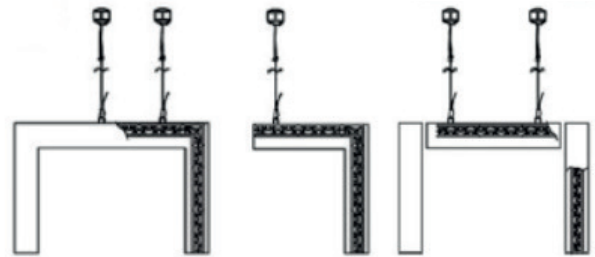
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DGUV 54/55 (formerly BGV D8) – Winches, lifting and pulling equipment
DGUV Information 215-316 (formerly BGI 810-1-5)
“Safety for productions and events /
Safety for productions and events – for practical application /
Safety for productions and events – loads suspended above people /
Spotlights /
Special staged effects and processes”
IGVV SQP1 Trusses
IGVV SQP2 Electric chain hoists
IGVV SQQ1 Electrical technician for event engineering
IGVV SQQ2 Expert for event rigging

The specifications and provisions of the currently valid versions of the aforementioned rules and regulations must be checked at one’s own initiative and compliance on location must be ensured. This excerpt is intended as an overview and is not meant to be complete.

Permissible suspension types

- Securing / suspending stand construction components / exhibits
- Suspended constructions with a rigid/frictional connection to the hall floor. A structural certification is mandatory here.
- Suspensions for lighting systems, trusses and advertising banners



Secondary securing apparatus and safeties

Spotlights, speakers, effect appliances etc. must also be secured using a second, independent securing apparatus (safety cable)! The provisions of BGI 810-3 must be observed with regard to the ratings/size of the safety cable. The safety attachment is to be made such that it does not allow the item being secured to drop. If some drop is unavoidable, the drop distance is to be kept as short as possible.

Equipotential bonding for metal constructions

For trusses with electrical appliances, the constructor must fit such trusses with an additional equipotential bonding (copper, at least 10 mm²) (VDE 0100 Part 711). The transfer point on the hall floor (stand earthing) can be ordered from Messe Frankfurt Venue GmbH / Infrastructure Services.

Permissible suspension elements / lifting equipment

The use of lifting equipment (e.g. manual and electric chain hoists) must be specified order documentation and coordinated with Messe Frankfurt Venue GmbH / Infrastructure Services.

The nominal loads specified in the manufacturer’s specifications are to be observed!



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Please note that the use of manual chain hoists (= dynamic loads) is not permitted with suspensions for light loads or with 5 mm and 6 mm steel cables.

In order to avoid excess load on individual suspension points, it is essential that the system be practically horizontal for operation (one person per manual chain hoist!).

In accordance with DGUV Regulation 17 (formerly: BGV C1), dynamic loads are only permissible with steel cables of at least 8 mm in diameter.

In Halls 1.1, 4.0, 4.1, 4.2, 6.0, 6.1, 6.2, 9.0, 9.1, 9.2, 9.3, 10.1, 10.2, and 10.3, the maximum possible point load that can be raised is 50 kg. In Halls 1.2, 2.0 (Festhalle), 3.0, 3.1, 8.0, 11.0, 11.1, 12.0, 12.1 and Forum, the maximum possible point load that can be raised is 100 kg.

Both the live load on the suspension point and the weight of the manual chain hoist itself are to be taken into account.

Once the work has been completed, the manual chain hoist is to be removed and replaced by a suitable load-securing device (e.g. steel cable), or to be bridged using a load-securing device (secondary securing apparatus – see Figure 1).

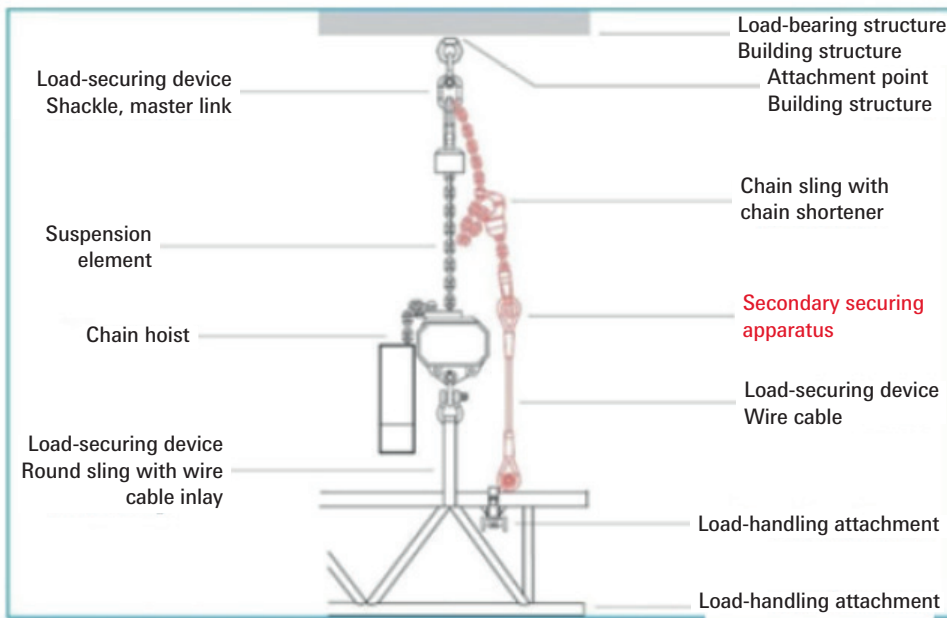


Figure 1

It is essential here that no drop is possible!

When using electric chain hoists (in accordance with the provisions of BGV C1 and BGV D8), the specific manufacturer's specifications must be observed!





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Permissible load-securing devices and cable-end connections

Ratings/size of equipment used

Manufacturers specify the load-bearing capacity or minimum breaking load of equipment that is used as load-securing devices or load-handling attachments.

The following applies for the suspension of loads above people:

- If the load-bearing capacity – e.g. WLL (working load limit) – is specified, this piece of equipment must not be subjected to any more than half of this value.
- If the minimum breaking load is specified, this value must be divided by the necessary working coefficient in order to determine the maximum permissible load-bearing capacity. (see also the table “Minimum required working coefficients for load-securing devices”, BGI 810-3)

Cable-end connections / cable gliders

Cable gliders

Only permitted with certification

Please note that this type of cable glider is not suitable for dynamic loads and can therefore not be used with lifting equipment!



Example illustration

Permissible load-securing devices

Please note that the load-securing devices used must be adequate in design and size to withstand the strains resulting from operation.

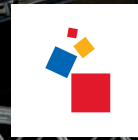
Excerpt:

Wire cable with thimble

The minimum diameter for the operation of lifting equipment is 8 mm. It is essential that the end of the suspended cable has a thimble!

Cables that are 100% encased in plastic sheathing are not permitted. It must always be possible to examine the entire cable by moving the sheathing





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Round slings

It is absolutely essential that they be identified by means of a label.

Required information:

- Manufacturer
- Load-bearing capacity
- CE marking
- Standard
- Year of manufacture



When purely polyester round slings are used, it is absolutely mandatory that the connection be bridged using a wire cable. Round slings with steel inlays ("Steelflex") do not require any special steel safety apparatus.

Impermissible load-securing devices and impermissible cable-end connections

- Unauthorised wire cables / cables that do not comply with the cables described under "Permissible load-securing devices"
- Sheathed wire cables (sheathing > 1/3 cable length)
- Long-link chains (inner length of the chain link > three times the nominal diameter of the chain material) are not suitable for attachment
- The use of cable ties without a secondary securing apparatus (safety) comprising a steel wire cable with thimble and ferrule and a connecting element (DIN 56927)
- Unauthorised chain glider
- Open hooks
- Open body turnbuckles in accordance with DIN 1480
- Quick links with sleeve nuts (emergency chain links) without load-bearing capacity ratings
- Damaged load-securing devices (e.g. kinked cables, load-bearing slings with damaged sheathing, load-bearing slings without any recognisable identification)
- Other connecting elements without load-bearing capacity ratings

This factsheet only offers a condensed overview. Please be sure to also refer to the Messe Frankfurt Technical Guidelines.

If you have any other questions, please contact

- Messe Frankfurt / Infrastructure Services (abhaengungen@messefrankfurt.com) or
- Technical Project Management Fairs department (V 31) (standapproval@messefrankfurt.com) – they will be happy to be of assistance.