THE VERSATILE SOLUTION: VERSOGRID in application

The HALFEN HVG VERSOGRID Installation system is a versatile system for attaching all kinds of media and light installations. It is the ideal support system for use where regular re-configuration of suspended loads is required. The double slotted channel profile allows versatile and adjustable fixing of a wide range of components over the entire area of the installed system — both to the top and to the bottom of the VERSOGRID.
**HVG VERSOGRID**

**Introduction**

Whether in exhibition halls, railway stations and airports or other large indoor venues, any system for suspending items from the roof must be designed with maximum adaptability and versatility in mind. Structural roof elements, service cabling or the unevenness of the main building structure can often make the suspension of large display screens, event lighting and loudspeakers or other signage and multi-media applications difficult.

HALFEN VERSOGRID provides an innovative solution: Once installed the Versogrid creates a level plane below beams, girder, concrete ceilings and other structural objects — without any significant installation work and within a short timescale.

The individual components with a weight of only 5.5 kg/m are connected and secured without requiring any tools.

The double slot profile allows load-bearing elements to be fixed under the grid using HALFEN Suspension ring bolts, whilst cable-trays and other media components can be fixed on top of the grid.

Individual channel elements are quickly and easily removed and replaced to allow quick and efficient repairs and maintenance to media cabling.
**HVG VERSOGRID**

**Introduction**

**Colours and finishes**

**Maximum versatility with the VERSOGRID System**

In addition to its functional elements, the aesthetic aspects of the VERSOGRID installation grid also stand out. As well as the galvanized version, a selection of eight powder-coated RAL colours available in either matt or gloss finish provide a unique, aesthetic design. Depending on your requirements, the HALFEN HVG VERSOGRID can either blend into the background of your building or be brightly coloured and used as an eye-catching design feature.

<table>
<thead>
<tr>
<th>RAL 9011</th>
<th>RAL 7004</th>
<th>RAL 9016</th>
<th>RAL 6024</th>
<th>RAL 5017</th>
<th>RAL 3020</th>
<th>RAL 2009</th>
<th>RAL 3020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite black</td>
<td>Signal grey</td>
<td>Traffic white</td>
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<td>Traffic blue</td>
<td>Traffic red</td>
<td>Traffic orange</td>
<td>Traffic yellow</td>
</tr>
</tbody>
</table>

All 8 standard colours are available in either matt or gloss finish.

**Generally, powder-coating has the following additional advantages as well as the strong aesthetic aspect:**

- Powder-coating is an environmentally friendly coating technology.
- No solvents are used.
- Powder-coating is a very durable method of surface treatment.
- It has excellent mechanical characteristics (i.e. all surfaces have excellent mechanical resistance to damage).
**HVG VERSOGRID**

The benefits at a glance

The HALFEN HVG VERSOGRID Installation grid is a versatile, permanently installed system for fixing and supporting media paraphernalia and room design elements.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Light-weight</strong></td>
<td>The VERSOGRID Channel profiles weigh 5.5 kg per metre.</td>
</tr>
<tr>
<td><strong>Versatile</strong></td>
<td>Easy fitting and adapting of media paraphernalia and other room design elements.</td>
</tr>
<tr>
<td><strong>Quick-install</strong></td>
<td>No tools required for assembly and removal of the cross profiles — no screws or bolts required.</td>
</tr>
<tr>
<td><strong>Minimal joints</strong></td>
<td>All butt joints in longitudinal and transverse direction have 1 to 2 mm play to compensate for thermal expansion and installation tolerances.</td>
</tr>
<tr>
<td><strong>Reliable</strong></td>
<td>Friction-locked slot-in-connection.</td>
</tr>
</tbody>
</table>

Grid spacings between 1.0 m and 6.0 m are possible. Depending on the load requirements.

The double slotted channel profile provides a platform for versatile and adjustable fixing of components — these can be fixed to both the top and bottom channel slots.

Further information on the internet

More information about Versogrid at: www.halfen.com ➤ Product ranges ➤ Construction ➤ Industrial Technology ➤ Versogrid
**HVG VERSOGRID**

**System components and project enquiries**

**Product overview**

**System components**

The VERSOGRID System consists of the double slotted longitudinal profiles and cross-elements 1, channel suspension units 2 + 4, vertical bracer elements 6 and the structural connection components 5.

Temporary media equipment and other room design elements are connected to suspension ring bolts, which are installed as required in the bottom channel slot as required.

**Available finishes**

The double slotted longitudinal profiles and cross elements including the channel connection elements and profile end caps as well as the cross connectors and suspension units are optionally available in a range of powder-coated colours or galvanized finish.

All other structural connection components and the suspension ring bolts are always supplied with a galvanized finish.
HVG VERSOGRID
System components and project enquiries

Product overview

1. HVG-HM 40/200 Double slot profile
2. HVG-CC Cross connector – main suspension element
3. HVG-HB Hat bracket for connecting to concrete
4. HVG-SU Suspension unit – free positioning along the channel
5. HVT-VB Vertical bracer – free positioning along the channel
6. HVG-SR Suspension ring bolt to attach load bearing elements

Consultation
With a multitude of possible combinations, our design team is available to consider all your requirements and provide the best possible solution for your project.

Installation
All VERSOGRID Elements are marked with identification numbers which correspond with position numbers in the specification plans. This ensures easy identification and on-site installation of the components.

Planning
If you have a project you wish to discuss, please do not hesitate to contact us. We will be glad to supply further information and support to help realize your ideas.

The head of the HALFEN Suspension ring bolt must be at right angles to the longitudinal direction of the channel slot.

Our Industrial Technology Team is available for support and project coordination:
e-mail: es.fra@halfen.com • Telephone: 0049 (0) 2173 970-340
HVG VERSOGRID
Realized projects

Project references

EXHIBITION HALLS

Visually unobtrusive graphite black, power-coated system in the Cologne Exhibition Centre (Messe Köln), Germany.

COMMERCIAL KITCHENS / MANUFACTURING FACILITIES

Zinc-plated system — application example for large commercial kitchens / manufacturing facilities.
### HVG VERSOGRID

Load capacities, Grid system

<table>
<thead>
<tr>
<th>Longitudinal channels and cross elements</th>
<th>Weight</th>
<th>max. load on the ring hook</th>
<th>HVG-CC Cross connector</th>
<th>max. possible load</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS 28/15</td>
<td>5.5 kg/m</td>
<td>$F_{zul} = 3.0 \text{kN}$</td>
<td>$F_{R,d} = 4.2 \text{kN}$</td>
<td>$F_{zul} = 12.0 \text{kN}$</td>
</tr>
<tr>
<td>HVG-HM 40/200 powder coated strip galvanized</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVG-SR suspension ring bolt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Bending load capacity with grid dimensions $L \times L$ [kN/m]

<table>
<thead>
<tr>
<th>$q$</th>
<th>$q_{\text{approved}}$ [kN/m]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.95</td>
<td>2.60</td>
</tr>
<tr>
<td>3.55</td>
<td>5.50</td>
</tr>
</tbody>
</table>

#### Bending load capacity with grid dimensions $L \times L$ maximal point-load $F$ for a single-span [kN]

<table>
<thead>
<tr>
<th>$F$</th>
<th>$F_{\text{approved}}$ [kN]</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.65</td>
<td>4.00</td>
</tr>
<tr>
<td>2.35</td>
<td>2.00</td>
</tr>
<tr>
<td>1.60</td>
<td>1.50</td>
</tr>
<tr>
<td>1.20</td>
<td>1.20</td>
</tr>
</tbody>
</table>

The load-bearing capacity of the suspension elements at the grid-nodes is decisive.

( ) = Lip load capacity limit with installation at the bottom of a channel.
HVG VERSOGRID
Installing the grid

Installation

As standard, the Versogrid system is fixed using post-installed anchor bolt systems to the concrete ceiling slab or to steel girders in existing buildings using framing channels and beam clamps.

The HALFEN HB-BZ Bolt anchor system is recommended for system installation. We can also assist with static requirements.

Chemical anchor systems can also be used. Our team can advise on the correct type of fixing system to use for a specific project. See position 2 on page 6

More information on the internet
HALFEN Anchor bolt systems Technical Product Information "HALFEN HB Anchor bolt systems".

The Versogrid system is suitable for fixing directly to embedded HALFEN Cast-in channels. This method has numerous advantages especially in new construction projects. For example, compliance with occupational safety regulations and faster installation.

VERSOGRID can be fixed to steel girders in existing buildings using HALFEN Framing channels and clamps.

Installing the suspension rods
The hat brackets are fixed to the load-bearing structure as specified in the plans.

The installation plane for the VERSOGRID System is created by fixing the pre-configured threaded rods to the hat brackets. The freely height adjustable threaded rods using nuts and washers ensure exact installation is possible.

Example:
VERSOGRID installed to HALFEN Cast-in channels

Example:
VERSOGRID installed to steel girders

Screw the bottom nut with the washer on to the threaded rod

Insert the threaded rod in the hat bracket

Screw the top nut with the washer on to the threaded rod

Set the height of the rod according to specifications and tighten the top nut

Screw the counter-nut on to the rod and tighten
HVG VERSOGRID
Installing the grid

Installation – No tools required, friction-locked installation

1. Connect the main elements

All channels are marked with identification numbers which correspond with the position numbers in the specification plan. This allows the components to be quickly identified and facilitates installation on the construction site.

The suspension units are pre-assembled on the main VERSOGRID Longitudinal channels. This allows easy connection of the threaded rods.

Depending on the spacing of the ceiling in the existing building, further suspension brackets may be attached to the main VERSOGRID for fixing to the threaded rods.

No bolts or screws are required!

The longitudinal VERSOGRID Double slotted channels are friction-locked and secured against lifting with a safety clip.

2. Cross connectors

The cross connectors are assembled according to the same principle.

3. Insert the Suspension ring bolts

HALFEN Suspension ring bolts are inserted as required into the bottom of the channels and bolted in place.

The head of the HALFEN Ring bolt must be at right angles to the longitudinal direction of the channel slot.

Our installation instructions can be found on our internet site:

www.halfen.com ➤ Brochures ➤ Installation instructions
HVG VERSOGRID
Project procedure

1. Project enquiry / informal initial consultation

We will be pleased to help and advise you with any questions you have concerning an application of the VERSOGRID system.

At your request, our sales representative and project engineer will visit for an on-site presentation of what is possible with VERSOGRID.

Let our virtual exhibition inspire you; our experienced project engineer will make sure that all your required details are considered. By the end of the initial consultation phase a first design proposal will be prepared in which details of your VERSOGRID Installation system can already be identified.

1.1 Enquiry

A video of the system is available on our website. Scan the QR-code.
www.halfen.com/service/videos

1.2 On-site consultation with our project engineer and sales representative

We look forward to receiving your enquiry. Scan the QR-code for details of your local contact person.

Clarify the following points
- Building details
- Load requirements
- Preferred grid dimensions
- Selected colour and finish
- Information concerning other collaborating trades

Please see the form on page 14

1.3 Feasibility check/Execution

Our planning team will combine your specifications into a system and develop the best solution.

1.4 Solution draft

Our sales representative will personally advise on our proposed solution.
2. Initial estimate

2.1 Initial estimate
If the proposed solution meets with your approval, our planning team will develop a master plan.

2.2 Presentation
A meeting (either in person or virtually online) will be arranged to present our design with a cost estimate.

2.3 Contract
After the cost estimate is approved, a contract can be agreed and detailed planning for the implementation phase can take place, involving all parties.

3. Detail planning and project implementation

3.1 Technical detail planning
Updated plans
Detailed planning will begin when all the points above are satisfactory and after the order has been confirmed.

At this stage, we will re-check and coordinate all current plans and loads and set a schedule for installation with you and your project partners.

3.2 Installation plans
Our planning team will supply all the detailed drawings required for your system.

We can also provide verifiable statics. Costs and conditions on requests.

3.3 Create detailed quote
A final detailed quote with all documents is supplied to the customer for verification.

3.4 Final approval of detailed quote
After the documents have been approved, project production can start.

You will be provided with a precise time schedule and a complete parts list.
# HVG VERSOGRID

**Project check list**

<table>
<thead>
<tr>
<th>Application:</th>
<th>HVG VERSOGRID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document:</td>
<td>CHK-F-HVG-001-E</td>
</tr>
</tbody>
</table>

## Contact information

<table>
<thead>
<tr>
<th>Company:</th>
<th>Contact person:</th>
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</thead>
<tbody>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>Address:</th>
<th>e-mail:</th>
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<table>
<thead>
<tr>
<th>Tel.:</th>
<th>Project name:</th>
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</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Fax:</th>
<th>Customer no. (if available):</th>
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<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Date:</th>
<th>Install period from: to:</th>
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<tbody>
<tr>
<td></td>
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</tbody>
</table>

The information provided here is non-binding and is only used to prepare for a personal consultation.

## 1. Load requirements

<table>
<thead>
<tr>
<th>kN/m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

## 2. Building floorplans and drawings

Please supply drawings separately.

## 3. Required grid spacings

<table>
<thead>
<tr>
<th>Metres, centimeters ( \times ) Metres, centimeters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

## 4. Selected finish

- [ ] Galvanized
- [ ] Powder coated (Please select colour below)
- [ ] Gloss finish
- [ ] Matt finish

### Colour options:

- RAL 9011 Graphite black
- RAL 7004 Signal grey
- RAL 9016 Traffic white
- RAL 6024 Traffic green
- RAL 5017 Traffic blue
- RAL 3020 Traffic red
- RAL 2009 Traffic orange
- RAL 3020 Traffic yellow

## 5. Connected to...

- [ ] Concrete
- [ ] Steel
- [ ] Other

## 6. Other involved technical trades

<table>
<thead>
<tr>
<th>Area of competence</th>
<th>Name</th>
<th>Tel. no.</th>
<th>e-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

- [ ] Other technical trades

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*We will arrange an appointment with you to clarify the specifics of your project. Please send this completed form to: versogrid@halfen.de*
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