

EXPLANATORY NOTES: SUSPENSIONS AND MEANS OF ATTACHMENT

Suspensions from the roof-supporting framework may be undertaken and altered (e.g. opening of a bridle) only by the relevant service firms of MMG. – Orders for suspensions must be made in writing to MMG, Technical Exhibition Services, by means of form 4.1.

The construction to be suspended may be situated only within the limits of the stand. Any intended suspension point on the roof construction of the halls can be loaded to a maximum of 100 kg perpendicularly.

At the end of each fastening point (interconnection point) is an “O” ring.

For reasons of safety, the following types of suspension are not permissible:

- Suspension of stand components
- Securing of stand components or exhibits (stand components or exhibits must stand securely on their own)
- Suspended constructions connected rigidly or by force of gravity with the floor of the hall

The use of lifting devices (e.g. chain hoists, motor hoists) absolutely must be discussed and agreed with the relevant contracting firm of MMG.

With regard to the attachment of objects to be suspended, the relevant safety regulations are to be complied with. These also and especially include BGV A1 (regulations of social insurance against occupational accidents, general regulations), BGV C1 (stage performance: places of events and production), BGV D8 (winches, lifting and pulling devices) and, if applicable, VStättV (directive on places of assembly) (see also VPLT [Professional Lighting and Sound Association of Germany] SR1.0 [provision and use of traverse systems]).

The following details and enumerations serve as an overview and do not claim to be complete.

Spotlights, loudspeakers, effects devices etc. are always to be provided with a second independent safety!

If steel cable is used, the necessary minimum length of the safety cable is 1 m (see DIN 56 927).

The safety attachment is to be executed in such a way that the falling distance does not exceed 20 cm.

Permissible means of attachment

Nominal load at 0.5 times the carrying capacity value indicated by the manufacturer and not exceeding one tenth of the minimum breaking force. Cables and straps may be loaded to a maximum of one twelfth of the minimum breaking force.

Ensure that edges are protected! The edge radius must be at least as great as the diameter of the means of attachment (cable, span set etc.).

Means of attachment made of synthetic fibres are not suitable for use close to spotlights.

- Wire cable in accordance with DIN 3051, part 2, generally round strand cable, standard 6 x 19 in accordance with DIN 3060, with approval
 - Short-linked chains with approved appurtenances, quality class 8 in accordance with DIN 685, with approval
 - Textile span sets in accordance with DIN EN 1492, with approval and indication of carrying capacity with the use of an additional safety made of wire cable or chain
 - Aluminium or steel clamps which are approved for the respective traverses (appurtenances)
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Permissible carrying devices

- Chain motors in accordance with BGV C1
- Chain motors in accordance with BGV D8 with wire cable or chain “hung dead” (parallel load-carrying to bypass the motor)

Nominal load: see manufacturer’s specifications

Permissible means of fastening

Nominal load at 0.5 times the carrying capacity value indicated by the manufacturer and not exceeding one tenth of the minimum breaking force.

- Shackles, straight and curved, quality class 6, in accordance with E DIN 13889, with indication of carrying capacity; for dynamic loads (e.g. suspension of loudspeakers), only with safety split pin or retaining nut
 - Quick-connection element with clamping nut (chain link) in accordance with DIN 56 926, with indication of carrying capacity
 - Cobra fork head hooks – only in connection with chains in accordance with DIN 685
 - Turnbuckles with closed eyes, e.g. in accordance with DIN 48334, with indication of carrying capacity; for dynamic loads (e.g. suspension of loudspeakers), only with safety split pin and retaining nut
 - “O” rings, closed, with indication of carrying capacity
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Permissible cable end connections

- Rope sockets (straight) in accordance with DIN 15315; for dynamic loads (e.g. suspension of loudspeakers), only with rope clamp (eccentric) in accordance with DIN 1142
 - Wedge end clamps (crooked) in accordance with DIN 43148; for dynamic loads (e.g. suspension of loudspeakers), only with rope clamp (eccentric) in accordance with DIN 1142
 - Wire rope clamps in accordance with DIN 3093, only with cable eye stiffener in accordance with DIN 3090 or Flemish eyes in accordance with DIN 3095
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Impermissible means of attachment

- Wire cable without approval
 - Covered wire cable
 - Long-linked chains (inner length of the link > 3 times the nominal diameter of the chain material)
 - Untested chains
 - Cable binders without use of an additional safety made of wire cable or chain
 - Textile span sets without approval and indication of carrying capacity, or textile span sets in accordance with DIN EN 1492, with approval and indication of carrying capacity but without the use of an additional safety made of wire cable or chain
 - Damaged means of attachment (e.g. kinked cables, span sets with damaged covering, span sets without label/tag)
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Impermissible carrying devices

- Chain motors in accordance with BGV D8 without safety (i.e. not “hung dead” in the wire cable or chain)
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Impermissible means of fastening

- Carbine swivels, unscrewed
 - Carbine swivels, screwed
 - Open hooks
 - Turnbuckles in open form in accordance with DIN 1480
 - Quick-connection element with clamping nut (chain link), without indication of carrying capacity
 - Span sets as connection between two traverse parts
 - Further means of fastening without indication of carrying capacity
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Impermissible cable end connections

- Rope clamps (eccentric) in accordance with DIN 1141
- Rope clamps (eccentric) in accordance with DIN 741