METAL CEILINGS
THE PERFECT FINISH
Over the years, Lindner Group has developed into a technologically leading, solution-oriented and reliable partner with a solid economic basis. Our comprehensive range of products and services for the building envelope, interior fit-out and insulation fits almost any field of application. True to the motto “Rethinking Spaces”, we develop tailor-made and yet versatile solutions and concepts for your construction project. Being a completely family-owned business, we particularly care about our environment. With new concepts such as Cradle to Cradle®, low-emission products and well-considered spatial concepts, we create Add.Vantage for the people and their environment. As a service provider and an employer, we put the people in focus. The customer is bound to notice this, too: We enjoy our work, are convinced of what we do and proud about what we are capable of.

STABILITY AND GROWTH
Since the founding of the company by Hans Lindner in 1965, our headquarters is located in Lower Bavarian Arnstorf, where we have grown enormously during the last decades. With about 7,100 employees around the world, we are proud to be the largest employer in the district of Rottal-Inn. Every day we work on 2,500 projects which revolve for the most part around our core business, the construction industry. It is complimented by our Hans Lindner Foundation, the mk | hotels, the in-house breweries and more recently a sustainable agriculture and forestry.
METAL CEILINGS
OUTSTANDING SYSTEMS. IMPRESSIVE DESIGNS.

No matter what demands will be required from your ceiling: we can create the perfect solution. Both in terms of functionality and appearance. Lay-In, Hook-On or Swing-Down Ceilings: We can provide the ideal solution for all your indoor and outdoor areas, including customised projects in underground stations, airports and many other individual projects. Design your buildings the way you want. Discover our wide range of Ceiling Systems.

+ functional, attractive solutions
+ for all indoor and outdoor areas
+ extensive portfolio of standard systems
+ individually adapted to your requirements
METAL CEILINGS

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LONG-STANDING PRODUCT EXPERIENCE
LONG-STANDING PRODUCT EXPERIENCE

In 1970, we started producing our own ceiling and partition systems at our first workshop in Arnstorf. We now manufacture products for fit-out, building envelope and insulation in various locations in Europe and China. Arnstorf is the largest production site; nearly all the products in the Lindner range are manufactured here. The headquarters also houses numerous specialised departments that assist in production, of excellence, such as procurement, logistics, quality assurance, research and development – including a test workshop – and last but not least, a training centre for all the industrial occupations.

OUR PRODUCTION SITES FOR CEILINGS

ARNSTORF – GERMANY
ceiling, floor and partition systems, luminaires, facades
and clean rooms are produced here as well as high-quality
carpentry for fitting out interiors of buildings and ships
64,250 m² production area
200,000 m² company site

TAICANG – CHINA
production of ceiling and partition systems
14,000 m² production area
30,000 m² company site
A GLOBAL PLAYER… WITH ROOTS IN ARNSTORF

Globally we realise countless projects for our customers, meet challenges and grow with them. A worldwide network of reliable partners and established subsidiaries supports us in doing our work. In the following pages, you’ll find an overview of our extensive range of Metal Ceiling Solutions.

Contact us at our headquarters in Arnstorf or visit www.Lindner-Group.com to find your local point of contact.

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Bahnhofstrasse 29 | 94424 Arnstorf | Germany
+49 8723 20-3679 | ceilings@Lindner-Group.com
LINDNER METAL CEILINGS – REFERENCES WORLDWIDE

155 North Wacker Drive Chicago, USA
Algier Airport, Algeria
Athens Airport, Greece
Audi Showrooms, Spain
Bahrain International Airport, Bahrain
Barcelona Airport, Spain
Cairo International Airport, Egypt
Canberra International Airport, Australia
Centre of Excellence Lagos, Nigeria
Changi Airport, Singapore
Dublin Airport, Ireland
Durban Airport, South Africa
Erasmus Rotterdam, Netherlands
Finch Station Toronto, Canada
Frankfurt Airport, Germany
German Embassy, Kuwait
Heathrow Airport London, Great Britain
Holy Haram Mosque Mekka, Saudi Arabia
Hongkong International Airport, China
HSBC Tower Dubai, United Arab Emirates
Istanbul-Atatürk Airport, Turkey
JR Duty Free Tel Aviv, Israel
Kilani Health Care Institute Amman, Jordan
Maroc Telecom Rabat, Morocco
Mauritius International Airport, Mauritius
Multi Purpose Hall KASC, Saudi Arabia
Munich Airport, Germany
Mumbai Airport, India
Musikkitalo Helsinki, Finland
National Library Riga, Latvia
Nouvel Tower Vienna, Austria
Omega Pharma Tirana, Albania
Oslo Airport, Norway
Philharmonie de Paris, France
Quadrum Vilnius, Lithuania
Roche Diagnostics International AG Rotkreuz, Switzerland
Schwan Cosmetics Krumau, Czech Republic
Siemens Ltd. Peking, China
Signature Tower Kuala Lumpur, Malaysia
Stockholm Waterfront Congress Centre, Sweden
The Capital – AXA Brussels, Belgium
Tour First Paris, France
Tsvetnoy Central Market Moscow, Russia
Urban Media Space Aarhus, Denmark
National Assembly Hall Hanoi, Vietnam
Wehrhahnlinie Düsseldorf, Germany
White City Baku, Azerbaijan
World Trade Centre Path Station New York, USA
## POST CAP CEILINGS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Room Acoustics</th>
<th>Longitudinal Sound Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMD-B 100</td>
<td>Linear Post Cap Ceiling&lt;br&gt;visible C-post cap profiles, lay-in or swing-down option</td>
<td>up to $\alpha_w = 1.00$&lt;br&gt;sound absorption class A in acc. with EN ISO 354,&lt;br&gt;up to $\text{NRC} = 0.95$ in acc. with ISO 354,&lt;br&gt;rated in acc. with ASTM C 423</td>
<td>-</td>
</tr>
<tr>
<td>LMD-B 100 SD</td>
<td>Linear Post Cap Ceiling, Longitudinally Sound-Reduced&lt;br&gt;visible C-post cap profiles, lay-in sandwich elements</td>
<td>up to $\alpha_w = 0.75$ (MH)&lt;br&gt;sound absorption class C in acc. with EN ISO 354,&lt;br&gt;up to $\text{NRC} = 0.85$ in acc. with ISO 354,&lt;br&gt;rated in acc. with ASTM C 423</td>
<td>up to $D_{100W} = 67$ dB in acc. with ISO 10848-2</td>
</tr>
<tr>
<td>LMD-B 110</td>
<td>Post Cap Ceiling with Cross Noggins&lt;br&gt;visible C-post cap profiles and cross noggins, lay-in or swing-down option</td>
<td>up to $\alpha_w = 1.00$&lt;br&gt;sound absorption class A in acc. with EN ISO 354,&lt;br&gt;up to $\text{NRC} = 0.95$ in acc. with ISO 354,&lt;br&gt;rated in acc. with ASTM C 423</td>
<td>-</td>
</tr>
<tr>
<td>LMD-B 147 SD</td>
<td>Post Cap Ceiling Concealed, Longitudinally Sound-Reduced&lt;br&gt;concealed post cap profiles, removable sandwich elements, partition fastening in joint</td>
<td>up to $\alpha_w = 0.70$ (MH)&lt;br&gt;sound absorption class C in acc. with EN ISO 354,&lt;br&gt;up to $\text{NRC} = 0.80$ in acc. with ISO 354,&lt;br&gt;rated in acc. with ASTM C 423</td>
<td>up to $D_{100W} = 60$ dB in acc. with ISO 10848-2</td>
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</tbody>
</table>

## CANOPY CEILINGS

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<tr>
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</thead>
<tbody>
<tr>
<td>LMD-DS 312</td>
<td>Metal Canopy Ceiling without Frame&lt;br&gt;without circumferential frame, removable ceiling panels</td>
<td>equivalent sound absorption area per canopy in acc. with EN ISO 354</td>
<td>-</td>
</tr>
<tr>
<td>LMD-DS 313</td>
<td>Metal Canopy Ceiling with Frame&lt;br&gt;with circumferential frame, removable ceiling panels with swing-down option</td>
<td>equivalent sound absorption area per canopy in acc. with EN ISO 354</td>
<td>-</td>
</tr>
<tr>
<td>LMD-DS 320</td>
<td>Metal Canopy Ceiling in Filigree Optics&lt;br&gt;large format canopy ceiling, expandable on the short side</td>
<td>equivalent sound absorption area per canopy in acc. with EN ISO 354</td>
<td>-</td>
</tr>
</tbody>
</table>

## HOOK-ON CEILINGS

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<tr>
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<tbody>
<tr>
<td>LMD-E 200</td>
<td>Hook-On Ceiling&lt;br&gt;concealed supporting profiles, removable ceiling panels</td>
<td>up to $\alpha_w = 1.00$&lt;br&gt;sound absorption class A in acc. with EN ISO 354,&lt;br&gt;up to $\text{NRC} = 0.95$ in acc. with ISO 354,&lt;br&gt;rated in acc. with ASTM C 423</td>
<td>-</td>
</tr>
<tr>
<td>LMD-E 210</td>
<td>Hook-On Ceiling with Butt Joints&lt;br&gt;concealed supporting profiles, removable ceiling panels</td>
<td>up to $\alpha_w = 1.00$&lt;br&gt;sound absorption class A in acc. with EN ISO 354,&lt;br&gt;up to $\text{NRC} = 0.95$ in acc. with ISO 354,&lt;br&gt;rated in acc. with ASTM C 423</td>
<td>-</td>
</tr>
<tr>
<td>LMD-E 213</td>
<td>Hook-On Ceiling with Accentuated Joints&lt;br&gt;concealed hook-on construction with accentuated joints, removable ceiling panels with swing-down option</td>
<td>up to $\alpha_w = 1.00$&lt;br&gt;sound absorption class A in acc. with EN ISO 354,&lt;br&gt;up to $\text{NRC} = 0.95$ in acc. with ISO 354,&lt;br&gt;rated in acc. with ASTM C 423</td>
<td>-</td>
</tr>
<tr>
<td>LMD-E 213 BWS</td>
<td>Hook-On Ceiling, Ball-Impact Resistant&lt;br&gt;concealed hook-on construction with accentuated joints, removable ceiling panels with swing-down option</td>
<td>up to $\alpha_w = 1.00$&lt;br&gt;sound absorption class A in acc. with EN ISO 354,&lt;br&gt;up to $\text{NRC} = 0.95$ in acc. with ISO 354,&lt;br&gt;rated in acc. with ASTM C 423</td>
<td>-</td>
</tr>
<tr>
<td>LMD-E 213 WL</td>
<td>Hook-On Ceiling for exterior areas&lt;br&gt;concealed hook-on construction with accentuated joints, removable ceiling panels with swing-down option</td>
<td>up to $\alpha_w = 1.00$&lt;br&gt;sound absorption class A in acc. with EN ISO 354,&lt;br&gt;up to $\text{NRC} = 0.95$ in acc. with ISO 354,&lt;br&gt;rated in acc. with ASTM C 423</td>
<td>-</td>
</tr>
<tr>
<td>LMD-E 214</td>
<td>Hook-On Ceiling with Open Joints&lt;br&gt;concealed supporting profiles, removable ceiling panels with swing-down option</td>
<td>up to $\alpha_w = 1.00$&lt;br&gt;sound absorption class A in acc. with EN ISO 354,&lt;br&gt;up to $\text{NRC} = 0.95$ in acc. with ISO 354,&lt;br&gt;rated in acc. with ASTM C 423</td>
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### Fire Protection

<table>
<thead>
<tr>
<th>Building Material Class</th>
<th>Explosion Protection</th>
<th>Ball-Impact Resistance</th>
<th>Seismic Safety</th>
<th>Wind Loads</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2 - s1, d0 in acc. with EN 13501-1, class A (IBC) in acc. with ASTM E 84</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804, Cradle to Cradle® silver certified</td>
<td>up to 63 kPa explosion pressure</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>–</td>
<td>self-declaration in acc. with ISO 14021</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<td>A2 - s1, d0 in acc. with EN 13501-1, class A (IBC) in acc. with ASTM E 84</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804, Cradle to Cradle® silver certified</td>
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<td>–</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<tr>
<td>A2 - s1, d0 in acc. with EN 13501-1, class A (IBC) in acc. with ASTM E 84</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804, Cradle to Cradle® silver certified</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>–</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804</td>
<td>–</td>
<td>–</td>
<td>possible</td>
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<tr>
<td>A2 - s1, d0 in acc. with EN 13501-1, class A (IBC) in acc. with ASTM E 84</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804, Cradle to Cradle® silver certified</td>
<td>–</td>
<td>–</td>
<td>possible</td>
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<tr>
<td>–</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804</td>
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<td>A2 - s1, d0 in acc. with EN 13501-1, class A (IBC) in acc. with ASTM E 84</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804, Cradle to Cradle® silver certified</td>
<td>up to 63 kPa explosion pressure</td>
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<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804</td>
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<td>–</td>
<td>up to 100 kg/m² wind pressure/ suction loads</td>
</tr>
</tbody>
</table>

### Sustainability

- Plafotherm® E 210
- Plafotherm® E 312
- LMD-E 210
- LMD-E 213
- LMD-E 214
- LMD-E 217
- LMD-E 312
- LMD-E 321

### Safety Protection

- Class 1A/2A/3A in acc. with EN 13964 - appendix D

### Statics

- wind pressure/ suction loads
**CORRIDOR CEILINGS**

<table>
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<th>Model</th>
<th>Description</th>
<th>Room Acoustics</th>
<th>Longitudinal Sound Reduction</th>
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</thead>
<tbody>
<tr>
<td>LMD-E 300</td>
<td>Lay-In Corridor Ceiling visible wall connection profile, removable ceiling panels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMD-E 312</td>
<td>Hook-On Corridor Ceiling concealed hook-on construction, removable ceiling panels with swing-down option</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMD-E 321</td>
<td>Lay-In/Swing-Down Corridor Ceiling visible wall connection profile, swing-down-and-slide ceiling panels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMD-E 340</td>
<td>Drop-Slide Corridor Ceiling visible wall connection profile, drop-slide ceiling panels</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CASSETTE CEILINGS**

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<tr>
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<th>Room Acoustics</th>
<th>Longitudinal Sound Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMD-K 400</td>
<td>Lay-In Cassette Ceiling with 15 mm T-profile T-profile 15 mm in width, removable cassettes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMD-K 403</td>
<td>Lay-In Cassette Ceiling with 24 mm T-profile T-profile 24 mm in width, removable cassettes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMD-K 420</td>
<td>Clip-In/Swing-Down Cassette Ceiling concealed clip-in profiles, removable cassettes, swing-down-and-slide option</td>
<td></td>
<td></td>
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</tbody>
</table>

**BAFFLE CEILINGS**

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</tr>
</thead>
<tbody>
<tr>
<td>LMD-L 601</td>
<td>Metal Baffle Ceiling, Suspended with substructure, screwed baffles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMD-L 607</td>
<td>Metal Baffle Ceiling, Directly Fastened without substructure, baffles directly fastened</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMD-L 608</td>
<td>Metal Baffle Ceiling, Hook-On/Slide Baffle with substructure made of double hook-on profile, hook-on/slide baffle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMD-L LAOLA</td>
<td>Metal Baffle Ceiling in Wavelike Design with substructure made of double hook-on profile, hook-on/slide baffle</td>
<td>project-related assessment</td>
<td></td>
</tr>
</tbody>
</table>
### BAFFLE CEILINGS

- **Metal Baffle Ceiling in Wavelike Design**
  - LMD-L 608
- **Metal Baffle Ceiling, Directly Fastened**
  - LMD-L 607
- **Metal Baffle Ceiling, Suspended**
  - LMD-L 608

### Clip-In/Swing-Down Cassette Ceiling
- **Lay-In Cassette Ceiling with T-profile 24 mm**
  - LMD-K 403
- **Lay-In Cassette Ceiling with T-profile 15 mm**
  - LMD-K 400

### Lay-In Corridor Ceiling
- **LMD-E 321**
- **LMD-E 213**
- **LMD-E 200**

### Drop-Slide Corridor Ceiling
- **LMD-E 321 WL**
- **LMD-E 312**
- **LMD-E 300**

### CORRIDOR CEILINGS
- **LMD-E 213**
- **LMD-E 214**
- **LMD-LAOLA**
- **LMD-L 605**

### Sound Absorption Properties

*Up to NRC = 0.95 in acc. with ISO 354,*

- **LMD-E 321**
- **LMD-E 213**
- **LMD-E 312**
- **LMD-E 300**

### Fire Protection

- **A2 - s1, d0 in acc. with EN 13501-1, class A (IBC) in acc. with ASTM E 84**

### Sustainability

- **Cradle to Cradle® silver certified** in acc. with ISO 14021,
  - EPD in acc. with ISO 14025 and EN 15804,
  - self-declaration in acc. with ISO 14021,
  - Explosion Protection: self-declaration in acc. with ISO 14021,
  - Ball-Impact Resistance: self-declaration in acc. with ISO 14021,
  - Seismic Safety: self-declaration in acc. with ISO 14021,
  - Wind Loads: self-declaration in acc. with ISO 14021,
## EXPANDED METAL CEILINGS

<table>
<thead>
<tr>
<th>LMD-St 213</th>
<th>Expanded Metal Hook-On Ceiling with Accentuated Joints</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>concealed hook-on construction with accentuated joints, removable expanded metal ceiling panels with swing-down option</td>
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</table>

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<thead>
<tr>
<th>Room Acoustics</th>
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<tbody>
<tr>
<td>up to $\alpha_w = 1.00$</td>
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<tr>
<td>sound absorption class A in acc. with EN ISO 354, up to NRC = 0.90 in acc. with ISO 354, rated in acc. with ASTM C 423</td>
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<table>
<thead>
<tr>
<th>LMD-St 213 BWS</th>
<th>Expanded Metal Hook-On Ceiling, Ball-Impact Resistant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>concealed hook-on construction with accentuated joints, removable expanded metal ceiling panels with swing-down option</td>
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<tr>
<th>LMD-St 214</th>
<th>Expanded Metal Hook-On Ceiling with Open Joints</th>
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<tbody>
<tr>
<td></td>
<td>concealed supporting profiles, removable expanded metal ceiling panels with swing-down option</td>
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<thead>
<tr>
<th>LMD-St 312</th>
<th>Expanded Metal Hook-On Corridor Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>concealed hook-on construction, removable expanded metal ceiling panels with swing-down option</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 700 BWS</th>
<th>Expanded Metal Ceiling, Ball-Impact Resistant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>screwed expanded metal ceiling panel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Room Acoustics</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to $\alpha_w = 1.00$</td>
</tr>
<tr>
<td>sound absorption class A in acc. with EN ISO 354, up to NRC = 0.90 in acc. with ISO 354, rated in acc. with ASTM C 423</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Longitudinal Sound Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>

## TORSION SPRING CEILINGS

<table>
<thead>
<tr>
<th>LMD-TS 100</th>
<th>Torsion Spring Ceiling, Both-Sided Swing-Down Option</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>concealed T-profile construction, ceiling panels with spring technology and both-sided swing-down option</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Room Acoustics</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to $\alpha_w = 1.00$</td>
</tr>
<tr>
<td>sound absorption class A in acc. with EN ISO 354, up to NRC = 0.90 in acc. with ISO 354, rated in acc. with ASTM C 423</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Longitudinal Sound Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
</tr>
</tbody>
</table>

* project-related solutions adapted to your requirements possible regarding ball-impact resistance, seismic safety and wind loads
spring technology and both-sided swing-down option
concealed T-profile construction, ceiling panels with
Torsion Spring Ceiling, Both-Sided Swing-Down Option
LMD-TS 100

TORSION SPRING CEILINGS

screwed expanded metal ceiling panel
Expanded Metal Ceiling, Ball-Impact Resistant
LMD-St 700 BWS

metal ceiling panels with swing-down option
Expanded Metal Hook-On Corridor Ceiling
LMD-St 214

swing-down option
joints, removable expanded metal ceiling panels with
concealed hook-on construction with accentuated
Expanded Metal Hook-On Ceiling, Ball-Impact Resistant
LMD-St 213 BWS

swing-down option
joints, removable expanded metal ceiling panels with
concealed hook-on construction with accentuated
Expanded Metal Hook-On Ceiling with Accentuated Joints
LMD-St 213

EXPANDED METAL CEILINGS

Schutzvermerk nach DIN ISO 16016 beachten!
Protection note DIN ISO 16016 to be observed!
LMD-St 400

LMD-St 111

LMD-St 800

w = 1.00

LMD-St 200 LMD-St 310 LMD-St 340

up to NRC = 0.90 in acc. with ISO 354,
rated in acc. with ASTM C 423

up to NRC = 0.90 in acc. with ISO 354,
rated in acc. with ASTM C 423

up to NRC = 0.90 in acc. with ISO 354,
rated in acc. with ASTM C 423

up to NRC = 0.90 in acc. with ISO 354,
rated in acc. with ASTM C 423

up to NRC = 0.90 in acc. with ISO 354,
rated in acc. with ASTM C 423

up to NRC = 0.90 in acc. with ISO 354,
rated in acc. with ASTM C 423

up to NRC = 0.90 in acc. with ISO 354,
rated in acc. with ASTM C 423

up to NRC = 0.90 in acc. with ISO 354,
rated in acc. with ASTM C 423

LMD-St 403

LMD-St 700 BWS LMD-St 213 BWS

LMD-St 800

Plafotherm ® St 213 Plafotherm ® St 200 Plafotherm ® St 310

LMD-St 214 Plafotherm ® St 312

LMD-St 801 LMD-St 802 LMD-St 803

Room Acoustics Longitudinal

Fire Protection

Sustainability

Safety Protection

Statics

<table>
<thead>
<tr>
<th>Building Material Class</th>
<th>Explosion Protection</th>
<th>Ball-Impact Resistance *</th>
<th>Seismic Safety *</th>
<th>Wind Loads *</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2 - s1, d0 in acc. with EN 13501-1, class A (IBC) in acc. with ASTM E 84</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>A2 - s1, d0 in acc. with EN 13501-1, class A (IBC) in acc. with ASTM E 84</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>A2 - s1, d0 in acc. with EN 13501-1, class A (IBC) in acc. with ASTM E 84</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>A2 - s1, d0 in acc. with EN 13501-1, class A (IBC) in acc. with ASTM E 84</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>A2 - s1, d0 in acc. with EN 13501-1, class A (IBC) in acc. with ASTM E 84</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>A2 - s1, d0 in acc. with EN 13501-1, class A (IBC) in acc. with ASTM E 84</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
POST CAP CEILINGS
THE FOUNDATION FOR FLEXIBLE ROOMS.

Post Cap Ceilings provide total freedom in your room design. Partitions can easily be fastened to these accented ceiling constructions with visible Post Cap profiles to create a new room layout – according to your wishes. All avenues of ceiling design are open thanks to our range of ceilings with linear Post Caps and Cross Noggins as well as longitudinally sound-reduced solutions.

+ individual room layout thanks to the possibility of fastening partitions to Post Caps
+ linear Post Cap Ceilings and Systems with Cross Noggins as well as longitudinally sound-reduced solutions enable a flexible room design
LMD-B 100
LINEAR POST CAP CEILING

The system LMD-B 100 features visible Post Cap profiles in linear arrangement. If necessary, partitions can be fastened to Post Cap profiles to individually divide your rooms. The striking profiles can be used for technical installations and can easily be adapted to building shapes by means of a radial arrangement. This Post Cap Ceiling is a space-saving and cost-effective system. Depending on the need for inspection, Lay-In and Swing-Down type ceiling panels are available and can be combined.

+ visible linear Post Caps as design elements
+ individual room layout thanks to the possibility to fasten partitions to Post Caps
+ Post Caps can be used for technical installations or luminaires
+ space-saving ceiling system with low construction height
+ round, curved building shapes can be realised thanks to radially installed Post Caps and trapezoidal ceiling panels
+ easy maintenance option due to ceiling panels that can be individually operated, swung down and slid
+ cost-effective ceiling system as economic solution

TECHNICAL DATA

Construction
1 ceiling panel
6 L-angle
8/9/55 vernier suspension
54 Post Cap profile
78 drilling screw

Wall Connection Options  from page 132
- L-angle
- shadow gap trim
- open wall connection

Surfaces  from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT  from page 158

Heating and Cooling Function
System with integrated heating and cooling technology available:
Plafotherm® B 100

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.

Longitudinal Sound Reduction
System with tested longitudinal sound reduction is available:
LMD-B 100 SD
### TECHNICAL DATA

<table>
<thead>
<tr>
<th>LMD-B 100 Type 1</th>
<th>Ceiling Panel</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lay-In</td>
<td></td>
<td></td>
</tr>
<tr>
<td>length: 250 - 3,300 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-B 100 Type 2</th>
<th>Ceiling Panel</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lay-In with Hook-On Edge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>length: 250 - 3,300 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-B 100 Type 3</th>
<th>Ceiling Panel</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lay-In with Hook-On Notch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>length: 250 - 3,300 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-B 100 Type 4</th>
<th>Ceiling Panel</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lay-In, Swing-Down and Slide Option on Longitudinal Side</td>
<td></td>
<td></td>
</tr>
<tr>
<td>length: 250 - 3,000 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(depending on the length-to-width ratio)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(depending on the length-to-width ratio)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-B 100 Type 6</th>
<th>Ceiling Panel</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lay-In, Swing-Down and Slide Option on Short Side</td>
<td></td>
<td></td>
</tr>
<tr>
<td>length: 250 - 3,000 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(depending on the length-to-width ratio)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(depending on the length-to-width ratio)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### ACOUSTICS from page 140
- Room Acoustics
  - up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354,
  - up to NRC = 0.95 according to ISO 354, rated to ASTM C 423

### FIRE PROTECTION from page 138
- Building Material Class
  - A2 - s1, d0 according to EN 13501-1,
  - class A (IBC) according to ASTM E 84

### CORROSION PROTECTION from page 148
- Exposure class A (interior) according to EN 13964, table 8 and 9

### SUSTAINABILITY page 154
- Self-declaration in acc. with ISO 14021,
- EPD in acc. with ISO 14025 and EN 15804,
- Cradle to Cradle® silver certified

### SAFETY PROTECTION page 153
- Explosion Protection
  - up to 63 kPa blast pressure

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LMD-B 100 SD
LINEAR POST CAP CEILING, LONGITUDINALLY SOUND REDUCED

This ceiling system with visible linear Post Caps and tested longitudinal sound reduction is the perfect solution to fasten partitions on the Post Caps. Thus, individual room layouts are possible – for example a subdivision of an open-plan office in several individual offices. The system LMD-B 100 SD with low construction height can be adapted to round building shapes thanks to trapezoidal ceiling panels and radially installed Post Caps. The ceiling panels with heavy plating can easily be removed for maintenance works without the need for any tools.

+ Post Cap Ceiling with tested longitudinal sound reduction
+ visible linear Post Caps as design elements
+ individual room layout thanks to the possibility to fasten partitions to Post Caps
+ Post Caps can be used for technical installations or luminaires
+ space-saving ceiling system with low construction height
+ round, curved building shapes can be realised thanks to radially installed Post Caps and trapezoidal ceiling panels
+ easy maintenance option due to ceiling panels that can be individually operated without tools

TECHNICAL DATA

Construction
1 ceiling panel
6 L-angle
8/9/55 vernier suspension
54 Post Cap profile
78 drilling screw

Wall Connection Options  from page 132
- L-angle
- shadow gap trim

Surfaces  from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT  from page 158

Heating and Cooling Function
System with integrated heating and cooling technology available:
- Plafotherm® B 100 SD

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
LMD-B 100 SD

**LMD-B 100 SD Type 1**
Lay-In
length: 250 - 2,000 mm
(depending on the length-to-width ratio)
width: 200 - 900 mm
(depending on the length-to-width ratio)

**LMD-B 100 SD Type 2**
Lay-In with Hook-On Edge
length: 250 - 2,000 mm
(depending on the length-to-width ratio)
width: 200 - 900 mm
(depending on the length-to-width ratio)

---

**ACOUSTICS** from page 140

Room Acoustics
up to $\alpha_w = 0.75$ (MH), sound absorption class C according to EN ISO 354,
up to NRC = 0.85 according to ISO 354, rated to ASTM C 423

Longitudinal Sound Reduction
up to $D_{n,\text{f,w}} = 67$ dB according to ISO 10848-2

**CORROSION PROTECTION** from page 148
exposure class A (interior) according to EN 13964, table 8 and 9

**SUSTAINABILITY** page 154
self-declaration in acc. with ISO 14021
LMD-B 110
POST CAP CEILING WITH CROSS NOGGINS

This ceiling system with visible linear Post Caps and Cross Noggin offers you the possibility to fasten partitions to Post Caps in both directions. Thanks to the structured ceiling layout, possible future room sizes can be identified. The striking Post Caps of this space-saving ceiling system can be used as a design element or for technical installations. Ceiling panels with Swing-Down mechanism are available for areas with increased maintenance demands. To reduce costs, they can also be combined with Lay-In ceiling panels.

- visible Cross Noggin as design elements
- individual room layout thanks to the possibility to fasten partitions to Post Caps in both directions
- Post Caps can be used for technical installations or luminaires
- space-saving ceiling system with low construction height
- easy maintenance option due to ceiling panels that can be individually operated, swung down and slid
- possible future room sizes can be identified

TECHNICAL DATA

Construction
1 ceiling panel
8/9/55 vernier suspension
54 Post Cap profile
61 Post Cap Cross Noggin
78 drilling screw

Wall Connection Options  ↩️ from page 132
- L-angle
- shadow gap trim
- open wall connection

Surfaces  ↩️ from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT  ↩️ from page 158

Heating and Cooling Function
System with integrated heating and cooling technology available:
Plafotherm® B 110

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
LMD-B 110 Type 1
Lay-In
length: 250 - 3,300 mm
width: 200 - 1,250 mm

LMD-B 110 Type 2
Lay-In with Hook-On Edge
length: 250 - 3,300 mm
width: 200 - 1,250 mm

LMD-B 110 Type 3
Lay-In with Hook-On Notch
length: 250 - 3,300 mm
width: 200 - 1,250 mm

LMD-B 110 Type 4
Lay-In, Swing-Down and Slide Option on Longitudinal Side
length: 250 - 3,000 mm
(width: 200 - 1,250 mm)
(depend on the length-to-width ratio)

LMD-B 110 Type 6
Lay-In, Swing-Down and Slide Option on Short Side
length: 250 - 3,000 mm
(width: 200 - 1,250 mm)
(depend on the length-to-width ratio)

Room Acoustics
up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354,
up to NRC = 0.95 according to ISO 354, rated to ASTM C 423

Building Material Class
A2 - s1, d0 according to EN 13501-1,
class A (IBC) according to ASTM E 84

Exposure class A (interior) according to EN 13964, table 8 and 9

self-declaration in acc. with ISO 14021,
EPD in acc. with ISO 14025 and EN 15804,
Cradle to Cradle® silver certified
LMD-B 147 SD
POST CAP CEILING CONCEALED, LONGITUDINALLY SOUND-REDUCED

The special feature of this system: the Post Cap profiles are not visible – nevertheless, it is possible to fasten partitions to the Post Caps. They can be moved without destruction. Thus, you have maximum design freedom in your room layout. Being equipped with integrated luminaires, the longitudinally sound-reduced system guarantees ideal illumination in your rooms. The metal ceiling panels have an easy maintenance option.

+ Post Cap Ceiling with tested longitudinal sound reduction inclusive integrated luminaire
+ homogeneous ceiling surface due to concealed Post Caps
+ individual room layout thanks to the possibility to fasten reversible partitions to Post Caps
+ easy maintenance option of ceiling elements

TECHNICAL DATA

Construction
- 1 ceiling panel
- 6 L-angle
- 8/9/55 vernier suspension
- 54 Post Cap profile
- 78 drilling screw
- 689 hollow chamber sealing
- 974 partition connection profile

Wall Connection Options ▼ from page 132
- L-angle
- shadow gap trim
- with shadow gap

Surfaces ▼ from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT ▼ from page 158

Heating and Cooling Function
System with integrated heating and cooling technology available:
▼ Plafotherm® B 147 SD

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
**LMD-B 147 SD**

**LMD-B 147 SD Type 1**
- length: 500 - 1,500 mm
- width: 200 - 900 mm

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<table>
<thead>
<tr>
<th>Ceiling Panel</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room Acoustics</td>
<td>Panel length Panel length</td>
</tr>
<tr>
<td><strong>Room Acoustics</strong></td>
<td>up to $\alpha_w = 0.70$ (MH), sound absorption class C according to EN ISO 354, up to NRC = 0.80 according to ISO 354, rated to ASTM C 423</td>
</tr>
<tr>
<td>Longitudinal Sound Reduction</td>
<td>up to $D_{n,f,w} = 60$ dB according to ISO 10848-2</td>
</tr>
</tbody>
</table>

**ACOUSTICS** from page 140

**CORROSION PROTECTION** from page 148

exposure class A (interior) according to EN 13964, table 8 and 9

**SUSTAINABILITY** page 154

self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804
Canopy Ceilings are free-floating elements that allow a view of the bare ceiling. Thanks to this open construction, they improve not only the visual appearance but also enhance the acoustics in your rooms. Extensive design options and customised arrangement as individual modules or in rows emphasise the versatility of Metal Canopy Ceilings.

- High sound absorption due to the open construction
- Design freedom due to individual arrangement of canopies
- Flexible room planning possible
- Freely floating Canopy Ceilings allow a view of the bare ceiling
- Existing thermal activation of the bare ceiling can be combined with Lindner Canopy Ceilings
LMD-DS 312
METAL CANOPY CEILING WITHOUT FRAME

This Canopy Ceiling without frame can freely be arranged and offers a multitude of design options. The open construction of the single Canopy Ceilings allows a view to the concrete ceiling and is an economic solution. The elements can quickly and easily be installed and operated – each ceiling panel can individually be removed without the need for any tools. An independent installation of luminaires or fixtures is possible between the canopies.

+ design freedom thanks to an individual arrangement of canopies and an exposed concrete
+ room layout can be planned flexibly
+ slim, filigree look without circumferential frame
+ easy maintenance option due to ceiling panels that can be individually operated without tools
+ independent installation of luminaires and fixtures possible between Canopy Ceilings
+ easy and quick installation
+ cost-effective Canopy Ceiling as economic solution

TECHNICAL DATA

Construction
1 ceiling panel
6 L-angle
10/15/65 threaded rod suspension
23 Hook-On profile
78 drilling screw

Surfaces ➩ from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT ➩ from page 158

Heating and Cooling Function
System with integrated heating and cooling technology available:
Plafotherm® DS 312

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
### LMD-DS 312

#### LMD-DS 312 Type 1
- Canopy length: depending on requirements
- Canopy width: 500 - 3,000 mm
- Panel length: 500 - 3,000 mm
- Panel width: 200 - 1,250 mm

#### TECHNICAL DATA

##### Ceiling Panel

![Ceiling Panel Image](image)

##### Installation Detail

![Installation Detail Image](image)

#### TECHNICAL DATA

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACOUSTICS</strong></td>
<td>From page 140, equivalent sound absorption area per canopy according to EN ISO 354</td>
</tr>
<tr>
<td><strong>FIRE PROTECTION</strong></td>
<td>From page 138, Building Material Class A2 - s1, d0 according to EN 13901-1, class A (IBC) according to ASTM E 84</td>
</tr>
<tr>
<td><strong>CORROSION PROTECTION</strong></td>
<td>From page 148, Exposure class A (interior) according to EN 13964, table 8 and 9</td>
</tr>
<tr>
<td><strong>SUSTAINABILITY</strong></td>
<td>Page 154, self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804, Cradle to Cradle® silver certified</td>
</tr>
</tbody>
</table>

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LMD-DS 312 · Canopy Ceilings · Metal Ceilings · 29
LMD-DS 313
METAL CANOPY CEILING WITH FRAME

The Canopy Ceiling LMD-DS 313 with circumferential frame is an architectural element that grants much freedom in design and arrangement on a background of concrete. Thanks to the open construction, the ceiling panels of the Canopy Ceiling can easily and quickly be installed and individually be operated. Luminaires and fixtures can be installed independently between the Metal Canopy Ceilings.

+ design freedom thanks to an individual arrangement of canopies and an exposed concrete
+ room layout can be planned flexibly
+ circumferential frame as architectural element
+ easy maintenance option due to ceiling panels that can be individually operated
+ independent installation of luminaires and fixtures possible between Canopy Ceilings
+ easy and quick installation

TECHNICAL DATA

Construction
- 1 ceiling panel
- 8/9/114 vernier suspension
- 14/15/65 screw connection
- 53 self-tapping screw
- 613 aluminium frame profile
- 640 C-profile

Surfaces ¬ from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT ¬ from page 158

Heating and Cooling Function
System with integrated heating and cooling technology available:
¬ Plafotherm® DS 313

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
### LMD-DS 313

<table>
<thead>
<tr>
<th>Type</th>
<th>Hook-On/Swing-Down</th>
<th>Canopy length: depending on requirements</th>
<th>Canopy width: 542 - 2,241 mm</th>
<th>Panel length: 500 - 2,199 mm</th>
<th>Panel width: 200 - 1,000 mm</th>
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</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>Canopy Panel</td>
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<tr>
<td>Type 2</td>
<td>Canopy Panel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ACOUSTICS** (from page 140)
- Equivalent sound absorption area per canopy according to EN ISO 354

**FIRE PROTECTION** (from page 138)
- Building Material Class: A2 - s1, d0 according to EN 13501-1, class A (IBC) according to ASTM E 84

**CORROSION PROTECTION** (from page 148)
- Exposure class A (interior) according to EN 13964, table 8 and 9

**SUSTAINABILITY** (page 154)
- Self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804
LMD-DS 320
METAL CANOPY CEILING IN FILIGREE OPTICS

The ceiling panels of the Metal Canopy Ceiling LMD-DS 320 can be operated without tools. The optionally angled edges and the variable arrangement of the individual modules create a filigree appearance. The large-sized ceiling panels allow a view to the exposed concrete. Moreover, this cost-effective ceiling system impresses with an easy and quick installation. Fixtures can be installed independently between the Metal Canopy Ceilings.

+ design freedom thanks to an individual arrangement of canopies and an exposed concrete
+ room layout can be planned flexibly
+ large-sized ceiling panels optionally with 90° or 65° turn-up
+ easy maintenance option due to ceiling panels that can be individually operated without tools
+ independent installation of luminaires and fixtures possible between Canopy Ceilings
+ easy and quick installation
+ cost-effective Canopy Ceiling as economic solution

TECHNICAL DATA

Construction
1 ceiling panel
10/15/65 threaded rod suspension
711 Hook-On profile

Surfaces from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT from page 158

Heating and Cooling Function
System with integrated heating and cooling technology available:
Plafotherm® DS 320

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
## LMD-DS 320

### Ceiling Panel

#### LMD-DS 320 Type 1
**90°-Turn-Up as Individual/Border or Central Panel**
- Canopy length: depending on requirements
- Canopy width: 200 - 1,250 mm
- Panel length: 500 - 3,000 mm
- Panel width: 200 - 1,250 mm

#### LMD-DS 320 Type 2
**65°-Turn-Up as Individual Panel**
- Canopy length: depending on requirements
- Canopy width: 200 - 1,250 mm
- Panel length: 500 - 3,000 mm
- Panel width: 200 - 1,250 mm

#### LMD-DS 320 Type 3
**65°-Turn-Up as Border Panel for Extension on Short Side**
- Canopy length: depending on requirements
- Canopy width: 200 - 1,250 mm
- Panel length: 500 - 3,000 mm
- Panel width: 200 - 1,250 mm

#### LMD-DS 320 Type 4
**65°-Turn-Up as Central Panel for Extension on Short Side**
- Canopy length: depending on requirements
- Canopy width: 200 - 1,250 mm
- Panel length: 500 - 3,000 mm
- Panel width: 200 - 1,250 mm

### Installation Detail

#### ACOUSTICS
- Equivalent sound absorption area per canopy according to EN ISO 354

#### FIRE PROTECTION
- A2 - s1, d0 according to EN 13501-1,
- Class A (IBC) according to ASTM E 84

#### CORROSION PROTECTION
- Exposure class A (interior) according to EN 13964, table 8 and 9

#### SUSTAINABILITY
- Self-declaration in acc. with ISO 14021,
- EPD in acc. with ISO 14025 and EN 15804,
- Cradle to Cradle® silver certified

#### STATICS
- Seismic Safety
  - An earthquake-proof construction is possible
HOOK-ON CEILINGS
VERSATILE SOLUTIONS.

Hook-On Ceilings are versatile ceiling solutions with homogeneous ceiling surfaces that impress with their visual and functional adaptability. Ceiling panels can be realised in different shapes and sizes, offering freedom of design. Hook-On Ceilings tested for ball-impact resistance and wind pressure/suction loads are available for special requirements and application areas.

+ uniform ceiling surface due to concealed substructure
+ individual design thanks to flexible panel shapes and sizes
+ tested systems for ball-impact resistance and wind/suction loads are available
**LMD-E 200**

**HOOK-ON CEILING**

The system LMD-E 200 creates a homogeneous ceiling surface with concealed substructure by means of overlapping Hook-On metal ceiling panels. This robust and economic construction combines appealing visuals with easy maintenance: the shape and size of the ceiling panels can flexibly be designed according to your wishes. Moreover, the panels can be removed without the need for any tools.

+ homogeneous ceiling surface due to concealed substructure
+ individual design thanks to flexible panel shapes and sizes
+ easy maintenance option of ceiling panels without tools
+ cost-effective ceiling system as economic solution

---

**TECHNICAL DATA**

**Construction**
- 1 ceiling panel
- 7/8/9 vernier suspension
- 18 self-tapping screw
- 23 Hook-On profile
- 24 connector for suspension channel to Hook-On profile
- 26 suspension channel

**Wall Connection Options** from page 132
- L-angle
- shadow gap trim
- open wall connection

**Surfaces** from page 98
A diverse range of coatings, perforations and designs is available.

---

**ADDITIONAL EQUIPMENT** from page 158

**Heating and Cooling Function**
System with integrated heating and cooling technology available:
- Plafotherm® E 200

**Luminaires**
Perfectly integrated Lindner Lighting Solutions are available.

**Acoustic Inlays**
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.

---

![Image of LMD-E 200 Hook-On Ceiling System](image-url)
### LMD-E 200

#### Ceiling Panel Installation Detail

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Length</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMD-E 200 2</td>
<td>Hook-On/Lay-On</td>
<td>250 - 3,000 mm</td>
<td>200 - 1,250 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Length</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMD-E 200 3</td>
<td>Hook-On/Lay-On Self-Aligning</td>
<td>250 - 3,000 mm</td>
<td>200 - 1,250 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Length</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMD-E 200 4</td>
<td>Hook-On on Both Sides</td>
<td>250 - 3,000 mm</td>
<td>200 - 1,250 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Length</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMD-E 200 5</td>
<td>Hook-On/Lay-On, Cassette</td>
<td>250 - 625 mm</td>
<td>200 - 625 mm</td>
</tr>
</tbody>
</table>

#### ACOUSTICS

Room Acoustics

- up to $\alpha \leq 1.00$, sound absorption class A according to EN ISO 354,
- up to NRC = 0.95 according to ISO 354, rated to ASTM C 423

#### FIRE PROTECTION

Building Material Class

- A2 - s1, d0 according to EN 13501-1,
- class A (IBC) according to ASTM E 84

#### CORROSION PROTECTION

- exposure class A (interior) according to EN 13964, table 8 and 9

#### SUSTAINABILITY

- self-declaration in acc. with ISO 14021,
- EPD in acc. with ISO 14025 and EN 15804,
- Cradle to Cradle® silver certified

#### STATICS

Seismic Safety

- an earthquake-proof construction is possible
LMD-E 210
HOOK-ON CEILING WITH BUTT JOINTS

The economic Hook-On Ceiling LMD-E 210 has a low construction height. The design of the short sides of the panel and the construction of the profile automatically ensure joint alignment during installation. This creates a homogeneous ceiling surface with continuous butt joints and concealed substructure. For maintenance works, all ceiling panels can be removed individually without the need for any tools.

+ homogeneous ceiling surface due to concealed substructure
+ ceiling layout with continuous butt joints
+ automatic joint alignment thanks to self-adjusting ceiling panels
+ space-saving ceiling system with low construction height
+ easy maintenance option due to ceiling panels that can be individually operated without tools
+ cost-effective ceiling system as economic solution

TECHNICAL DATA

Construction
1 ceiling panel
6 L-angle
8/9/114 vernier suspension
14/15/65 screw connection
78 drilling screw
510 carrier rail

Wall Connection Options  from page 132
- L-angle
- shadow gap trim

Surfaces  from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT  from page 158

Heating and Cooling Function
System with integrated heating and cooling technology available:
Plafotherm® E 210

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
## LMD-E 210

### TECHNICAL DATA

<table>
<thead>
<tr>
<th>Ceiling Panel</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LMD-E 210 Type 1</strong>&lt;br_HDR1&gt;<strong>Hook-On</strong>&lt;br_length: 250 - 2,500 mm (depending on the length-to-width ratio)&lt;br_width: 200 - 625 mm (depending on the length-to-width ratio)</td>
<td>![Image of Hook-On installation detail]</td>
</tr>
<tr>
<td><strong>LMD-E 210 Type 2</strong>&lt;br_HDR1&gt;<strong>Hook-On</strong>&lt;br_length: 250 - 3,000 mm&lt;br_width: 200 - 400 mm</td>
<td>![Image of Hook-On installation detail]</td>
</tr>
</tbody>
</table>

### ACOUSTICS
(from page 140)

**Room Acoustics**
- up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354,
- up to NRC = 0.95 according to ISO 354, rated to ASTM C 423

### FIRE PROTECTION
(from page 138)

**Building Material Class**
- A2 - s1, d0 according to EN 13501-1,
- class A (IBC) according to ASTM E 84

### CORROSION PROTECTION
(from page 148)

**exposure class A (interior) according to EN 13964, table 8 and 9**

### SUSTAINABILITY
(page 154)

**self-declaration in acc. with ISO 14021,**
**EPD in acc. with ISO 14025 and EN 15804**

www.Lindner-Group.com
**LMD-E 213**

**HOOK-ON CEILING WITH ACCENTUATED JOINTS**

The system LMD-E 213 is characterised by accentuated joints in both directions along the ceiling panels, generating a special ceiling layout. Open Hook-On profiles create a homogeneous ceiling surface and an appealing look. Flexible shapes such as rectangular, trapezoidal or triangular ceiling panels enable individual, project-related design options. Metal ceiling panels that can be removed or swung down and slid without tools are available.

- homogeneous ceiling surface due to concealed substructure
- individual design thanks to flexible panel shapes and sizes
- ceiling layout with accentuated joints in both directions possible
- easy maintenance option due to ceiling panels that can be individually operated, swung down and slid without tools

---

**TECHNICAL DATA**

**Construction**

- 1 ceiling panel
- 6 L-angle
- 8/9/114 vernier suspension
- 14/15/65 screw connection
- 19 drilling screw
- 78 drilling screw
- 429 spacer
- 592 Hook-On profile

**Wall Connection Options**  
- L-angle
- shadow gap trim
- open wall connection

**Surfaces**  
A diverse range of coatings, perforations and designs is available.

---

**ADDITIONAL EQUIPMENT**

- Heating and Cooling Function
  System with integrated heating and cooling technology available:
  - Plafotherm® E 213

- Luminaires
  Perfectly integrated Lindner Lighting Solutions are available.

- Acoustic Inlays
  Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.

- Ball-Impact Resistance
  System with tested ball-impact resistance is available:
  - LMD-E 213 BWS

- Wind Loads
  System with tested wind pressure/suction loads is available:
  - LMD-E 213 WL
## LMD-E 213

### Ceiling Panel Installation Detail

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMD-E 213 Type 1</td>
<td>Hook-On</td>
<td>250 - 3,000</td>
<td>200 - 1,250</td>
</tr>
<tr>
<td>LMD-E 213 Type 2</td>
<td>Hook-On, Swing-Down Option &lt; 1.2 m²</td>
<td>250 - 3,000</td>
<td>200 - 1,250</td>
</tr>
<tr>
<td>LMD-E 213 Type 3</td>
<td>Hook-On, Swing-Down Option</td>
<td>250 - 3,000</td>
<td>200 - 1,250</td>
</tr>
</tbody>
</table>

### TECHNICAL DATA

#### ACOUSTICS
from page 140

- Room Acoustics
  - up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354,
  - up to NRC = 0.95 according to ISO 354, rated to ASTM C 423

#### FIRE PROTECTION
from page 138

- Building Material Class
  - A2 - s1, d0 according to EN 13501-1,
  - class A (IBC) according to ASTM E 84

#### CORROSION PROTECTION
from page 148

- Exposure class A (interior) according to EN 13964, table 8 and 9

#### SUSTAINABILITY
page 154

- Self-declaration in acc. with ISO 14021,
- EPD in acc. with ISO 14025 and EN 15804,
- Cradle to Cradle® silver certified

#### SAFETY PROTECTION
page 153

- Explosion Protection
  - up to 63 kPa blast pressure

#### STATICS
from page 150

- Seismic Safety
  - An earthquake-proof construction is possible

www.Lindner-Group.com
LMD-E 213 BWS
HOOK-ON CEILING, BALL-IMPACT RESISTANT

This Hook-On Ceiling is successfully tested for ball-impact resistance and is a safe choice for sports halls, swimming pools or similar applications. The system is visually characterised by accentuated joints in both directions along the ceiling panels and a concealed substructure. Different ceiling panels are available that can be removed or swung down and slid.

+ Hook-On Ceiling with tested ball-impact resistance including an integrated luminaire
+ homogeneous ceiling surface due to concealed substructure
+ ceiling layout with accentuated joints possible in both directions
+ maintenance option due to ceiling panels that can be individually operated, swung down and slid
+ perforations with max. 3 mm diameter and max. 30 % open area

TECHNICAL DATA

Construction
1 ceiling panel
6 L-angle
8/9/254 vernier suspension
14/15/16 screw connection for Hook-On profile
43/375/376 screw connection for suspension
232 Hook-On profile

Wall Connection Options from page 132
- U-profile

Surfaces from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT from page 158

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
### LMD-E 213 BWS

<table>
<thead>
<tr>
<th>Type</th>
<th>Hook-On</th>
<th>Material(s)</th>
<th>Length</th>
<th>Width</th>
<th>Panel Length</th>
<th>Room Acoustics</th>
<th>Building Material Class</th>
<th>Fire Protection</th>
<th>Corrosion Protection</th>
<th>Sustainability</th>
<th>Ball-Impact Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Aluminium</td>
<td>500 - 1,230 mm</td>
<td>200 - 1,230 mm</td>
<td>Panel length 50 - 280 mm, 20 - 50 mm, ~145 mm</td>
<td>up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354, up to NRC = 0.95 according to ISO 354, rated to ASTM C 423</td>
<td>A2 - s1, d0 according to EN 13501-1, class A (IBC) according to ASTM E 84</td>
<td>exposure class A (interior) according to EN 13964, table 8 and 9</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804</td>
<td>self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804</td>
<td>class 1A/2A/3A according to EN 13964 - annex D</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Aluminium</td>
<td>500 - 1,230 mm</td>
<td>200 - 1,230 mm</td>
<td>Panel length 50 - 280 mm, 20 - 50 mm, ~145 mm</td>
<td>Room Acoustics</td>
<td>Building Material Class</td>
<td>Fire Protection</td>
<td>Corrosion Protection</td>
<td>Sustainability</td>
<td>Ball-Impact Resistance</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Aluminium/Steel</td>
<td>500 - 2,500 mm</td>
<td>200 - 500 mm</td>
<td>Panel length 50 - 280 mm, 20 - 50 mm, ~145 mm</td>
<td>Room Acoustics</td>
<td>Building Material Class</td>
<td>Fire Protection</td>
<td>Corrosion Protection</td>
<td>Sustainability</td>
<td>Ball-Impact Resistance</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Aluminium/Steel</td>
<td>500 - 2,500 mm</td>
<td>200 - 500 mm</td>
<td>Panel length 50 - 280 mm, 20 - 50 mm, ~145 mm</td>
<td>Room Acoustics</td>
<td>Building Material Class</td>
<td>Fire Protection</td>
<td>Corrosion Protection</td>
<td>Sustainability</td>
<td>Ball-Impact Resistance</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Steel</td>
<td>500 - 3,000 mm</td>
<td>200 - 800 mm</td>
<td>Panel length 50 - 280 mm, 20 - 50 mm, ~145 mm</td>
<td>Room Acoustics</td>
<td>Building Material Class</td>
<td>Fire Protection</td>
<td>Corrosion Protection</td>
<td>Sustainability</td>
<td>Ball-Impact Resistance</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Steel</td>
<td>500 - 3,000 mm</td>
<td>200 - 800 mm</td>
<td>Panel length 50 - 280 mm, 20 - 50 mm, ~145 mm</td>
<td>Room Acoustics</td>
<td>Building Material Class</td>
<td>Fire Protection</td>
<td>Corrosion Protection</td>
<td>Sustainability</td>
<td>Ball-Impact Resistance</td>
</tr>
</tbody>
</table>

**ACOUSTICS** from page 140

**FIRE PROTECTION** from page 138

**CORROSION PROTECTION** from page 148

**SUSTAINABILITY** page 154

**STATICS** from page 150

**TECHNICAL DATA**

**Ceiling Panel**

**Installation Detail**
LMD-E 213 WL
HOOK-ON CEILING FOR EXTERIOR AREAS

The Hook-On Ceiling LMD-E 213 WL is suitable for roofed exterior areas for wind pressure and suction loads up to 100 kg/m² in standard execution. Local weather and project-specific conditions have to be considered during planning. Accentuated joints of this exterior ceiling generate a homogeneous ceiling surface with concealed substructure. This installation-friendly system has a maintenance option and is furnished with the sophisticated Meteo corrosion protection coating.

+ Hook-On Ceiling with tested wind pressure/suction loads
+ project-related, higher wind pressure/suction loads can be realised
+ homogeneous ceiling surface due to concealed substructure
+ ceiling layout with accentuated joints in both directions possible
+ maintenance option due to ceiling panels that can be individually operated

TECHNICAL DATA

Construction
ceiling panel
hook-on profile

Wall Connection Options  from page 132
- U-profile

Surfaces  from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT  from page 158

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.
## LMD-E 213 WL

### TECHNICAL DATA

<table>
<thead>
<tr>
<th>Ceiling Panel</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LMD-E 213 WL Type 1</strong>&lt;br&gt;Hook-On&lt;br&gt;length: 250 - 2,000 mm&lt;br&gt;(depending on the length-to-width ratio)&lt;br&gt;width: 200 - 1,000 mm&lt;br&gt;(depending on the length-to-width ratio)</td>
<td><img src="image1.png" alt="Diagram" /></td>
</tr>
<tr>
<td><strong>LMD-E 213 WL Type 2</strong>&lt;br&gt;Hook-On, Swing-Down Option&lt;br&gt;length: 250 - 2,000 mm&lt;br&gt;(depending on the length-to-width ratio)&lt;br&gt;width: 200 - 1,000 mm&lt;br&gt;(depending on the length-to-width ratio)</td>
<td><img src="image2.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

### CORROSION PROTECTION

- From page 148 exposure class D (exterior) according to EN 13964, table 8 and 9
- Up to corrosion category C3, durability range high (H) according to ISO 12944-6:1998

### STATICS

- From page 150 Wind Loads standard up to 100 kg/m² wind pressure/suction loads, higher project-related requirements can be realised

---

www.Lindner-Group.com
LMD-E 214
HOOK-ON CEILING WITH OPEN JOINTS

A concealed substructure and open joints exceeding 10 mm characterise this Hook-On ceiling. The open joints can also be used for independent installation of luminaires or fixtures. Variable joint distances and flexible panel shapes and sizes ensure individual design options. The Hook-On ceiling panels are very maintenance-friendly: they can be removed or swung down without the need for any tools.

+ homogeneous ceiling surface due to concealed substructure
+ individual design thanks to flexible panel shapes and sizes
+ ceiling layout with open joints
+ independent installation of luminaires and fixtures possible
+ easy maintenance option due to ceiling panels that can be individually operated, swung down and slid without tools

TECHNICAL DATA

Construction
1 ceiling panel
7/8/9 vernier suspension
18 drywall screw
23 Hook-On profile
24 connector for suspension channel to hook-on profile
26 suspension channel

Wall Connection Options ▶ from page 132
- L-angle
- shadow gap trim
- open wall connection

Surfaces ▶ from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT ▶ from page 158

Heating and Cooling Function
System with integrated heating and cooling technology available:
Plafotherm® E 214

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
# LMD-E 214

## Ceiling Panel Installation Detail

### LMD-E 214 Type 1
**Hook-On**
- length: 250 - 3,000 mm
- width: 200 - 1,250 mm

### LMD-E 214 Type 2
**Hook-On, Swing-Down Option < 1.2 m²**
- length: 250 - 3,000 mm
- width: 200 - 1,250 mm

### LMD-E 214 Type 3
**Hook-On, Swing-Down Option**
- length: 250 - 3,000 mm
- width: 200 - 1,250 mm

## TECHNICAL DATA

### ACoustics
- Room Acoustics
  - up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354,
  - up to NRC = 0.95 according to ISO 354, rated to ASTM C 423

### Fire Protection
- Building Material Class
  - A2 - s1, d0 according to EN 13501-1,
  - class A (IBC) according to ASTM E 84

### Corrosion Protection
- Exposure class A (interior) according to EN 13964, table 8 and 9

### Sustainability
- self-declaration in acc. with ISO 14021,
- EPD in acc. with ISO 14025 and EN 15804,
- Cradle to Cradle® silver certified

---

**www.Lindner-Group.com**
CORRIDOR CEILINGS
APPEARANCE COUNTS. FUNCTION TOO.

Create visual highlights in your corridors. Lindner Corridor Ceilings are characterised by freely spanned constructions from wall to wall without additional centre suspension. Diverse, functionally appealing systems are available for tolerance compensation on the wall. In combination with plasterboard friezes, niches and non-parallel corridor walls can be incorporated.

+ freely spanned constructions
+ tolerance compensation on the wall is possible due to an adjustable wall connection
+ can be combined with plasterboard friezes to incorporate niches and non-parallel corridor walls
**LMD-E 300**

**LAY-IN CORRIDOR CEILING**

The system LMD-E 300 is simply convincing: the metal ceiling panels of the Corridor Ceiling are freely spanned from wall to wall and supported by perimeter trims. This simple ceiling construction is an economic solution that can be installed quickly and easily. Individual ceiling panels can be lifted and removed.

+ freely spanned construction
+ quick and easy installation
+ easy maintenance option due to ceiling panels that can be individually operated
+ cost-effective ceiling system as economic solution

---

**TECHNICAL DATA**

**Construction**

1 ceiling panel  
X perimeter trim

**Wall Connection Options**  ▶ from page 132
- L-angle  
- shadow gap trim

**Surfaces**  ▶ from page 98
A diverse range of coatings, perforations and designs is available.

---

**ADDITIONAL EQUIPMENT**  ▶ from page 158

**Luminaires**
Perfectly integrated Lindner Lighting Solutions are available.

**Acoustic Inlays**
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.

**Fire Protection**
System with tested fire resistance class is available:
▶ LMD F30-AB – Lay-In  
▶ LMD EI30 – Lay-In
# LMD-E 300

## TECHNICAL DATA

<table>
<thead>
<tr>
<th>Ceiling Panel</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LMD-E 300 Type 1</strong></td>
<td>![Diagram]</td>
</tr>
<tr>
<td><strong>Lay-In</strong></td>
<td></td>
</tr>
<tr>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
</tr>
</tbody>
</table>

## ACOUSTICS

- Room Acoustics
  - up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354,
  - up to NRC = 0.95 according to ISO 354, rated to ASTM C 423

## FIRE PROTECTION

- Building Material Class
  - A2 - s1, d0 according to EN 13501-1,
  - class A (IBC) according to ASTM E 84

## CORROSION PROTECTION

- Exposure class A (interior) according to EN 13964, table 8 and 9

## SUSTAINABILITY

- Self-declaration in acc. with ISO 14021,
- EPD in acc. with ISO 14025 and EN 15804,
- Cradle to Cradle® silver certified

---

www.Lindner-Group.com
LMD-E 312
HOOK-ON CORRIDOR CEILING

A concealed Hook-On construction with shadow gap characterises this corridor ceiling. An adjustable wall connection with Hook-On ceiling panels enables a compensation of tolerances on the wall. For maintenance works, each ceiling panel can be removed or swung down and slid without the need for any tools.

+ freely spanned construction
+ compensation of tolerances on the wall is possible due to an adjustable wall connection
+ easy maintenance option due to ceiling panels that can be individually operated, swung down and slid without tools

TECHNICAL DATA

Construction
1 ceiling panel
14/15/16/17 screw connection
22 Hook-On profile
150 L-angle

Wall Connection Options from page 132
- L-angle/Hook-on profile

Surfaces from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT from page 158

Heating and Cooling Function
System with integrated heating and cooling technology available:
Plafotherm® E 312

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.

Fire Protection
System with tested fire resistance class is available:
LMD F30-A/AB – Hook-On
LMD F30-A/AB – Hook-On-Swing-Down-Slide
LMD EI30 – Hook-On-Swing-Down-Slide
LMD F90-A/AB – Hook-On
LMD F90-A/AB – Hook-On-Swing-Down-Slide

www.Lindner-Group.com
### LMD-E 312

#### Ceiling Panel Installation Detail

| LMD-E 312 Type 1 | Hook-On | length: 250 - 3,000 mm | width: 200 - 1,250 mm |
| LMD-E 312 Type 2 | Hook-On, Swing-Down Option < 1.2 m² | length: 250 - 3,000 mm | width: 200 - 1,250 mm |
| LMD-E 312 Type 3 | Hook-On, Swing-Down Option | length: 250 - 3,000 mm | width: 200 - 1,250 mm |

#### TECHNICAL DATA

| **ACOUSTICS** from page 140 | **FIRE PROTECTION** from page 138 | **CORROSION PROTECTION** from page 148 | **SUSTAINABILITY** page 154 | **SAFETY PROTECTION** page 153 |
| Room Acoustics | Building Material Class | exposure class A (interior) according to EN 13964, table 8 and 9 | self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804, Cradle to Cradle® silver certified | Explosion Protection up to 63 kPa blast pressure |

| **TECHNICAL DATA** | Ceiling Panel | Installation Detail |
| | ![Image](image1.png) | ![Image](image2.png) |
| | ![Image](image3.png) | ![Image](image4.png) |
| | ![Image](image5.png) | ![Image](image6.png) |

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www.Lindner-Group.com
LMD-E 321
LAY-IN/SWING-DOWN CORRIDOR CEILING

The freely spanned Corridor Ceiling LMD-E 321 has an appealing look due to continuous wall profiles. A compensation of tolerances on the wall is possible thanks to an adjustable wall connection. By means of an operating tool, each ceiling panel can individually be swung down and slid on the longitudinal or short side.

+ freely spanned construction
+ compensation of tolerances on the wall is possible due to an adjustable wall connection
+ easy maintenance option due to ceiling panels that can be individually operated, swung down and slid

TECHNICAL DATA

Construction
1 ceiling panel
14/15/16/17 screw connection
27 G-profile
150 L-angle

Wall Connection Options from page 132
- L-angle
- G-profile

Surfaces from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT from page 158

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.

Fire Protection
System with tested fire resistance class is available:
- LMD F30-A/AB – Swing-Down-Slide
- LMD F30-A/AB – TIPmotion™
## TECHNICAL DATA

<table>
<thead>
<tr>
<th>LMD-E 321 Type 1</th>
<th>LMD-E 321 Type 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Swing-Down and Slide Option on Longitudinal Side</strong></td>
<td><strong>Swing-Down and Slide Option on Short Side</strong></td>
</tr>
<tr>
<td>Length: 250 - 3,000 mm (depending on the length-to-width ratio)</td>
<td>Length: 250 - 3,000 mm (depending on the length-to-width ratio)</td>
</tr>
<tr>
<td>Width: 200 - 1,250 mm (depending on the length-to-width ratio)</td>
<td>Width: 200 - 1,250 mm (depending on the length-to-width ratio)</td>
</tr>
</tbody>
</table>

### ACOUSTICS

*Room Acoustics*
- up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354,
- up to NRC = 0.95 according to ISO 354, rated to ASTM C 423

### FIRE PROTECTION

*Building Material Class*
- A2 - s1, d0 according to EN 13501-1,
- class A (IBC) according to ASTM E 84

### CORROSION PROTECTION

*Exposure class A (interior)* according to EN 13964, table 8 and 9

### SUSTAINABILITY

*Self-declaration* in acc. with ISO 14021,
- EPD in acc. with ISO 14025 and EN 15804
**LMD-E 340**

**DROP-SLIDE CORRIDOR CEILING**

This Drop-Slide Corridor Ceiling is a freely spanned ceiling construction with filigree Hook-On profile. Thanks to an adjustable wall connection, you can easily compensate tolerances on the wall. The special feature of this system: metal ceiling panels can be lowered in the Drop-Slide profile and slid horizontally beneath other panels. The great advantage: it is not necessary to remove or swing-down ceiling panels for maintenance works – temporarily stored or hanging ceiling panels in opened condition do not affect the building traffic.

+ freely spanned construction
+ compensation of tolerances on the wall is possible due to an adjustable wall connection
+ easy maintenance option due to ceiling panels that can be individually operated, lowered and slid
+ no disturbance by hanging ceiling panels in opened condition of the ceiling

---

### TECHNICAL DATA

**Construction**

1. ceiling panel
2. 14/15/16/17 screw connection
3. L-angle 150
4. Drop-Slide Hook-On profile 434

**Wall Connection Options** from page 132

- L-angle
- Drop-Slide profile

**Surfaces** from page 98

A diverse range of coatings, perforations and designs is available.

---

### ADDITIONAL EQUIPMENT from page 158

**Luminaires**

Perfectly integrated Lindner Lighting Solutions are available.

**Acoustic Inlays**

Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.

**Fire Protection**

System with tested fire resistance class is available:

- LMD F30-A/AB – Drop-Slide
- LMD F90-A/AB – Drop-Slide

---

[Images and diagrams related to the text are included here.]
### LMD-E 340

**LMD-E 340 Type 1**
**Drop-Slide**  
length: 250 - 3,000 mm  
width: 200 - 800 mm

<table>
<thead>
<tr>
<th>LMD-E 340</th>
<th>Ceiling Panel</th>
<th>Installation Detail</th>
</tr>
</thead>
</table>
| **ACoustics**  
from page 140  
Room Acoustics  
up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354,  
up to NRC = 0.95 according to ISO 354, rated to ASTM C 423 |  |  |
| **Fire Protection**  
from page 138  
Building Material Class  
A2 - s1, d0 according to EN 13501-1,  
class A (IBC) according to ASTM E 84 |  |  |
| **Corrosion Protection**  
from page 148  
exposure class A (interior) according to EN 13964, table 8 and 9 |  |  |
| **Sustainability**  
page 154  
self-declaration in acc. with ISO 14021,  
EPD in acc. with ISO 14025 and EN 15804 |  |  |

www.Lindner-Group.com
Classic Cassette Ceilings with square ceiling panels are economical ceiling solutions and easy to plan. In addition to our standard sizes of 600 x 600 mm and 625 x 625 mm, individual grids can be implemented to suit your needs. Different cassette types are available.

- A preset grid defines the ceiling surface by means of square cassettes
- Standard dimensions – 600 x 600 mm and 625 x 625 mm – and also individual grid sizes available, e.g. 1,200 x 600 mm
LMD-K 400
LAY-IN CASSETTE CEILING WITH 15 MM T-PROFILE

The 15 mm wide T-profiles of LMD-K 400 outline a preset grid that structures the view of the ceiling. This ceiling system is an economic solution and space-saving thanks to a low construction height.

+ a preset grid defines the ceiling surface by means of visible, filigree T-profiles
+ cost-effective ceiling system as economic solution

TECHNICAL DATA

Construction
1 ceiling panel
84/164 express hanger
162 T-profile, main runner
163 T-profile, cross runner

Wall Connection Options
- perimeter trim

Surfaces
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
# LMD-K 400

## Technical Data

### Installation Detail

**Cassette Installation Detail**

<table>
<thead>
<tr>
<th>LMD-K 400 Type K10</th>
<th>Lay-In</th>
</tr>
</thead>
<tbody>
<tr>
<td>grid: 600 x 600 mm</td>
<td></td>
</tr>
<tr>
<td>perforation: Rg 2.5 - 16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rv 1.8 - 20</td>
</tr>
</tbody>
</table>

### Acoustics

**Room Acoustics**

up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354, up to NRC = 0.95 according to ISO 354, rated to ASTM C 423

### Fire Protection

**Building Material Class**

A2 - s1, d0 according to EN 13501-1, class A (IBC) according to ASTM E 84

### Corrosion Protection

**Exposure Class**

exposure class A (interior) according to EN 13964, table 8 and 9

### Sustainability

self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804
LMD-K 403
LAY-IN CASSETTE CEILING WITH 24 MM T-PROFILE

Visible T-profiles with a standard width of 24 mm define the surface of this Cassette Ceiling. Various Lay-On cassette types are available as economic solutions.

+ a preset grid defines the ceiling surface by means of visible T-profiles
+ cost-effective ceiling system as economic solution

TECHNICAL DATA

Construction
1 cassette
34 T-profile, main runner
35 T-profile, cross runner
112 express hanger

Wall Connection Options  from page 132
- L-angle
- shadow gap trim

Surfaces  from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT  from page 158

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
## LMD-K 403

### TECHNICAL DATA

<table>
<thead>
<tr>
<th>LMD-K 403 Type K9</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lay-On</strong></td>
<td>Module</td>
</tr>
<tr>
<td>grid: 600 x 600 mm, 625 x 625 mm</td>
<td>Module</td>
</tr>
<tr>
<td>all standard perforations possible</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-K 403 Type K16</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lay-On, Flush T-profile</strong></td>
<td>Module</td>
</tr>
<tr>
<td>grid: 625 x 625 mm</td>
<td>Module</td>
</tr>
<tr>
<td>perforation: Rg 2.5 - 16</td>
<td></td>
</tr>
<tr>
<td>Rv 1.8 - 20</td>
<td></td>
</tr>
</tbody>
</table>

### Room Acoustics

- **LMD-K 403 Type K9**
  - up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354,
  - up to NRC = 0.95 according to ISO 354, rated to ASTM C 423

### Building Material Class

- A2 - s1, d0 according to EN 13501-1,
- class A (IBC) according to ASTM E 84

### Exposure Class

- exposure class A (interior) according to EN 13964, table 8 and 9

### Self-Declaration

- self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804
LMD-K 420

CLIP-IN/SWING-DOWN CASSETTE CEILING

Due to a completely concealed substructure, the system LMD-K 420 has a closed ceiling surface. The uniform joint design structures the view of the ceiling. The maintenance-friendly system provides access to the ceiling void by means of metal cassettes that can be either removed or separately swung down and slid along the Clip-In profiles.

+ homogeneous ceiling surface due to concealed substructure
+ maintenance option due to ceiling panels that can be individually operated and swung down
+ other project-related dimensions are possible

TECHNICAL DATA

Construction
1 cassette
7/8/9 vernier suspension
18 drywall screw
26 suspension channel
72 clip-in profile
74 cross connector

Wall Connection Options from page 132
- L-angle
- shadow gap trim

Surfaces from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT from page 158

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
## LMD-K 420

### TECHNICAL DATA

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Details</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMD-K 420 Type K3</td>
<td>Clip-In/Swing-Down with L-Turn-up and Bevel</td>
<td>grid: 600 x 600 mm, 625 x 625 mm&lt;br&gt;perforation: Rg 2.5 - 16&lt;br&gt;Rv 1.8 - 20</td>
<td>![Diagram]</td>
</tr>
<tr>
<td>LMD-K 420 Type K4</td>
<td>Clip-In with C-Turn-up</td>
<td>grid: 600 x 600 mm, 625 x 625 mm&lt;br&gt;all standard perforations possible</td>
<td>![Diagram]</td>
</tr>
<tr>
<td>LMD-K 420 Type K6</td>
<td>Clip-In/Swing-Down with C-Turn-up</td>
<td>grid: 600 x 600 mm, 625 x 625 mm&lt;br&gt;all standard perforations possible</td>
<td>![Diagram]</td>
</tr>
</tbody>
</table>

### ACOUSTICS

- **Room Acoustics**<br>up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354, up to NRC = 0.95 according to ISO 354, rated to ASTM C 423

### FIRE PROTECTION

- **Building Material Class**<br>A2 - s1, d0 according to EN 13501-1, class A (IBC) according to ASTM E 84

### CORROSION PROTECTION

- **exposure class A (interior) according to EN 13964, table 8 and 9**

### SUSTAINABILITY

- **self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804, Cradle to Cradle® silver certified**

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www.Lindner-Group.com
Baffle Ceilings create unique room atmospheres. These open ceiling constructions allow a view of the bare ceiling. They are ideally suitable for retrofitting to correct acoustic problems with bare ceilings and for creating a distinctive design effect. Besides linear baffle systems, wavelike baffles are available as a design variant.

- freely selectable centre distances and baffle dimensions
- linear and wavelike baffles are available as design elements
- also suitable for retrofitting to correct acoustic problems with bare ceilings
**LMD-L 601**

**METAL BAFFLE CEILING, SUSPENDED**

The linear design of metal baffles offers versatile possibilities of installation thanks to different centre distances and baffle sizes. The individual baffle distance enables an easy integration of necessary fixtures in the visible ceiling void between the baffles. The construction made of suspension channels guarantees an easy and quick installation.

- freely selectable centre distances and baffle dimensions
- independent installation of luminaires and fixtures possible between baffles
- visible ceiling void
- quick and easy installation

---

**TECHNICAL DATA**

**Construction**

- 8/9/121  vernier suspension
- 18  drywall screw
- 26  suspension channel
- 123  connector
- 124  baffle

**Surfaces** *(from page 98)*

A diverse range of coatings, perforations and designs is available.

---

**ADDITIONAL EQUIPMENT** *(from page 158)*

**Luminaires**

Perfectly integrated Lindner Lighting Solutions are available.

**Acoustic Inlays**

Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
## LMD-L 601

### TECHNICAL DATA

<table>
<thead>
<tr>
<th>Baffle</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LMD-L 601 Type 1</strong>&lt;br&gt;One-Piece, Closed/Closed&lt;br&gt;length: 300 - 3,000 mm&lt;br&gt;width: 30, 35, 40, 45, 50 or 55 mm&lt;br&gt;height: 80 - 325 mm</td>
<td><img src="image_url1" alt="Image" /></td>
</tr>
<tr>
<td><strong>LMD-L 601 Type 2</strong>&lt;br&gt;One-Piece, Open/Open&lt;br&gt;length: 300 - 3,000 mm&lt;br&gt;width: 30, 35, 40, 45, 50 or 55 mm&lt;br&gt;height: 80 - 325 mm</td>
<td><img src="image_url2" alt="Image" /></td>
</tr>
<tr>
<td><strong>LMD-L 601 Type 3</strong>&lt;br&gt;One-Piece, Closed/Open&lt;br&gt;length: 300 - 3,000 mm&lt;br&gt;width: 30, 35, 40, 45, 50 or 55 mm&lt;br&gt;height: 80 - 325 mm</td>
<td><img src="image_url3" alt="Image" /></td>
</tr>
<tr>
<td><strong>LMD-L 601 Type 4</strong>&lt;br&gt;Two-Piece&lt;br&gt;length: 500 - 3,000 mm&lt;br&gt;width: 35 mm&lt;br&gt;height: 120 - 400 mm</td>
<td><img src="image_url4" alt="Image" /></td>
</tr>
<tr>
<td><strong>LMD-L 601 Shine</strong>&lt;br&gt;One-Piece, with Luminaire LED LShine&lt;br&gt;length: 500 - 3,000 mm&lt;br&gt;width: 50 mm&lt;br&gt;height: 100 - 325 mm</td>
<td><img src="image_url5" alt="Image" /></td>
</tr>
</tbody>
</table>

### ACOUSTICS from page 140

- **Room Acoustics**
  - up to $\alpha_w = 0.70$, sound absorption class C according to EN ISO 354,
  - up to NRC = 0.70 according to ISO 354, rated to ASTM C 423

### FIRE PROTECTION from page 138

- **Building Material Class**
  - A2 - s1, d0 according to EN 13501-1,
  - class A (IBC) according to ASTM E 84

### CORROSION PROTECTION from page 148

- Exposure class A (interior) according to EN 13964, table 8 and 9

### SUSTAINABILITY page 154

- Self-declaration in acc. with ISO 14021, Cradle to Cradle® silver certified

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www.Lindner-Group.com
LMD-L 607
METAL BAFFLE CEILING, DIRECTLY FASTENED

This Baffle Ceiling impresses with its very low suspension height – the special suspension without substructure profiles is directly fastened to the concrete ceiling. Thus, the ceiling is the appropriate solution for low room heights. Freely selectable baffle distances and sizes guarantee design freedom. The visible ceiling void between the baffles can be used for diverse installations.

+ freely selectable centre distances and baffle dimensions
+ independent installation of luminaires and fixtures possible between baffles
+ visible ceiling void
+ quick and easy installation
+ space-saving ceiling system with low construction height

TECHNICAL DATA

Construction
10/15/646/647  direct suspension
124  baffle
674  connector

Surfaces  from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT  from page 158

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
### LMD-L 607

#### TECHNICAL DATA

<table>
<thead>
<tr>
<th>Baffle</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LMD-L 607 Type 1</strong>&lt;br&gt;One-Piece, Closed/Closed&lt;br&gt;length: 300 - 3,000 mm&lt;br&gt;width: 30, 35, 40, 45, 50 or 55 mm&lt;br&gt;height: 80 - 325 mm</td>
<td>![Installation Detail]</td>
</tr>
<tr>
<td><strong>LMD-L 607 Type 2</strong>&lt;br&gt;One-Piece, Open/Open&lt;br&gt;length: 300 - 3,000 mm&lt;br&gt;width: 30, 35, 40, 45, 50 or 55 mm&lt;br&gt;height: 80 - 325 mm</td>
<td>![Installation Detail]</td>
</tr>
<tr>
<td><strong>LMD-L 607 Type 3</strong>&lt;br&gt;One-Piece, Closed/Open&lt;br&gt;length: 300 - 3,000 mm&lt;br&gt;width: 30, 35, 40, 45, 50 or 55 mm&lt;br&gt;height: 80 - 325 mm</td>
<td>![Installation Detail]</td>
</tr>
</tbody>
</table>

#### ACOUSTICS  
[from page 140]

- **Room Acoustics**
  - up to $\alpha_w = 0.70$, sound absorption class C according to EN ISO 354,
  - up to NRC = 0.70 according to ISO 354, rated to ASTM C 423

#### FIRE PROTECTION  
[from page 138]

- **Building Material Class**
  - A2 - s1, d0 according to EN 13501-1,
  - class A (IBC) according to ASTM E 84

#### CORROSION PROTECTION  
[from page 148]

- **exposure class A (interior) according to EN 13964, table 8 and 9**

#### SUSTAINABILITY  
[page 154]

- self-declaration in acc. with ISO 14021, Cradle to Cradle® silver certified
LMD-L 608
METAL BAFFLE CEILING, HOOK-ON/SLIDE BAFFLE

This high-grade Baffle Ceiling is especially suitable for areas with increased maintenance demands. Due to movable baffles, you can comfortably reach the ceiling void. The linear baffles can quickly and easily be installed in different sizes and centre distances. Free spaces between the baffles can be used for different installations such as luminaires, sprinklers or for the suspension of signs.

+ freely selectable centre distances and baffle dimensions
+ independent installation of luminaires and fixtures possible between baffles
+ visible ceiling void
+ quick and easy installation
+ easy maintenance option due to baffles that can be individually slid without tools

TECHNICAL DATA

Construction
10/15/65 threaded rod suspension
26 suspension channel
78 drilling screw
124 baffle
746 Hook-On profile

Surfaces from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT from page 158

Heating and Cooling Function
System with integrated heating and cooling technology available:
Plafotherm® L 608

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
<table>
<thead>
<tr>
<th>LMD-L 608</th>
<th>TECHNICAL DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baffle</strong></td>
<td><strong>Installation Detail</strong></td>
</tr>
<tr>
<td><strong>LMD-L 608 Type 1</strong></td>
<td><strong>One-Piece</strong></td>
</tr>
<tr>
<td>length: 300 - 3,000 mm</td>
<td>length: 300 - 3,000 mm</td>
</tr>
<tr>
<td>width: 30, 35, 40, 45, 50 or 55 mm</td>
<td>width: 30, 35, 40, 45, 50 or 55 mm</td>
</tr>
<tr>
<td>height: 80 - 325 mm</td>
<td>height: 80 - 325 mm</td>
</tr>
<tr>
<td><strong>LMD-L 608 Type 2</strong></td>
<td><strong>Two-Piece</strong></td>
</tr>
<tr>
<td>length: 500 - 3,000 mm</td>
<td>length: 500 - 3,000 mm</td>
</tr>
<tr>
<td>width: 35 mm</td>
<td>width: 35 mm</td>
</tr>
<tr>
<td>height: 120 - 400 mm</td>
<td>height: 120 - 400 mm</td>
</tr>
<tr>
<td><strong>LMD-L 608 Shine</strong></td>
<td><strong>One-Piece, with Luminaire LED LShine</strong></td>
</tr>
<tr>
<td>length: 500 - 3,000 mm</td>
<td>length: 500 - 3,000 mm</td>
</tr>
<tr>
<td>width: 50 mm</td>
<td>width: 50 mm</td>
</tr>
<tr>
<td>height: 100 - 325 mm</td>
<td>height: 100 - 325 mm</td>
</tr>
</tbody>
</table>

---

**ACOUSTICS** from page 140

**Room Acoustics**
up to $\alpha_w = 0.70$, sound absorption class C according to EN ISO 354,
up to NRC = 0.70 according to ISO 354, rated to ASTM C 423

**FIRE PROTECTION** from page 138

**Building Material Class**
A2 - s1, d0 according to EN 13501-1,
class A (IBC) according to ASTM E 84

**CORROSION PROTECTION** from page 148
exposure class A (interior) according to EN 13964, table 8 and 9

**SUSTAINABILITY** page 154
self-declaration in acc. with ISO 14021,
Cradle to Cradle® silver certified

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www.Lindner-Group.com
**LMD-L LAOLA**

**METAL BAFFLE CEILING IN WAVELIKE DESIGN**

LMD-L LAOLA with wavelike baffles is a design solution that creates vivid, three-dimensional effects. Design your individual Baffle Ceiling thanks to a multitude of possible radii, centre distances and sizes. The curved Baffle Ceiling is very maintenance-friendly due to baffles that can be slid without the need for any tools. Fixtures can be installed independently between the baffles.

- three-dimensional design by means of wavelike baffles with concave and convex radii
- freely selectable centre distances and baffle dimensions
- independent installation of luminaires and fixtures between baffles is possible
- visible ceiling void
- quick and easy installation
- easy maintenance option due to baffles that can be individually slid without tools

---

### TECHNICAL DATA

**Construction**
- 8/9/114 vernier suspension
- 14/15/65 screw connection
- 26 suspension channel
- 78 drilling screw
- 124 baffle
- 788 Hook-On profile

**Surfaces** from page 98
A diverse range of coatings, perforations and designs is available.

### ADDITIONAL EQUIPMENT from page 158

**Luminaires**
Perfectly integrated Lindner Lighting Solutions are available.

**Acoustic Inlays**
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
<table>
<thead>
<tr>
<th>LMD-L LAOLA Type 1</th>
<th>Baffle Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One-Piece</strong></td>
<td></td>
</tr>
<tr>
<td>length: up to 2,500 mm</td>
<td></td>
</tr>
<tr>
<td>width: 50 mm</td>
<td></td>
</tr>
<tr>
<td>height: 100 - 500 mm</td>
<td></td>
</tr>
<tr>
<td>radius: from 1,500 mm on</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-L LAOLA Shine</th>
<th>Baffle Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One-Piece, with Luminaire LED LShine</strong></td>
<td></td>
</tr>
<tr>
<td>length: up to 2,500 mm</td>
<td></td>
</tr>
<tr>
<td>width: 50 mm</td>
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</tr>
<tr>
<td>height: 100 - 500 mm</td>
<td></td>
</tr>
<tr>
<td>radius: from 1,500 mm on</td>
<td></td>
</tr>
</tbody>
</table>

**ACoustics**  
(from page 140)

**Room Acoustics**  
project-related assessment

**FIRE PROTECTION**  
(from page 138)

**Building Material Class**  
B - s1, d0 according to EN 13501-1

**CORROSION PROTECTION**  
(from page 148)

**exposure class A (interior) according to EN 13964, table 8 and 9**

**SUSTAINABILITY**  
(page 154)

**self-declaration in acc. with ISO 14021, Cradle to Cradle® silver certified**

www.Lindner-Group.com
EXPANDED METAL CEILINGS
AN IMPRESSIVE LOOK FOR ANY SPACE.

Expanded Metal Ceilings have become an indispensable part of modern architecture. Besides important functionalities like tested ball-impact resistance, they offer an almost infinite variety of structures, sizes and design options. Expanded metal is produced in an environmentally friendly and resource-saving way using punch and pull processes. The light weight of the material, together with its accentuated structured appearance, opens up new dimensions for design. Cleverly chosen backlighting creates an impressive look in any room.

- uniform ceiling surface due to concealed substructure
- numerous design possibilities thanks to different mesh types, shapes and sizes
- specially punched shapes and mesh designs create a structured appearance
- installing luminaires or other fixtures in the ceiling void is possible with high open areas
- ball-impact resistant Expanded Metal Systems are available
**LMD-St 213**

**HOOK-ON EXPANDED METAL CEILING WITH ACCENTUATED JOINTS**

The system LMD-St 213 impresses with design freedom and ease of maintenance. Diverse mesh types, shapes and sizes are available. The ceiling panels can be removed – a combination with Swing-Down ceiling panels is also possible. Create visual highlights with accentuated joints up to 30 mm, or expanded metal ceiling panels with backlighting.

- homogeneous ceiling surface due to concealed substructure
- many design possibilities thanks to different mesh types, shapes and sizes
- the possibility to see – to a greater or lesser extent – into the ceiling void depends on the mesh or the requirement
- installation of illumination or further fixtures in the ceiling void is possible in case of a high open area
- ceiling layout with accentuated joints possible in both directions
- easy maintenance option due to ceiling panels that can be individually operated, swung down and slid without tools

**TECHNICAL DATA**

<table>
<thead>
<tr>
<th>Construction</th>
<th>2</th>
<th>ceiling panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>L-angle</td>
<td></td>
</tr>
<tr>
<td>8/9/114</td>
<td>vernier suspension</td>
<td></td>
</tr>
<tr>
<td>14/15/65</td>
<td>screw connection</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>drilling screw</td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>drilling screw</td>
<td></td>
</tr>
<tr>
<td>534</td>
<td>spacer</td>
<td></td>
</tr>
<tr>
<td>592</td>
<td>double hook-on profile</td>
<td></td>
</tr>
</tbody>
</table>

**Wall Connection Options**  
- L-angle
- shadow gap trim
- open wall connection

**Surfaces**  
A diverse range of coatings, meshes and designs is available.

**ADDITIONAL EQUIPMENT**  

**Heating and Cooling Function**  
System with integrated heating and cooling technology available:  
Plafotherm® St 213

**Luminaires**  
Perfectly integrated Lindner lighting solutions are available.

**Acoustic Inlays**  
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.

**Absorber**  
Equipped with LMD-Absorber on the rear side, expanded metal ceilings are highly sound-absorbent.

**Ball-Impact Resistance**  
System with tested ball-impact resistance is available:  
LMD-St 213 BWS
### LMD-St 213

#### TECHNICAL DATA

<table>
<thead>
<tr>
<th>LMD-St 213 Type</th>
<th>Hook-On</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type 3</strong></td>
<td>expanded metal turned up</td>
<td></td>
</tr>
<tr>
<td></td>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>width: 200 - 1,250 mm</td>
<td></td>
</tr>
<tr>
<td><strong>Type 4</strong></td>
<td>expanded metal bordered</td>
<td></td>
</tr>
<tr>
<td></td>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>width: 200 - 1,250 mm</td>
<td></td>
</tr>
<tr>
<td><strong>Type 5</strong></td>
<td>Swing-Down, expanded metal bordered</td>
<td></td>
</tr>
<tr>
<td></td>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>width: 200 - 1,250 mm</td>
<td></td>
</tr>
<tr>
<td><strong>Type 6</strong></td>
<td>Swing-Down, expanded metal turned up</td>
<td></td>
</tr>
<tr>
<td></td>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>width: 200 - 1,250 mm</td>
<td></td>
</tr>
<tr>
<td><strong>Type 8</strong></td>
<td>expanded metal placed on frame</td>
<td></td>
</tr>
<tr>
<td></td>
<td>length: 250 - 2,000 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>width: 200 - 625 mm</td>
<td></td>
</tr>
<tr>
<td><strong>Type 9</strong></td>
<td>Swing-Down, expanded metal placed on frame</td>
<td></td>
</tr>
<tr>
<td></td>
<td>length: 250 - 2,000 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>width: 200 - 625 mm</td>
<td></td>
</tr>
</tbody>
</table>

#### ACOUSTICS
- Room Acoustics
  - up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354,
  - up to NRC = 0.90 according to ISO 354, rated to ASTM C 423

#### FIRE PROTECTION
- Building Material Class
  - A2 - s1, d0 according to EN 13501-1,
  - class A (IBC) according to ASTM E 84

#### CORROSION PROTECTION
- Exposure class A (interior) according to EN 13964, table 8 and 9

#### SUSTAINABILITY
- Self-declaration in acc. with ISO 14021,
  - EPD in acc. with ISO 14025 and EN 15804

www.Lindner-Group.com
LMD-St 213 BWS
HOOK-ON EXPANDED METAL CEILING WITH ACCENTUATED JOINTS, BALL-IMPACT RESISTANT

The system LMD-St 213 BWS with accentuated joints is fixed by means of hold-down clips and fulfils the tested ball-impact resistance class. We offer various expanded metal meshes with high open area, if desired, to create an appealing look. Combine tested function with attractive design: expanded metal ceiling panels with back-lighting can be realised. Moreover, every expanded metal ceiling panel can be individually operated.

+ Expanded Metal Ceiling with tested ball-impact resistance including an integrated luminaire
+ homogeneous ceiling surface due to concealed substructure
+ many design possibilities thanks to different tested mesh types and sizes
+ the possibility to see – to a greater or lesser extent – into the ceiling void depends on the mesh or the requirement
+ installation of illumination or further fixtures in the ceiling void is possible in case of a high open area
+ ceiling layout with accentuated joints in both directions possible
+ maintenance option due to ceiling panels that can be individually operated, swung down and slid

TECHNICAL DATA

Construction
2 ceiling panel
6 L-angle
8/9/254 vernier suspension
14/15/16 screw connection for hook-on profile
43/375/376 screw connection for suspension
232 double hook-on profile
620 special drilling screw
633 spacer

Wall Connection Options from page 132
- U-profile
- open wall connection

Surfaces from page 98
A diverse range of coatings, meshes and designs is available.

ADDITIONAL EQUIPMENT from page 158

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.

Absorber
Equipped with LMD-Absorber on the rear side, expanded metal ceilings are highly sound-absorbent.
### TECHNICAL DATA

<table>
<thead>
<tr>
<th>LMD-St 213 BWS Type 3</th>
<th>Hook-On, Expanded Metal Turned up</th>
</tr>
</thead>
<tbody>
<tr>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 213 BWS Type 4</th>
<th>Hook-On, Expanded Metal Bordered</th>
</tr>
</thead>
<tbody>
<tr>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 213 BWS Type 5</th>
<th>Hook-On/Swing-Down, Expanded Metal Bordered</th>
</tr>
</thead>
<tbody>
<tr>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 213 BWS Type 6</th>
<th>Hook-On/Swing-Down, Expanded Metal Turned up</th>
</tr>
</thead>
<tbody>
<tr>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 213 BWS Type 7</th>
<th>Hook-On, Expanded Metal Bordered with Opposite Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
</tr>
</tbody>
</table>

### Room Acoustics
- up to \( \alpha_w = 1.00 \), sound absorption class A according to EN ISO 354,
- up to NRC = 0.90 according to ISO 354, rated to ASTM C 423

### Building Material Class
- A2 - s1, d0 according to EN 13501-1,
- class A (IBC) according to ASTM E 84

### Exposure Class
- exposure class A (interior) according to EN 13964, table 8 and 9

### Self-declaration
- self-declaration in acc. with ISO 14021, EPD in acc. with ISO 14025 and EN 15804

### Ball-Impact Resistance
- class 1A/2A/3A according to EN 13964 - annex D
LMD-St 214
HOOK-ON EXPANDED METAL CEILING WITH OPEN JOINTS

The Expanded Metal Ceiling with open joints offers many design options: the versatile system can be realised with joint widths exceeding 10 mm and a multitude of expanded metal meshes that offer the possibility to see — to a greater or lesser extent — into the ceiling void. An high open area enables the installation of illumination or further fixtures in the ceiling void. Hook-On expanded metal ceiling panels can be combined with Swing-Down ceiling panels.

- homogeneous ceiling surface due to concealed substructure
- many design possibilities thanks to different mesh types, shapes and sizes
- the possibility to see — to a greater or lesser extent — into the ceiling void depends on the mesh or the requirement
- installation of illumination or further fixtures in the ceiling void is possible in case of a high open area
- ceiling layout with open joints
- easy maintenance option due to ceiling panels that can be individually operated, swung down and slid without tools

**TECHNICAL DATA**

**Construction**
- 2 ceiling panel
- 7/8/9 vernier suspension
- 18 self-tapping screw
- 19 drilling screw
- 23 Hook-On profile
- 24 connector for suspension channel to Hook-On profile
- 26 suspension channel
- 535 spacer

**Wall Connection Options** from page 132
- L-angle
- shadow gap trim
- open wall connection

**Surfaces** from page 98
A diverse range of coatings, meshes and designs is available.

**ADDITIONAL EQUIPMENT** from page 158

**Luminaires**
Perfectly integrated Lindner Lighting Solutions are available.

**Acoustic Inlays**
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.

**Absorber**
Equipped with LMD-Absorber on the rear side, expanded metal ceilings are highly sound-absorbent.
### TECHNICAL DATA

#### Ceiling Panel Installation Detail

<table>
<thead>
<tr>
<th>LMD-St 214 Type 3</th>
<th>Hook-On, Expanded Metal Turned up</th>
</tr>
</thead>
<tbody>
<tr>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 214 Type 4</th>
<th>Hook-On, Expanded Metal Bordered</th>
</tr>
</thead>
<tbody>
<tr>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 214 Type 5</th>
<th>Hook-On/Swing-Down, Expanded Metal Bordered</th>
</tr>
</thead>
<tbody>
<tr>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 214 Type 6</th>
<th>Hook-On/Swing-Down, Expanded Metal Turned up</th>
</tr>
</thead>
<tbody>
<tr>
<td>length: 250 - 3,000 mm</td>
<td></td>
</tr>
<tr>
<td>width: 200 - 1,250 mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 214 Type 8</th>
<th>Hook-On, Expanded Metal Placed on Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>length: 250 - 2,000 mm</td>
<td></td>
</tr>
<tr>
<td>width: 200 - 625 mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 214 Type 9</th>
<th>Hook-On/Swing-Down, Expanded Metal Placed on Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>length: 250 - 2,000 mm</td>
<td></td>
</tr>
<tr>
<td>width: 200 - 625 mm</td>
<td></td>
</tr>
</tbody>
</table>

### ACOUSTICS

Room Acoustics
- up to αᵢ = 1.00, sound absorption class A according to EN ISO 354,
- up to NRC = 0.90 according to ISO 354, rated to ASTM C 423

### FIRE PROTECTION

Building Material Class
- A2 - s1, d0 according to EN 13501-1,
- class A (IBC) according to ASTM E 84

### CORROSION PROTECTION

- exposure class A (interior) according to EN 13964, table 8 and 9

### SUSTAINABILITY

- self-declaration in acc. with ISO 14021,
  - EPD in acc. with ISO 14025 and EN 15804
LMD-St 312

HOOK-ON EXPANDED METAL CEILING, FREE-SPANNING

LMD-St 312 is a Corridor Ceiling with concealed shadow gap and maintenance-friendly ceiling panels. The freely spanned construction enables a good compensation of tolerances on the wall. It can also be combined with plasterboard friezes to incorporate niches and non-parallel corridor walls. Various mesh shapes and sizes offer versatile design options. Depending on the mesh, the ceiling void is more or less visible and can be used for installations in case of a high open area.

+ homogeneous ceiling surface due to concealed substructure  
+ many design possibilities thanks to different mesh types, shapes and sizes  
+ the possibility to see – to a greater or lesser extent – into the ceiling void depends on the mesh or the requirement  
+ installation of illumination or further fixtures in the ceiling void is possible in case of a high open area  
+ freely spanned construction without additional centre suspension  
+ compensation of tolerances on the wall is possible due to an adjustable wall connection  
+ can be combined with plasterboard friezes to incorporate niches and non-parallel corridor walls  
+ easy maintenance option due to ceiling panels that can be individually operated, swung down and slid without tools

![TECHNICAL DATA](image)

**Construction**

| 2 | ceiling panel |
| 14/15/16/17 | screw connection |
| 22 | Hook-On profile |
| 150 | L-angle |

**Wall Connection Options**  
- L-angle/Hook-On profile

**Surfaces**

A diverse range of coatings, meshes and designs is available.

![ADDITIONAL EQUIPMENT](image)

**Luminaires**

Perfectly integrated Lindner Lighting Solutions are available.

**Acoustic Inlays**

Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.

**Absorber**

Equipped with LMD-Absorber on the rear side, expanded metal ceilings are highly sound-absorbent.
<table>
<thead>
<tr>
<th>LMD-St 312 Type 3</th>
<th>Hook-On, Expanded Metal Turned up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel length</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Panel length</td>
<td>54 - 65</td>
</tr>
<tr>
<td>Panel length</td>
<td>142 - 153</td>
</tr>
<tr>
<td>length:</td>
<td>250 - 3,000 mm</td>
</tr>
<tr>
<td>width:</td>
<td>200 - 1,250 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 312 Type 4</th>
<th>Hook-On, Expanded Metal Bordered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel length</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Panel length</td>
<td>54 - 65</td>
</tr>
<tr>
<td>Panel length</td>
<td>142 - 153</td>
</tr>
<tr>
<td>length:</td>
<td>250 - 3,000 mm</td>
</tr>
<tr>
<td>width:</td>
<td>200 - 1,250 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 312 Type 5</th>
<th>Hook-On/Swing-Down, Expanded Metal Bordered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel length</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Panel length</td>
<td>54 - 65</td>
</tr>
<tr>
<td>Panel length</td>
<td>142 - 153</td>
</tr>
<tr>
<td>length:</td>
<td>250 - 3,000 mm</td>
</tr>
<tr>
<td>width:</td>
<td>200 - 1,250 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 312 Type 6</th>
<th>Hook-On/Swing-Down, Expanded Metal Turned up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel length</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Panel length</td>
<td>62 - 72</td>
</tr>
<tr>
<td>Panel length</td>
<td>150 - 160</td>
</tr>
<tr>
<td>length:</td>
<td>250 - 3,000 mm</td>
</tr>
<tr>
<td>width:</td>
<td>200 - 1,250 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 312 Type 8</th>
<th>Hook-On, Expanded Metal Placed on Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel length</td>
<td>10 - 35</td>
</tr>
<tr>
<td>Panel length</td>
<td>50 - 54</td>
</tr>
<tr>
<td>Panel length</td>
<td>138 - 142</td>
</tr>
<tr>
<td>length:</td>
<td>250 - 2,000 mm</td>
</tr>
<tr>
<td>width:</td>
<td>200 - 625 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LMD-St 312 Type 9</th>
<th>Hook-On/Swing-Down, Expanded Metal Placed on Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel length</td>
<td>10 - 35</td>
</tr>
<tr>
<td>Panel length</td>
<td>50 - 54</td>
</tr>
<tr>
<td>Panel length</td>
<td>138 - 142</td>
</tr>
<tr>
<td>length:</td>
<td>250 - 2,000 mm</td>
</tr>
<tr>
<td>width:</td>
<td>200 - 625 mm</td>
</tr>
</tbody>
</table>

**Room Acoustics**
- up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354,
- up to NRC = 0.90 according to ISO 354, rated to ASTM C 423

**Building Material Class**
- A2 - s1, d0 according to EN 13501-1,
- class A (IBC) according to ASTM E 84

**Exposure Class**
- exposure class A (interior) according to EN 13964, table 8 and 9

**Self-declaration**
- in acc. with ISO 14021,
- EPD in acc. with ISO 14025 and EN 15804
LMD-St 700 BWS
EXPANDED METAL CEILING DIRECTLY FIXED, BALL-IMPACT RESISTANT

When installed, the system with tested ball-impact resistance creates an almost seamless appearance. The expanded metal is directly screwed to the suspension channels. A large number of expanded metal meshes is available and offers many design options. Meshes with high open areas are available for projects that demand a clear view into the ceiling void. In this case, fixtures can also be installed in the ceiling void.

- Expanded Metal Ceiling with tested ball-impact resistance including an integrated luminaire
- homogeneous ceiling surface due to concealed substructure
- many design possibilities thanks to different tested mesh types and sizes
- the possibility to see – to a greater or lesser extent – into the ceiling void depends on the mesh or the requirement
- installation of illumination or further fixtures in the ceiling void is possible in case of a high open area

TECHNICAL DATA

Construction
2 ceiling panel
8/9/121 vernier suspension
18 self-tapping screw
26 suspension channel
153 armature angle
380 fastening clip
612 special drilling screw

Wall Connection Options  from page 132
- L-angle

Surfaces from page 98
A diverse range of coatings, meshes and designs is available.

ADDITIONAL EQUIPMENT from page 158

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.

Absorber
Equipped with LMD-Absorber on the rear side, expanded metal ceilings are highly sound-absorbent.
<table>
<thead>
<tr>
<th>TECHNICAL DATA</th>
<th>Ceiling Panel</th>
<th>Installation Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMD-St 700 BWS</td>
<td>length: 250 - 2,990 mm</td>
<td></td>
</tr>
</tbody>
</table>

### Room Acoustics
- up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354,
- up to NRC = 0.90 according to ISO 354, rated to ASTM C 423

### Building Material Class
- A2 - s1, d0 according to EN 13501-1,
- class A (IBC) according to ASTM E 84

### Exposure Class
- A (interior) according to EN 13964, table 8 and 9

### Ball-Impact Resistance
- class 1A/2A/3A according to EN 13964 - annex D

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**LMD-St 700 BWS**

**from page 140**

**from page 138**

**from page 148**

**page 154**

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www.Lindner-Group.com
TORSION SPRING CEILINGS
AFFORDABLE AT ALL TIMES.

Torsion Spring Ceilings are ceiling solutions with reliable, concealed substructure. The integration of ceiling panels with spring technology to the substructure enables unique functionality. Each ceiling panel can be swung down along the T-profile in either direction to give you the necessary space for maintenance work.

+ uniform ceiling surface due to concealed substructure
+ pivot-mounted spring-loaded hooks enable a swing-down function in either direction of the ceiling panels
LMD-TS 100

TORSION SPRING CEILING, BOTH-SIDED SWING-DOWN OPTION

The Torsion Spring Ceiling LMD-TS 100 has a homogeneous, closed ceiling surface and is an economic solution. The ceiling panels with pivot-mounted spring-loaded hooks can be opened by means of a dismantling tool. Each ceiling panel can be swung down in either direction.

+ homogeneous ceiling surface due to concealed substructure
+ maintenance option due to ceiling panels that can be individually operated and swung down
+ pivot-mounted spring-loaded hooks enable a swing-down function in either direction of the ceiling panels
+ cost-effective ceiling system as economic solution

TECHNICAL DATA

Construction
1 cassette
8/9/49 vernier suspension
210 T-main runner
210 T-cross runner
755 retaining spring

Wall Connection Options from page 132
- L-angle
- shadow gap trim

Surfaces from page 98
A diverse range of coatings, perforations and designs is available.

ADDITIONAL EQUIPMENT from page 158

Luminaires
Perfectly integrated Lindner Lighting Solutions are available.

Acoustic Inlays
Equipped with acoustic inlays like mineral wool, this system contributes significantly to sound protection.
## LMD-TS 100

### Ceiling Panel

#### LMD-TS 100 Type 1
Swing-Down, with Base Body
grid: 600 x 600 mm, 1,200 x 600 mm, 625 x 625 mm, 1,250 x 625 mm

#### LMD-TS 100 Type 2
Swing-Down, without Base Body
grid: 600 x 600 mm, 1,200 x 600 mm, 625 x 625 mm, 1,250 x 625 mm

### TECHNICAL DATA

#### Installation Detail

### ACOUSTICS  > from page 140
Room Acoustics
up to $\alpha_w = 1.00$, sound absorption class A according to EN ISO 354,
up to NRC = 0.90 according to ISO 354, rated to ASTM C 423

### FIRE PROTECTION  > from page 138
Building Material Class
A2 - s1, d0 according to EN 13501-1,
class A (IBC) according to ASTM E 84

### CORROSION PROTECTION  > from page 148
exposure class A (interior) according to EN 13964, table 8 and 9

### SUSTAINABILITY  > page 154
self-declaration in acc. with ISO 14021,
EPD in acc. with ISO 14025 and EN 15804
PROJECT-RELATED SOLUTIONS
EYES UP.

We welcome the challenge of implementing your vision by customizing our ceilings. Our experts find the right solution for your project and advise you on function and design details. We gladly support you in your draft – from planning to production and installation. Our high in-house production depth enables us to realise your requests with customised metal ceilings – made to fit your construction project. You will receive a perfectly matched ceiling system according to our principle: everything from one source.

+ customized ceiling systems for project-related requirements
+ individual solutions for function, construction and design
+ support from development to installation
+ high in-house production depth
+ everything from one source
Tsvetnoy Central Market is a 7-storey shopping mall located in the centre of Moscow. The mirrored ceiling consists of 2,600 panels in 1,600 different shapes and is based on LMD-E 213. The unique 3D-design (TOUCHdesign) of its highly-polished stainless steel surface gives it a one-of-a-kind look. Some of the works had to be carried out at a height of 30 m. Lindner also performed painter and plastering works.
CATHEDRAL „CHRIST THE LIGHT“, OAKLAND, USA

The interior of this place of faith shines with its spacious wooden dome, at the top of which is an oculus in the shape of the Christian fish symbol. Lindner developed a special earthquake-resistant metal ceiling consisting of large triangular plates for this opening. In order to be able to successfully implement the assembly at a height of 36 m, an intermediate level was drawn in during the installation period. This ceiling provides remarkable natural illumination to the extent that artificial lighting is needed only in the evening hours. The interplay of the various materials and their properties in terms of gloss, transparency and texture underlines the high architectural quality of the cathedral with sophisticated lighting effects.
AL BAHAR TOWERS, ABU DHABI, UNITED ARAB EMIRATES

The new Abu Dhabi Investment Council Headquarters is located in the two 145 m high Al Bahar Towers. The 25-storey twin office towers offer a modern work environment for up to 1,000 employees each. Lindner delivered a FLOOR and more® hollow floor with a marble floor covering for the lobby area and customised metal ceilings consisting of large pyramid shaped ceiling elements.
A contract volume of EUR 130 million – one of the largest airport buildings the Lindner Group has been able to implement so far. At Terminal 5, Lindner proved to be the perfect partner for such a large construction project. Our core competence is to be able to offer customised solutions, such as: For example, the 130,000 m² metal ceilings delivered by us and assembled in T5, which are exemplary for our expertise.
SURFACES
MAXIMUM FREEDOM OF DESIGN.

Lindner has a wide range of ceiling surfaces for different needs – so that your rooms are not only extraordinary but unique. We make an eye-catcher out of every ceiling by means of different colours, decors, images, three-dimensional structures and perforations. Besides various design options, we also offer coatings that improve the room quality.

+ wide range of ceiling surfaces to suit different requirements
+ a wide selection of various colours, decors, images, three-dimensional structures and perforations
+ individual design possibilities make an eye-catcher out of every ceiling
SURFACES

PERFORATIONS from page 101
Standard Perforations
Special Perforations
Specific Perforations

EXPANDED METAL from page 110
TOUCHdesign Viva – 3D Expanded Metal

POWDER COATING from page 116

DECORATIVE SURFACES from page 117
ARTline – Design Powder Coating
GRAPHICline – Print Technology

FUNCTIONAL SURFACES from page 120
Meteo – Corrosion Protection Coating
Mutex – Absorber Coating

DESIGN SURFACES from page 123
EFFECTline – Grinding Technology
SPREADline – Customised, Image and Scattered Perforation
TOUCHdesign – 3D Surface
TOUCHdesign Lunar – 3D High-Gloss Surface
TOUCHdesign Venas – 3D Structured Surface

SPECIAL SURFACES from page 129

Dubai Metro Station, United Arab Emirates
PERFORATIONS

We offer freedom of design thanks to a wide range of standard and special perforations to meet your demands on acoustics and appearance. We can also create perforation patterns in different sizes, arrangements and shapes. Perforated Metal Ceilings are acoustically effective when combined with sound-absorbing inlays on the rear side.

- freedom of design thanks to a wide range of standard and special perforations
- different hole sizes, arrangements and shapes can be implemented
- acoustically effective when combined with sound absorbing inlays
- Acoustics from page 140
- perforations meet acoustic and visual needs
# STANDARD PERFORATIONS

| Rd 0.7 - 0.5 | ![Diagram](diagram1.png) | **hole:** $\varnothing 0.7$ mm diagonal pitch  
**open area:** 0.5%  
**material:** steel  
**thickness:** 0.6 mm  
**width of perforation:** 860 mm  
**max. panel width:** 625 mm |
| Rg 0.7 - 1 | ![Diagram](diagram2.png) | **hole:** $\varnothing 0.7$ mm straight pitch  
**open area:** 1% (perforated over the edges)  
**material:** steel  
**thickness:** 0.6 mm  
**width of perforation:** 1,340 mm  
**max. panel width:** 625 mm |
| Rd 0.7 - 2 | ![Diagram](diagram3.png) | **hole:** $\varnothing 0.7$ mm diagonal pitch  
**open area:** 2% (perforated over the edges)  
**material:** steel  
**thickness:** 0.6 mm  
**width of perforation:** 1,340 mm  
**max. panel width:** 625 mm |
| Rg 0.7 - 4 | ![Diagram](diagram4.png) | **hole:** $\varnothing 0.7$ mm straight pitch  
**open area:** 4% (perforated over the edges)  
**material:** steel  
**thickness:** 0.6 mm  
**width of perforation:** 1,340 mm  
**max. panel width:** 625 mm |
| Rd 1.6 - 6 | ![Diagram](diagram5.png) | **hole:** $\varnothing 1.6$ mm diagonal pitch  
**open area:** 6%  
**material:** steel  
**thickness:** 0.6 mm  
**width of perforation:** 860 mm  
**material:** steel  
**thickness:** 0.7 mm  
**width of perforation:** 1,630 mm |
| Rg 1.6 - 13 | ![Diagram](diagram6.png) | **hole:** $\varnothing 1.6$ mm straight pitch  
**open area:** 13%  
**material:** steel  
**thickness:** 0.6 mm  
**width of perforation:** 860 mm  
**material:** steel  
**thickness:** 0.7 mm  
**width of perforation:** 1,600 mm |
| Rd 1.6 - 25 | ![Diagram](diagram7.png) | **hole:** $\varnothing 1.6$ mm diagonal pitch  
**open area:** 25%  
**material:** steel  
**thickness:** 0.6 mm  
**width of perforation:** 860 mm  
**material:** steel  
**thickness:** 0.7 mm  
**width of perforation:** 1,600 mm |
### STANDARD PERFORATIONS

<table>
<thead>
<tr>
<th>Reference</th>
<th>Type</th>
<th>Diameter (mm)</th>
<th>Pitch</th>
<th>Open Area (%)</th>
<th>Material</th>
<th>Thickness (mm)</th>
<th>Perforation Width (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rg 1,8 - 3</td>
<td>Hole</td>
<td>1.8</td>
<td>Straight</td>
<td>3</td>
<td>Steel</td>
<td>0.7</td>
<td>1,310</td>
</tr>
<tr>
<td>Rg 1,8 - 5</td>
<td>Hole</td>
<td>1.8</td>
<td>Straight</td>
<td>5</td>
<td>Steel</td>
<td>0.6</td>
<td>1,280</td>
</tr>
<tr>
<td>Rg 1,8 - 10</td>
<td>Hole</td>
<td>1.8</td>
<td>Diagonal</td>
<td>10</td>
<td>Steel</td>
<td>0.6</td>
<td>1,280</td>
</tr>
<tr>
<td>Rg 1,8 - 11</td>
<td>Hole</td>
<td>1.8</td>
<td>Straight</td>
<td>11</td>
<td>Steel</td>
<td>0.7</td>
<td>1,310</td>
</tr>
<tr>
<td>Rg 1,8 - 19</td>
<td>Hole</td>
<td>1.8</td>
<td>Straight</td>
<td>19</td>
<td>Steel</td>
<td>0.6</td>
<td>1,280</td>
</tr>
<tr>
<td>Rv 1,8 - 20</td>
<td>Hole</td>
<td>1.8</td>
<td>Diagonal</td>
<td>20</td>
<td>Steel</td>
<td>0.6</td>
<td>1,550</td>
</tr>
<tr>
<td>Rd 1,8 - 21</td>
<td>Hole</td>
<td>1.8</td>
<td>Diagonal</td>
<td>21</td>
<td>Steel</td>
<td>0.7</td>
<td>1,310</td>
</tr>
</tbody>
</table>

**Diagram Descriptions:**
- **Rg 1,8 - 3**: Square pattern with 9.88mm pitch.
- **Rg 1,8 - 5**: Square pattern with 9.48mm pitch.
- **Rg 1,8 - 10**: Rectangular pattern with 714mm pitch.
- **Rg 1,8 - 11**: Square pattern with 9.48mm pitch.
- **Rg 1,8 - 19**: Square pattern with 9.48mm pitch.
- **Rv 1,8 - 20**: Square pattern with 3.83mm pitch.
- **Rd 1,8 - 21**: Square pattern with 2.47mm pitch.
<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
<th>Hole Diameter</th>
<th>Pitch</th>
<th>Open Area</th>
<th>Material</th>
<th>Thickness</th>
<th>Width of Perforation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rv 2.0 - 20</td>
<td>Diagonal</td>
<td>(2.0, \text{mm})</td>
<td>(2.0, \text{mm})</td>
<td>20%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,250 mm</td>
</tr>
<tr>
<td>Rv 2.0 - 20</td>
<td>Steel</td>
<td>(2.0, \text{mm})</td>
<td>(2.0, \text{mm})</td>
<td>20%</td>
<td>Steel</td>
<td>0.7 mm</td>
<td>1,250 mm</td>
</tr>
<tr>
<td>Rv 2.0 - 20</td>
<td>Aluminium</td>
<td>(2.0, \text{mm})</td>
<td>(2.0, \text{mm})</td>
<td>20%</td>
<td>Steel</td>
<td>0.8 mm</td>
<td>1,000 mm</td>
</tr>
<tr>
<td>Rv 2.0 - 20</td>
<td>Stainless Steel</td>
<td>(2.0, \text{mm})</td>
<td>(2.0, \text{mm})</td>
<td>20%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,200 mm</td>
</tr>
<tr>
<td>Rv 2.0 - 20</td>
<td>Stainless Steel</td>
<td>(2.0, \text{mm})</td>
<td>(2.0, \text{mm})</td>
<td>20%</td>
<td>Steel</td>
<td>0.7 mm</td>
<td>1,200 mm</td>
</tr>
<tr>
<td>Rg 2.3 - 11</td>
<td>Straight</td>
<td>(2.3, \text{mm})</td>
<td>(2.3, \text{mm})</td>
<td>11%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,250 mm</td>
</tr>
<tr>
<td>Rd 2.3 - 23</td>
<td>Diagonal</td>
<td>(2.3, \text{mm})</td>
<td>(2.3, \text{mm})</td>
<td>23%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,250 mm</td>
</tr>
<tr>
<td>Rg 2.5 - 4</td>
<td>Straight</td>
<td>(2.5, \text{mm})</td>
<td>(2.5, \text{mm})</td>
<td>4%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,400 mm</td>
</tr>
<tr>
<td>Rd 2.5 - 8</td>
<td>Diagonal</td>
<td>(2.5, \text{mm})</td>
<td>(2.5, \text{mm})</td>
<td>8%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,400 mm</td>
</tr>
<tr>
<td>Rg 2.5 - 16</td>
<td>Straight</td>
<td>(2.5, \text{mm})</td>
<td>(2.5, \text{mm})</td>
<td>16%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,400 mm</td>
</tr>
<tr>
<td>Rv 2.5 - 32</td>
<td>Diagonal</td>
<td>(2.5, \text{mm})</td>
<td>(2.5, \text{mm})</td>
<td>32%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>990 mm</td>
</tr>
</tbody>
</table>

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### STANDARD PERFORATIONS

**Rg 3.0 - 4**  
- **hole**: ∅ 3.0 mm straight pitch  
- **open area**: 4%  
- **material**: steel | thickness: 0.6 mm | width of perforation: 1,540 mm  
- **material**: steel | thickness: 0.7 mm | width of perforation: 1,540 mm

**Rv 3.0 - 5**  
- **hole**: ∅ 3.0 mm diagonal pitch  
- **open area**: 5%  
- **material**: steel | thickness: 0.6 mm | width of perforation: 1,500 mm  
- **material**: steel | thickness: 0.7 mm | width of perforation: 1,500 mm

**Rg 3.0 - 15**  
- **hole**: ∅ 3.0 mm straight pitch  
- **open area**: 15%  
- **material**: steel | thickness: 0.6 mm | width of perforation: 1,250 mm  
- **material**: steel | thickness: 0.7 mm | width of perforation: 1,250 mm  
- **material**: aluminium | thickness: 0.7 mm | width of perforation: 650 mm

**Rv 3.0 - 20**  
- **hole**: ∅ 3.0 mm diagonal pitch  
- **open area**: 20%  
- **material**: steel | thickness: 0.6 mm | width of perforation: 1,500 mm  
- **material**: steel | thickness: 0.7 mm | width of perforation: 1,500 mm

**Rd 3.0 - 30**  
- **hole**: ∅ 3.0 mm diagonal pitch  
- **open area**: 30%  
- **material**: steel | thickness: 0.6 mm | width of perforation: 1,250 mm  
- **material**: steel | thickness: 0.7 mm | width of perforation: 1,250 mm  
- **material**: aluminium | thickness: 2.0 mm | width of perforation: 1,520 mm

**Rg 7.0 - 27**  
- **hole**: ∅ 7.0 mm straight pitch  
- **open area**: 27%  
- **material**: steel | thickness: 0.6 mm | width of perforation: 1,300 mm  
- **material**: steel | thickness: 0.7 mm | width of perforation: 1,300 mm

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### STANDARD PERFORATIONS

<table>
<thead>
<tr>
<th>Perforation</th>
<th>Diameter</th>
<th>Pitch Type</th>
<th>Open Area</th>
<th>Material</th>
<th>Thickness</th>
<th>Width of Perforation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rv 7,0 - 30</strong></td>
<td>7.0 mm</td>
<td>Diagonal</td>
<td>30%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,300 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Steel</td>
<td>0.7 mm</td>
<td>1,300 mm</td>
</tr>
<tr>
<td><strong>Rg 12,0 - 11</strong></td>
<td>12.0 mm</td>
<td>Straight</td>
<td>11%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,290 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Steel</td>
<td>0.7 mm</td>
<td>1,290 mm</td>
</tr>
<tr>
<td><strong>Rd 12,0 - 22</strong></td>
<td>12.0 mm</td>
<td>Diagonal</td>
<td>22%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,290 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Steel</td>
<td>0.7 mm</td>
<td>1,290 mm</td>
</tr>
<tr>
<td><strong>Rg 12,0 - 44</strong></td>
<td>12.0 mm</td>
<td>Straight</td>
<td>44%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,290 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Steel</td>
<td>0.7 mm</td>
<td>1,290 mm</td>
</tr>
<tr>
<td><strong>Qg 4,0 - 20</strong></td>
<td>4.0 mm</td>
<td>Straight</td>
<td>20%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,600 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Steel</td>
<td>0.7 mm</td>
<td>1,600 mm</td>
</tr>
<tr>
<td><strong>Qd 6,0 - 15</strong></td>
<td>6.0 mm</td>
<td>Diagonal</td>
<td>15%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,600 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Steel</td>
<td>0.7 mm</td>
<td>1,600 mm</td>
</tr>
<tr>
<td><strong>Qg 6,0 - 30</strong></td>
<td>6.0 mm</td>
<td>Straight</td>
<td>30%</td>
<td>Steel</td>
<td>0.6 mm</td>
<td>1,600 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Steel</td>
<td>0.7 mm</td>
<td>1,600 mm</td>
</tr>
</tbody>
</table>
### STANDARD PERFORATIONS

<table>
<thead>
<tr>
<th>Og 8.0 - 44</th>
</tr>
</thead>
<tbody>
<tr>
<td>square hole: 8.0 mm straight pitch</td>
</tr>
<tr>
<td>open area: 44%</td>
</tr>
<tr>
<td>material: steel</td>
</tr>
<tr>
<td>material: steel</td>
</tr>
</tbody>
</table>

![Perforation Diagram]

**Direction of Perforation:**
- Perforationercrichtung

---

8

4

8

12

---

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In addition to the previously shown standard perforations, a multitude of further perforations is possible after clarification.

<table>
<thead>
<tr>
<th>Rg 0,8 - 1</th>
<th>Rg 0,8 - 2</th>
<th>Rd 0,8 - 3</th>
<th>Rg 0,8 - 5</th>
<th>Rv 1,8 - 43</th>
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</thead>
<tbody>
<tr>
<td><img src="image1.jpg" alt="Perforation Image" /></td>
<td><img src="image2.jpg" alt="Perforation Image" /></td>
<td><img src="image3.jpg" alt="Perforation Image" /></td>
<td><img src="image4.jpg" alt="Perforation Image" /></td>
<td><img src="image5.jpg" alt="Perforation Image" /></td>
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</table>

<table>
<thead>
<tr>
<th>Rv 2,0 - 15</th>
<th>Rv 2,0 - 25</th>
<th>Rd 2,4 - 14</th>
<th>Rg 2,4 - 28</th>
<th>Rg 2,5 - 12</th>
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<tr>
<td><img src="image6.jpg" alt="Perforation Image" /></td>
<td><img src="image7.jpg" alt="Perforation Image" /></td>
<td><img src="image8.jpg" alt="Perforation Image" /></td>
<td><img src="image9.jpg" alt="Perforation Image" /></td>
<td><img src="image10.jpg" alt="Perforation Image" /></td>
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</table>

<table>
<thead>
<tr>
<th>Rv 2,5 - 20</th>
<th>Rv 2,5 - 23</th>
<th>Rd 2,8 - 20</th>
<th>Rg 3,5 - 28</th>
<th>Rv 4,0 - 40</th>
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</thead>
<tbody>
<tr>
<td><img src="image11.jpg" alt="Perforation Image" /></td>
<td><img src="image12.jpg" alt="Perforation Image" /></td>
<td><img src="image13.jpg" alt="Perforation Image" /></td>
<td><img src="image14.jpg" alt="Perforation Image" /></td>
<td><img src="image15.jpg" alt="Perforation Image" /></td>
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</table>

<table>
<thead>
<tr>
<th>Rg 5,0 - 17</th>
<th>Rd 5,0 - 35</th>
<th>Rg 5,0 - 45</th>
<th>Rd 6,0 - 50</th>
<th>Rd 6,4 - 10</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image16.jpg" alt="Perforation Image" /></td>
<td><img src="image17.jpg" alt="Perforation Image" /></td>
<td><img src="image18.jpg" alt="Perforation Image" /></td>
<td><img src="image19.jpg" alt="Perforation Image" /></td>
<td><img src="image20.jpg" alt="Perforation Image" /></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Rg 8,0 - 15</th>
<th>Rd 8,0 - 25</th>
<th>Rs 12,0 - 45</th>
<th>Rg 24,0 - 50</th>
<th>Qg 4,0 - 64</th>
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</thead>
<tbody>
<tr>
<td><img src="image21.jpg" alt="Perforation Image" /></td>
<td><img src="image22.jpg" alt="Perforation Image" /></td>
<td><img src="image23.jpg" alt="Perforation Image" /></td>
<td><img src="image24.jpg" alt="Perforation Image" /></td>
<td><img src="image25.jpg" alt="Perforation Image" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Qg 5,0 - 25</th>
<th>Qg 8,0 - 11</th>
<th>Qg 10,0 - 11</th>
<th>Lg 7 x 3</th>
<th>Lg 10 x 45</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image26.jpg" alt="Perforation Image" /></td>
<td><img src="image27.jpg" alt="Perforation Image" /></td>
<td><img src="image28.jpg" alt="Perforation Image" /></td>
<td><img src="image29.jpg" alt="Perforation Image" /></td>
<td><img src="image30.jpg" alt="Perforation Image" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lg 14 x 2</th>
<th>Lge 3,2 x 27</th>
<th>Lge 11,9 x 4,2</th>
<th>Lge 25,4 x 1,59</th>
<th>Lge 30 x 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image31.jpg" alt="Perforation Image" /></td>
<td><img src="image32.jpg" alt="Perforation Image" /></td>
<td><img src="image33.jpg" alt="Perforation Image" /></td>
<td><img src="image34.jpg" alt="Perforation Image" /></td>
<td><img src="image35.jpg" alt="Perforation Image" /></td>
</tr>
</tbody>
</table>

| Lge 40 x 1 | Lg 8 - 50 | Lg 25 - 3 | Lge 21 - 4 | |
SPECIFIC PERFORATIONS

Individual Perforation Layout

Perforation with Multi-Panel Look
Increased open area in the central part of the panel (for ventilation purposes).

Plain borders dividing the ceiling panel visually into more panels.

Radial Arrangement of Perforation
For a consistently plain border with non-rectangular ceiling panels (not available for all perforation patterns).

Plain Zone within the perforated Area of the Panel
Circumferential plain border around central aperture for light fixture.
EXPANDED METAL

The light and structured appearance of expanded metal offers many design options by means of different structures, sizes and surfaces. A special punch and pull process creates expanded metal meshes with an high open area. A wide range of meshes is available. Combined with sound-absorbing inlays, they are acoustically effective.

+ almost unlimited variety of structures, sizes and surfaces
+ specially punched shapes and mesh designs give a structured appearance
+ acoustically effective when combined with sound-absorbing inlays
EXPANDED METAL FOR SUSPENDED CEILINGS
INDIVIDUALITY THROUGH MATERIALS AND SHAPES

Their special punched shapes and mesh designs give Expanded Metal Ceilings an attractive finish. During the planning period all options should be taken into consideration.

**Definition/Dimensions**
As a rule expanded metal is defined using the following four dimensions.

Example: 28 x 10 x 2.5 x 1.5 mm

Mesh Length

Mesh Width

Strand Width

Strand Thickness

Expanded metal is available in the following standard widths: 1,000 mm, 1,250 mm and 1,500 mm. Some mesh types and sizes are available in 2,000 mm widths.

The design and the stability of the ceiling construction are influenced by the shape and size of the mesh, the material (steel or aluminium) and its thickness and also by the ceiling system itself. Another important aesthetic criterion is the visible expanded metal which appears either more open or more closed, depending on the angle of vision.

**Quality Standards**
As a member of the Federation of Industrial Metal Ceiling Manufacturers (TAIM) we produce and supply according to the quality standards for expanded metal. More information can be found at: www.taim.info

**Expanded Metal Pattern/Mesh Arrangement**
To maximise the stability and the deflection properties of the ceiling panels or integrated expanded metal sheets the following mesh arrangement should be chosen:

For customised, project-specific constructions we recommend the manufacture of a customised prototype.
<table>
<thead>
<tr>
<th>Product</th>
<th>Expanded Metal Thickness</th>
<th>Open Area</th>
<th>Mesh Length</th>
<th>Mesh Width</th>
<th>Strand Width</th>
<th>Strand Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamond Mesh 12 x 6 x 2 x 1.5</td>
<td>approx. 4 mm</td>
<td>33%</td>
<td>12.7 mm</td>
<td>6 mm</td>
<td>2 mm</td>
<td>1.5 mm</td>
</tr>
<tr>
<td>Diamond Mesh 16 x 8 x 2 x 1.5</td>
<td>approx. 3.5 mm</td>
<td>50%</td>
<td>16 mm</td>
<td>8 mm</td>
<td>2 mm</td>
<td>1.5 mm</td>
</tr>
<tr>
<td>Diamond Mesh 16 x 8 x 2.5 x 1.5</td>
<td>approx. 3.5 mm</td>
<td>37%</td>
<td>16 mm</td>
<td>8 mm</td>
<td>2.5 mm</td>
<td>1.5 mm</td>
</tr>
<tr>
<td>Diamond Mesh 20 x 8 x 2 x 1.5</td>
<td>approx. 4 mm</td>
<td>50%</td>
<td>20 mm</td>
<td>8 mm</td>
<td>2 mm</td>
<td>1.5 mm</td>
</tr>
<tr>
<td>Diamond Mesh 20 x 10 x 2 x 1.5</td>
<td>approx. 4 mm</td>
<td>60%</td>
<td>20 mm</td>
<td>10 mm</td>
<td>2 mm</td>
<td>1.5 mm</td>
</tr>
<tr>
<td>Diamond Mesh 28 x 10 x 2.5 x 1.5</td>
<td>approx. 5 mm</td>
<td>50%</td>
<td>28 mm</td>
<td>10 mm</td>
<td>2.5 mm</td>
<td>1.5 mm</td>
</tr>
<tr>
<td>Diamond Mesh 28 x 12 x 2.5 x 1.5</td>
<td>approx. 5 mm</td>
<td>58%</td>
<td>28 mm</td>
<td>12 mm</td>
<td>2.5 mm</td>
<td>1.5 mm</td>
</tr>
</tbody>
</table>
## EXPANDED METAL MESHES

<table>
<thead>
<tr>
<th>Mesh Description</th>
<th>Image 1</th>
<th>Image 2</th>
<th>Image 3</th>
<th>Image 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diamond Mesh 30 x 12 x 2.5 x 1.5</strong></td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
</tr>
<tr>
<td>expanded metal thickness: approx. 4 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>open area: 58 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mesh length: 30 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mesh width: 12 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strand width: 2.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strand thickness: 1.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Diamond Mesh 42 x 16 x 3.0 x 2.0</strong></td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
</tr>
<tr>
<td>expanded metal thickness: approx. 6 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>open area: 62 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mesh length: 42 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mesh width: 16 mm</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strand width: 3 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strand thickness: 2 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Diamond Mesh 50 x 25 x 3.0 x 2.0</strong></td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
</tr>
<tr>
<td>expanded metal thickness: approx. 6 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>open area: 76 %</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>mesh length: 50 mm</td>
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<td></td>
</tr>
<tr>
<td>mesh width: 25 mm</td>
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<td></td>
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</tr>
<tr>
<td>strand width: 3 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strand thickness: 2 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Diamond Mesh 62 x 23 x 3.0 x 2.5</strong></td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
</tr>
<tr>
<td>expanded metal thickness: approx. 6 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>open area: 73 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mesh length: 62 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mesh width: 23 mm</td>
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</tr>
<tr>
<td>strand width: 3 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strand thickness: 2.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Diamond Mesh 115 x 40 x 9.0 x 2.0</strong></td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
</tr>
<tr>
<td>expanded metal thickness: approx. 18 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>open area: 55 %</td>
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<tr>
<td>mesh length: 115 mm</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>mesh width: 40 mm</td>
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<td></td>
</tr>
<tr>
<td>strand width: 9 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strand thickness: 2 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Square Mesh 16 x 11 x 1.5 x 1.5</strong></td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
</tr>
<tr>
<td>expanded metal thickness: approx. 3.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>open area: 73 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mesh length: 16 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mesh width: 11 mm</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>strand width: 1.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strand thickness: 1.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Square Mesh 20 x 15 x 2.0 x 1.5</strong></td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
</tr>
<tr>
<td>expanded metal thickness: approx. 4 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>open area: 73 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mesh length: 20 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mesh width: 15 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strand width: 2 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strand thickness: 1.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TOUCHDESIGN VIVA – 3D EXPANDED METAL

The folded expanded metal with open character grants free view into the ceiling void while being a three-dimensional design element. A high number of meshes, geometries and colours create unique, individual effects. The unique appearance can be emphasised by lighting solutions on the rear side.

+ unique design with custom folded expanded metal
+ various mesh types, sizes and geometries possible
+ structured surface on demand with high open area to have a clear view into the ceiling void
+ the incidence of light creates varied, diverse looks
+ can be combined with lighting solutions on the rear side
<table>
<thead>
<tr>
<th>Model</th>
<th>Open Area</th>
<th>Mesh Length</th>
<th>Frontal Opening</th>
<th>Max. Panel Size</th>
<th>Expanded Metal Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viva V28s</td>
<td>49%</td>
<td>28 mm</td>
<td>34%</td>
<td>2,500 x 900 mm</td>
<td>approx. 12 mm</td>
</tr>
<tr>
<td>Viva S29</td>
<td>68%</td>
<td>43 mm</td>
<td>43%</td>
<td>2,500 x 900 mm</td>
<td>approx. 13 mm</td>
</tr>
<tr>
<td>Viva V43s</td>
<td>77%</td>
<td>43 mm</td>
<td>57%</td>
<td>2,500 x 900 mm</td>
<td>approx. 16 mm</td>
</tr>
<tr>
<td>Viva S50</td>
<td>47%</td>
<td>63 mm</td>
<td>25%</td>
<td>2,500 x 900 mm</td>
<td>approx. 13 mm</td>
</tr>
<tr>
<td>Viva V134</td>
<td>34%</td>
<td>28 mm</td>
<td>18%</td>
<td>2,500 x 900 mm</td>
<td>approx. 10 mm</td>
</tr>
</tbody>
</table>
POWDER COATING

We create special highlights in your rooms with environmentally friendly powder coating, a solvent-free coating method. Besides our standard colours white RAL 9010 and grey 9006 according to Lindner, individual colours can be selected from the RAL, NCS and DB colour charts. We can save 25 tonnes of powder thanks to powder recycling every year.

+ environmentally-friendly and solvent-free coating process
+ besides the standard colours white RAL 9010 and grey 9006 according to Lindner, individual colours can be chosen from the RAL, NCS and DB colour charts
+ powder recycling saves 25 tonnes of powder each year

Gloss Level and Reflectance ➔ page 155
DECORATIVE SURFACES

Thanks to our versatile surface options, we can apply wood or fantasy decors and images on Metal Ceilings – by means of powder coating or digital printing. Your advantage: an individual ceiling design can be obtained while enjoying the familiar advantages of Metal Ceilings.

+ individual application of decors possible by means of powder coating or digital printing
+ diverse woods and fantasy designs can be realised
+ familiar advantages of Metal Ceilings are retained
ARTLINE – DESIGN POWDER COATING

The powder coating ARTrine applies different designs on your metal ceiling: besides various wood surfaces, we can perfectly imitate fantasy designs. Thus, the ceiling has the appearance of a wooden ceiling. Simultaneously, the familiar advantages of metal ceilings can be enjoyed without restrictions. This special powder coating impresses with its resistance against UV radiations, solvents and chemicals of many kinds.

+ decorative powder coating to imitate wood surfaces and fantasy designs
+ versatile design possibilities are available
+ resistance against UV radiations, solvents and chemicals of many kinds
GRAPHICLINE – PRINT TECHNOLOGY

The print technology GRAPHICline offers complete freedom of design thanks to the possibility to apply your desired image on different surface structures and materials by means of a model picture or illustration. All colours and images can be applied colour-fast, gloss-fast and light-fast on panels of any required size due to a photorealistic resolution up to 1,200 dpi! The metal ceiling with print technology is UV resistant due to a special sealed finish.

+ complete freedom of design thanks to the possibility to apply your desired images on ceiling panels
+ model picture is realised colour-fast, gloss-fast and light-fast with a photorealistic resolution up to 1,200 dpi
+ realisation on an unlimited surface possible
+ UV resistance due to a special sealed finish
FUNCTIONAL SURFACES

Special application areas require special coatings. This is why we offer the appropriate functional coating for extraordinary application areas. Functional surfaces are available to protect against corrosion and to improve the acoustics in your rooms.

+ special functional coatings for special application areas
+ surfaces available to protect against corrosion and to improve room acoustics
METEO – CORROSION PROTECTION COATING

Meteo prevents your ceiling and substructure steadily from corrosion and protects sustainably. This coating is particularly suitable for metal ceilings in corrosive areas such as swimming pools or exterior areas. Depending on your requirements, Meteo offers protection in an optimum way according to the required corrosion protection class.

+ prevents your ceiling and substructure steadily from corrosion and protects sustainably
+ ideal protection for metal ceilings in corrosive areas
MUTEX – ABSORBER COATING

Mutex is the return of silence in your rooms. This structured absorber coating can contribute enormously, either alone or in combination with various inlays, to sound absorption and can be combined with various fine perforations. Moreover, this coating has almost equivalent properties compared to a conventional powder coating regarding fire protection, light reflection and cleaning.

+ acoustically highly effective by means of structured surface and sound-absorbing inlays
+ can be combined with various fine perforation patterns
DESIGN SURFACES

Design Surfaces turn every Metal Ceiling into a real highlight. Unique and vivid effects are created by the three-dimensional character. These effects can individually be emphasised by matted or high-gloss areas. Creative solutions are realised with grinded or perforated ceiling surfaces. A combination with light creates special, unique effects.

+ individual design options enable a richly varied design
+ three-dimensional structures create unique and vivid effects
+ creative solutions with matt and high-gloss areas, perforated and plain areas
+ unique effects in combination with light
EFFECTLINE – GRINDING TECHNOLOGY

Thanks to the variable grinding technology and versatile design options, you create three-dimensional appearances and a special atmosphere in your rooms. Choose your favourite design from our surface product line. The vivid effects of the grinded surface can be emphasised in combination with light.

+ variations in grinded three-dimensional metal optics
+ unique effects in combination with light
SPREADLINE – CUSTOMISED, IMAGE AND SCATTERED PERFORATION

SPREADline offers an excellent design freedom due to an individual arrangement of the scattered perforation with different perforation shapes and sizes. The transmission of photos and images as perforation pattern is a striking eye-catcher. The diverse perforations can specifically be used for an effective combination of luminaires and loudspeakers.

+ individual arrangement of the perforation with different perforation shapes
+ transmission of images as perforation pattern possible
+ suitable for an effective combination of luminaires and loudspeakers

Rsl 100 - 30

Rsl 120 - 10

Rv 1,8 - 43

Stockholm Waterfront, Sweden

Photo: © Michael Perlmutter
TOUCHDESIGN – 3D SURFACE

Given the possibility of creating a living three-dimensional structure, TOUCHdesign is an attractive alternative to metal ceilings with plane surfaces. That involves furnishing those ceiling panels with patterns and perforations. Combine vivid design and function with different shapes and sizes regarding embossings and perforations for a ceiling that is second to none.

+ versatile three-dimensional optics
+ different shapes and sizes regarding embossings and perforations available
+ trend-setting combination of design and function
TOUCHDESIGN LUNAR –
3D HIGH-GLOSS SURFACE

The high-gloss surface made of hammered stainless steel gives a special three-dimensional character to
your metal ceiling. A combination of perforation and punching as well as matted and high-gloss areas enable
individual designs. The reflecting, three-dimensional high-gloss surface creates a fragmented image of colours
and shapes in the room.

+ varied three-dimensional effects due to hammered stainless steel
+ colours and shapes of the room are reflected and fragmented in the reflective high-gloss surface
+ combination of matted and high-gloss areas is possible
TOUCHDESIGN VENAS – 3D STRUCTURED SURFACE

The high-grade structured surface TOUCHdesign Venas makes a special highlight out of a classic white surface of metal ceilings: thanks to a unique powder coating that spreads netlike in fine lines, the effect of a leaf vein structure is created. We realise this fascinating leaf vein design on plain metal ceiling panels. The three-dimensional character is emphasised depending on the perspective and light irradiation.

+ coating spreads netlike in fine lines and creates individual structures
+ depending on the light irradiation, design effects with matt and shiny spots are created
+ possible with plain metal ceiling panels
SPECIAL SURFACES

The Special Surface INOXlook is achieved by special rolling and anodising processes and provides Metal Ceilings made of aluminium with the high-grade look of a stainless steel surface. This special coating impresses with significant weight savings compared to stainless steel. Moreover, the surface is easy to clean and has a high corrosion resistance.

+ INOXlook provides aluminium ceilings having the high-grade look of a stainless steel surface
+ significant weight saving compared to stainless steel while guaranteeing the same appearance
+ special surface impresses with easy cleaning and high corrosion resistance
The visual appearance of a ceiling system can be influenced by wall connections and joint designs. A large selection of different versions is available for you.

- wall connections with and without shadow gap
- perimeter trims with hold-down function for cut panels
- curved wall connections for pillar semirings
- joint design has an influence on visual appearance and acoustic performance
- different joint distances can be realised
<table>
<thead>
<tr>
<th>Shadow Gap Joint</th>
<th>![Shadow Gap Joint Image]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Wall Connection</td>
<td>![Open Wall Connection Image]</td>
</tr>
<tr>
<td>L-Pillar Semiring</td>
<td>![L-Pillar Semiring Image]</td>
</tr>
<tr>
<td>Shadow Gap Pillar Semiring</td>
<td>![Shadow Gap Pillar Semiring Image]</td>
</tr>
<tr>
<td>JOINT DESIGN</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td><strong>Panel Abutment without Joint</strong></td>
<td></td>
</tr>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td>Panel width</td>
<td>Panel width</td>
</tr>
</tbody>
</table>

| **Panel Abutment with Joint and Gasket Strip** |
| ![Image](image2.png) |
| Panel width | Panel width |
| Either 1 or 3 mm |

| **Panel Abutment with Joint and Spacer** |
| ![Image](image3.png) |
| Panel width | Panel width |
| Either 3 or 5 mm |

| **Panel Abutment with Embossed Panel Turn-Up** |
| ![Image](image4.png) |
| Panel width | Panel width |
| ~ 3 mm |
SILVERTOWER, FRANKFURT, GERMANY
The SilverTower was refurbished for three years and has been awarded the DGNB Pre Certificate Silver. Lindner fitted dry lining systems, heating and cooling systems as well as raised and hollow floor systems to this project. Besides standard metal ceilings and heated/chilled ceilings, individually designed customised ceilings were installed.
EXPERTISE

YOUR PRODUCT IN GOOD HANDS

The demands on your ceiling strongly depend on the application area. We offer reliable solutions and tested ceiling systems for different product requirements – you will find the perfect solution for your project for:

+ fire protection
+ acoustics
+ sustainability
+ statics
+ safety protection
+ corrosion protection
FIRE PROTECTION

Buildings are increasing in both size and complexity, and so fire protection is of utmost importance today. Due to the high damage potential of a fire, to life and health as well as to valuable property, taking the right precautions is vital to ensuring our buildings are protected. Preventive fire protection has long been a priority at Lindner, where expert support ensures the best defence for your buildings. Defects in structural fire protection are not always obvious. It is therefore necessary that a detailed inspection and assessment of the current architecture is initially carried out, in order to plan the work required for the forthcoming project.

BUILDING MATERIAL CLASS

EN 13501-1
Fire classification of construction products and building elements.

The classified properties for fire behaviour of building materials correspond to the following requirements in building inspection conditions for use according to EN 13501-1:

<table>
<thead>
<tr>
<th>BUILDING AUTHORITY REQUIREMENTS</th>
<th>ADDITIONAL REQUIREMENTS</th>
<th>EUROPEAN CLASS ACC. TO EN 13501-1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Smoke</td>
<td>No Flaming Droplets/Particles</td>
</tr>
<tr>
<td>Noncombustible</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
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<tr>
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<td></td>
</tr>
<tr>
<td>Difficult to Ignite</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
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<tr>
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</tr>
<tr>
<td>Normal Combustibility</td>
<td></td>
<td>x</td>
</tr>
<tr>
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<td></td>
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<tr>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easily Ignited</td>
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</tr>
<tr>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

* Class achieved by Lindner
Explanation of additions for the classification of fire behaviour of building materials:

<table>
<thead>
<tr>
<th>DERIVATION OF ABBREVIATION</th>
<th>CRITERION</th>
<th>APPLICATION AREA</th>
<th>SUBCLASSES</th>
</tr>
</thead>
</table>
| s (Smoke)                   | smoke development | requirement on smoke development | s1 no smoke development  
s2 limited smoke development  
s3 unlimited smoke development |
| d (Droplets)                | flaming droplets/particles | requirement on flaming droplets/particles | d0 no droplets/particles  
d1 limited droplets/particles  
d2 strong droplets/particles |

**ASTM E 84**


According to ASTM E 84, the flammability of building materials is divided into three classes:

<table>
<thead>
<tr>
<th>CLASS</th>
<th>FLAME SPREAD INDEX</th>
<th>SMOKE DEVELOPED INDEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A acc. to IBC (International Building Code)</td>
<td>&lt; 25</td>
<td>0 - 450</td>
</tr>
<tr>
<td>Class B acc. to IBC (International Building Code)</td>
<td>26 - 75</td>
<td>0 - 450</td>
</tr>
<tr>
<td>Class C acc. to IBC (International Building Code)</td>
<td>75 - 200</td>
<td>0 - 450</td>
</tr>
</tbody>
</table>

**Proofs – Building Material Class**

Lindner metal ceiling panels manufactured from galvanised steel sheet, including powder-coated surface and bonded acoustic tissue on the reverse side comply with the following building material classes:

<table>
<thead>
<tr>
<th>NORM</th>
<th>CLASSIFICATION</th>
</tr>
</thead>
</table>
| EN 13501-1         | A2 - s1, d0  
The classification fulfils the requirement „incombustible“ according to the national building authorities |
| ASTM E 84          | Class A acc. to IBC (International Building Code) |
Lindner has more than 50 years of experience in enhancing acoustics for interior fit-outs. Today, acoustics and sound protection are recognised worldwide as key quality factors for new constructions and building renovations.

Project requirements are evaluated on a case-by-case basis, depending on the purpose of the building, its physical shape, and the type of construction required.

Being equipped with perforations and acoustic inlays, Lindner Ceiling Systems are the perfect solution for acoustic improvement. A multitude of tested acoustic proofs are available — both for room and building acoustics. We also offer project-related solutions, individually adapted to suit your project requirements.

### Room Acoustics
- Speech intelligibility in classrooms, lecture halls and theatres
- Musical experience in concert halls
- Reduction of noise level in production facilities and workshops
- Sound-absorbing behaviour of installed products

### Building Acoustics
- Airborne and structure-borne sound transmission of/through components
- Restriction of external noises
- Insulation of technical building equipment
- Sound insulation properties of separating components
- Longitudinal sound reduction of flanking components
### Room Acoustics

The room size, the suitable arrangement of sound-absorbing measures and the future use of the room are important characteristics to fulfill the acoustic requirements of a room. For example in classrooms, a good speech intelligibility is necessary whereas in concert halls, the musical experience is the main focus.

The most important tool in the acoustic design of rooms is the sound absorption. This means the reduction of sound on room boundary surfaces. Different room acoustic parameters play a decisive role:

<table>
<thead>
<tr>
<th>Sound Absorption Coefficient $\alpha$</th>
<th>The sound absorption coefficient $\alpha$ indicates the absorbed amount of incident sound: $\alpha = 0$ There is no absorption, the complete incident sound is reflected: $\alpha = 1$ The complete incident sound is absorbed, there is no reflection.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Sound Absorption Coefficient $\alpha_w$</td>
<td>The rated sound absorption coefficient $\alpha_w$ according to EN ISO 11654 is determined for five octaves with medium frequencies from 250 to 4,000 Hz. A reference curve is shifted in steps of 0.05 — the maximum negative sum of deviations must not exceed 0.10. The value at a frequency of 500 Hz is the value of $\alpha_w$.</td>
</tr>
<tr>
<td>Practical Sound Absorption Coefficient $\alpha_p$</td>
<td>The practical sound absorption coefficient $\alpha_p$ is indicated with six values at 125 Hz, 250 Hz, 500 Hz, 1,000 Hz, 2,000 Hz and 4,000 Hz. Each value is determined by three one-third octave values. These are added, averaged and then rounded up or down in steps of 0.05. Example: 200 Hz: 0.65 250 Hz: 0.72 315 Hz: 0.86 The practical sound absorption coefficient $\alpha_p$ at 250 Hz is 0.75.</td>
</tr>
<tr>
<td>Sound Absorption Classes</td>
<td>According to EN ISO 11654, the rated sound absorption coefficients $\alpha_w$ are divided into different sound absorption classes.</td>
</tr>
<tr>
<td>A</td>
<td>$\geq 0.9$</td>
</tr>
<tr>
<td>B</td>
<td>0.8 to 0.85</td>
</tr>
<tr>
<td>C</td>
<td>0.6 to 0.75</td>
</tr>
<tr>
<td>D</td>
<td>0.3 to 0.55</td>
</tr>
<tr>
<td>E</td>
<td>0.15 to 0.25</td>
</tr>
<tr>
<td>unclassified</td>
<td>$\leq 0.1$</td>
</tr>
<tr>
<td>Reverberation Time</td>
<td>Reverberation time is the time it takes for a sound pressure to drop by 60 dB in a room. It is specified in seconds. The ideal reverberation time largely depends on the use of a room.</td>
</tr>
<tr>
<td>recording studio</td>
<td>$&lt; 0.3$ s</td>
</tr>
<tr>
<td>classroom</td>
<td>0.6 to 0.8 s</td>
</tr>
<tr>
<td>concert hall</td>
<td>1.5 to 3 s</td>
</tr>
<tr>
<td>Frequency</td>
<td>Frequency is the number of oscillations per second — the unit is Hertz [Hz]. The frequency characterises the tone pitch.</td>
</tr>
<tr>
<td>hearing/music</td>
<td>20 to 20,000 Hz</td>
</tr>
<tr>
<td>speech/singing</td>
<td>200 to 2,000 Hz</td>
</tr>
<tr>
<td>room acoustics</td>
<td>100 to 5,000 Hz</td>
</tr>
</tbody>
</table>
PROOFS – SOUND ABSORPTION

Extract from the standard perforations – further values available on request.

POST CAP CEILINGS, HOOK-ON CEILINGS, CASSETTE CEILINGS

### Rg 0.7 - 1

<table>
<thead>
<tr>
<th>Total Constructional Height</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 mm</td>
<td>acoustic tissue</td>
<td>0.45 (L)</td>
<td>0.50</td>
</tr>
<tr>
<td>200 mm</td>
<td>acoustic tissue, 20 mm Insula Basic</td>
<td>0.45 (L)</td>
<td>0.50</td>
</tr>
</tbody>
</table>

### Rd 0.7 - 2

<table>
<thead>
<tr>
<th>Total Constructional Height</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 mm</td>
<td>acoustic tissue</td>
<td>0.60 (L)</td>
<td>0.65</td>
</tr>
</tbody>
</table>

### Rg 0.7 - 4

<table>
<thead>
<tr>
<th>Total Constructional Height</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 mm</td>
<td>acoustic tissue</td>
<td>0.70</td>
<td>0.70</td>
</tr>
<tr>
<td>200 mm</td>
<td>acoustic tissue, 20 mm Insula Basic</td>
<td>0.75</td>
<td>0.80</td>
</tr>
</tbody>
</table>

### Rg 1.6 - 13

<table>
<thead>
<tr>
<th>Total Constructional Height</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 mm</td>
<td>acoustic tissue</td>
<td>0.75</td>
<td>0.75</td>
</tr>
<tr>
<td>200 mm</td>
<td>acoustic tissue, 30 mm Insula A2</td>
<td>0.90</td>
<td>0.95</td>
</tr>
</tbody>
</table>

### Rd 1.6 - 25

<table>
<thead>
<tr>
<th>Total Constructional Height</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 mm</td>
<td>acoustic tissue</td>
<td>0.70</td>
<td>0.70</td>
</tr>
<tr>
<td>200 mm</td>
<td>acoustic tissue, 20 mm Insula Basic</td>
<td>0.95</td>
<td>0.95</td>
</tr>
</tbody>
</table>
### POST CAP CEILINGS, HOOK-ON CEILINGS, CASSETTE CEILINGS

#### Rg 1,8 - 5

<table>
<thead>
<tr>
<th>Total Constructional Height</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 mm</td>
<td>acoustic tissue</td>
<td>0.70</td>
<td>0.75</td>
</tr>
<tr>
<td>200 mm</td>
<td>acoustic tissue, 20 mm Insula Basic</td>
<td>0.70</td>
<td>0.75</td>
</tr>
</tbody>
</table>

#### Rv 1,8 - 20

<table>
<thead>
<tr>
<th>Total Constructional Height</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 mm</td>
<td>acoustic tissue</td>
<td>0.75 (L)</td>
<td>0.75</td>
</tr>
<tr>
<td>200 mm</td>
<td>acoustic tissue, 30 mm Insula Basic</td>
<td>1.00</td>
<td>0.95</td>
</tr>
</tbody>
</table>

#### Rg 2,5 - 16

<table>
<thead>
<tr>
<th>Total Constructional Height</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 mm</td>
<td>acoustic tissue</td>
<td>0.75 (L)</td>
<td>0.75</td>
</tr>
<tr>
<td>200 mm</td>
<td>acoustic tissue, 50 mm Insula Basic</td>
<td>1.00</td>
<td>0.95</td>
</tr>
</tbody>
</table>

#### Rg 7,0 - 27

<table>
<thead>
<tr>
<th>Total Constructional Height</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 mm</td>
<td>acoustic tissue</td>
<td>0.70</td>
<td>0.65</td>
</tr>
<tr>
<td>200 mm</td>
<td>acoustic tissue, 20 mm Insula Basic</td>
<td>0.90</td>
<td>0.90</td>
</tr>
</tbody>
</table>

#### Qg 6,0 - 30

<table>
<thead>
<tr>
<th>Total Constructional Height</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 mm</td>
<td>acoustic tissue</td>
<td>0.70</td>
<td>0.70</td>
</tr>
<tr>
<td>200 mm</td>
<td>acoustic tissue, 20 mm Insula Basic</td>
<td>0.90</td>
<td>0.90</td>
</tr>
</tbody>
</table>
POST CAP CEILINGS, LONGITUDINALLY SOUND-REDUCED

Rg 1.6 - 13

Execution
acoustic tissue, 30 mm Insula Basic, heavy plating

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>C_m</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>250</td>
<td>0.45</td>
<td></td>
</tr>
<tr>
<td>500</td>
<td>0.85</td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>4000</td>
<td>0.85</td>
<td></td>
</tr>
</tbody>
</table>

Rv 1.8 - 20

Execution
acoustic tissue, heavy plating, 20 mm Insula Basic, heavy plating

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>C_m</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>0.30</td>
<td></td>
</tr>
<tr>
<td>250</td>
<td>0.40</td>
<td></td>
</tr>
<tr>
<td>500</td>
<td>0.80</td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>4000</td>
<td>0.90</td>
<td></td>
</tr>
</tbody>
</table>

EXPANDED METAL CEILINGS

62 x 23 x 3.0 x 2.5

Total Constructional Height: 200 mm

Execution
acoustic tissue, 30 mm Insula A2

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>C_m</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>0.55</td>
<td></td>
</tr>
<tr>
<td>250</td>
<td>0.80</td>
<td></td>
</tr>
<tr>
<td>500</td>
<td>0.95</td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>4000</td>
<td>0.90</td>
<td></td>
</tr>
</tbody>
</table>

In case of Expanded Metal Ceilings with open area exceeding 30 %, the mineral wool inlay is decisive.
### BAFFLE CEILINGS

#### Rv 1,8 - 20

<table>
<thead>
<tr>
<th>Width</th>
<th>Height</th>
<th>Centre Distance</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 mm</td>
<td>150 mm</td>
<td>200 mm</td>
<td>acoustic tissue,</td>
<td>0.60</td>
<td>0.55</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30 mm Insula Basic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Rv 2,0 - 20

<table>
<thead>
<tr>
<th>Width</th>
<th>Height</th>
<th>Centre Distance</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 mm</td>
<td>245 mm</td>
<td>300 mm</td>
<td>acoustic tissue,</td>
<td>0.55 (H)</td>
<td>0.60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30 mm Insula I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35 mm</td>
<td>245 mm</td>
<td>600 mm</td>
<td>acoustic tissue,</td>
<td>0.50</td>
<td>0.45</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30 mm Insula I</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Rv 1,8 - 20

<table>
<thead>
<tr>
<th>Width</th>
<th>Height</th>
<th>Centre Distance</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 mm</td>
<td>300 mm</td>
<td>200 mm</td>
<td>acoustic tissue,</td>
<td>0.55 (H)</td>
<td>0.60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30 mm Insula A2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35 mm</td>
<td>300 mm</td>
<td>300 mm</td>
<td>acoustic tissue,</td>
<td>0.45 (H)</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30 mm Insula A2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Rv 1,8 - 20

<table>
<thead>
<tr>
<th>Width</th>
<th>Height</th>
<th>Centre Distance</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 mm</td>
<td>300 mm</td>
<td>200 mm</td>
<td>acoustic tissue,</td>
<td>0.65</td>
<td>0.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>40 mm Insula A2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 mm</td>
<td>300 mm</td>
<td>300 mm</td>
<td>acoustic tissue,</td>
<td>0.40 (LH)</td>
<td>0.55</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50 mm Insula A2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Rv 1,8 - 20

<table>
<thead>
<tr>
<th>Width</th>
<th>Height</th>
<th>Centre Distance</th>
<th>Execution</th>
<th>$\alpha_w$</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 mm</td>
<td>300 mm</td>
<td>200 mm</td>
<td>acoustic tissue,</td>
<td>0.70</td>
<td>0.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50 mm Insula A2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 mm</td>
<td>300 mm</td>
<td>300 mm</td>
<td>acoustic tissue,</td>
<td>0.55 (H)</td>
<td>0.60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50 mm Insula A2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

www.Lindner-Group.com
**Equivalent Sound Absorption Area**

The equivalent sound absorption area is defined as the product of the sound absorption coefficient and the area.

A ceiling area of 10 m² with a sound absorption coefficient of 0.50 has an equivalent sound absorption area of 5 m². Thus, a ceiling area of 20 m² and a sound absorption coefficient of 0.25 have the same effect in a room.

Canopy Ceilings are tested as single elements that are unsystematically positioned in the reverberation room. Thus, the sound incidence on the reverse side is additionally absorbed. The sound absorption capacity of canopy ceilings is defined as equivalent sound absorption area per canopy [m²].
BUILDING ACOUSTICS

Partitions between two adjacent rooms are often not installed to the raw ceiling in order to stay flexible in the room layout and to be able to easily move partitions. As a consequence, the sound is transferred through the ceiling void which leads to a lack of confidentiality in your rooms.

Thus, it is important to suppress the noise of two adjacent rooms – this capability is called sound insulation.

Being equipped with heavy platings on the reverse side, Lindner Metal Ceilings can be executed longitudinally sound-reduced. With longitudinally sound-reduced ceilings, individual room layouts can easily be realised – at the same time, the privacy in your rooms is guaranteed. In our standard range, you can find Post Cap Ceilings with tested longitudinal sound reduction – please contact us if you require project-specific solutions:

- LMD-B 100 SD  ▶ page 20
- LMD-B 147 SD  ▶ page 24

PROOFS – LONGITUDINAL SOUND REDUCTION

<table>
<thead>
<tr>
<th>Execution</th>
<th>LMD-B 100 SD</th>
<th>LMD-B 147 SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>acoustic tissue heavy plating</td>
<td>45 dB according to ISO 717-1</td>
<td>45 dB according to ISO 717-1</td>
</tr>
<tr>
<td>acoustic tissue 20 mm Insula Basic heavy plating</td>
<td>–</td>
<td>52 dB according to ISO 717-1</td>
</tr>
<tr>
<td>acoustic tissue 30 mm Insula Basic heavy plating</td>
<td>49 dB according to ISO 717-1</td>
<td>–</td>
</tr>
<tr>
<td>acoustic tissue 30 mm Insula Basic heavy plating bulkhead, panelled with one layer on both sides</td>
<td>67 dB according to ISO 717-1</td>
<td>60 dB according to ISO 717-1</td>
</tr>
</tbody>
</table>
CORROSION PROTECTION

Corrosion protection refers to measures to avoid damages on metallic components caused by corrosion. Depending on the requirement and the application area, Lindner Metal Ceilings can be suitable solutions with proven corrosion protection classes. Thus, they ensure optimum protection. A special coating is available for very corrosive areas such as swimming pools or exterior areas.

Meteo – Corrosion Protection Coating  page 121
LMD-E 213 WL  page 44

CLASSES OF EXPOSURE

Metal ceilings are divided into exposure classes according to EN 13964. Ceiling systems for interior areas have the exposure class A, ceiling systems for exterior areas the exposure class D.

<table>
<thead>
<tr>
<th>Class</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>building components exposed to varying relative humidity up to 70 % and varying temperature up to 25 °C but without corrosive pollutants.</td>
</tr>
<tr>
<td>B</td>
<td>building components exposed to varying relative humidity up to 90 % and varying temperature up to 30 °C but without corrosive pollutants.</td>
</tr>
<tr>
<td>C</td>
<td>building components exposed to varying relative humidity up to 95 % and varying temperature up to 30 °C and accompanied by a risk of condensation but without corrosive pollutants.</td>
</tr>
<tr>
<td>D</td>
<td>more severe than the above</td>
</tr>
</tbody>
</table>

EN 13964, TABLE 8 – CLASSES OF EXPOSURE
TIME OF PROTECTION
The time of protection according to ISO 12944-1 is no warranty period. An exact determination of the time of protection of coating systems is generally not possible as they are influenced by many parameters, e.g.

- the design of the building
- the effectiveness of the surface preparation
- the condition of the steel surface before the preparation
- the type of coating system
- the execution of coating works
- the conditions during the coating process
- the load after the coating process

ISO 12944-1 – TIME OF PROTECTION

<table>
<thead>
<tr>
<th>Years</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 7 years</td>
<td>low (L)</td>
</tr>
<tr>
<td>7 to 15 years</td>
<td>medium (M)</td>
</tr>
<tr>
<td>15 to 25 years</td>
<td>high (H)</td>
</tr>
<tr>
<td>more than 25 years</td>
<td>very high (VH)</td>
</tr>
</tbody>
</table>
BALL-IMPACT RESISTANCE

Metal ceilings with special mechanical stress, e.g., for the application in sport halls, swimming pools or schools, require a proof of impact resistance according to EN 13964 annex D. This requirement is called ball-impact resistance and is divided into three classes:

<table>
<thead>
<tr>
<th>Classes</th>
<th>SPEED OF IMPACT METER/SECOND</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>16.5 ± 0.8 is equivalent to 59.4 km/h</td>
</tr>
<tr>
<td>2A</td>
<td>8.0 ± 0.8 is equivalent to 28.8 km/h</td>
</tr>
<tr>
<td>3A</td>
<td>4.0 ± 0.8 is equivalent to 14.4 km/h</td>
</tr>
</tbody>
</table>

The ball-impact resistance is tested with a handball that is shot several times from different directions to supposed weak points of the metal ceiling. Preferentially, the test shall guarantee that no elements of the ceiling or parts of it fall down due to this impact. Visual changes are permitted.

During planning and creation of specifications, it is important to specify the class of impact speed (ball-impact resistance) according to table D.1. If only the requirement “ball-impact resistant ceiling” is specified—without indicating the class—it is possible that you receive a ball-impact resistant ceiling of class 3 although you require class 1 for your application area. Our recommendation:

<table>
<thead>
<tr>
<th>Classes</th>
<th>普法 meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>sports halls, gymnasiums, multi-purpose halls etc.</td>
</tr>
<tr>
<td>2A</td>
<td>indoor swimming pools, schools, recreation areas etc.</td>
</tr>
<tr>
<td>3A</td>
<td>fitness rooms etc.</td>
</tr>
</tbody>
</table>

Moreover, all installations and fixtures have to be successfully tested in the same class as the metal ceiling. In addition to the mechanical stress, the corrosion protection and the acoustic performance have to be adapted to the requirement of the ceiling system including fastening.

In our standard range you will find three ball-impact resistant ceiling systems:

- LMD-E 213 BWS  page 42
- LMD-St 213 BWS  page 80
- LMD-St 700 BWS  page 86

Further information: TAIM – technical data sheet “Metal ceilings in sports halls” | www.taim.info  page 156
WIND LOADS

Wind loads are pressure and suction loads that have an influence on the ceiling system.

The wind loads in exterior areas differ depending on the wind zone, the geographical location, the type of building, the height of building, the height of storey and the position of the ceiling in a building.

The following information is necessary for the technical configuration of a metal ceiling with wind load requirement:
- wind pressure/suction loads in kg/m²
- desired ceiling element size
- suspension height of the metal ceiling

Wind loads can also occur inside of buildings, e.g. in railway stations.

In addition to the static calculation, the corrosion protection has to be adapted for the complete ceiling system including fastening according to the structural-physical requirement of the exterior ceiling.

The different requirements of exterior ceilings always have to be planned project-specific.

A hook-on ceiling for exterior areas is available in our standard range in order to minimise the planning effort:

LMD-E 213 WL  page 44

| Calculation Basis | DIN EN 1990 – basis of structural design  
| | DIN EN 1993 – steel structures  
| | Z-30.3-6 – stainless steel products, fasteners and components  
| | DIN EN 1090 – execution of steel structures and aluminium structures  

| Wind Pressure/Suction Loads | load classes 25, 50, 75, 100 kg/m²  
| | project-related, higher requirements can be realised  

| Execution | ceiling panel size up to 2,000 x 600 mm or 1,000 x 1,000 mm  
| | suspension height up to 750 mm  

Moreover, we can revert to many customised solutions to be able to realise your desired exterior ceiling.

Further information:

Meteo – corrosion protection coating  page 121  
TAIM – technical data sheet “Wind loads and metal ceilings” | www.taim.info  page 156
SEISMIC SAFETY

There are a lot of regions with seismic activity around the world due to high tectonic movement. To be able to reduce damages of an earthquake inside of a building, earthquake-proof ceiling systems have a special construction. Thus, in case of an earthquake, people in a room are not endangered by falling metal ceiling panels.

The requirements of earthquake-proof ceiling systems can vary significantly. This is why the exact planning is always made project-related – you will receive a complete metal ceiling system including substructure that exactly meets your individual requirements.

The following ceiling systems are available in earthquake-proof construction Lindner Seismic:

- LMD-DS 320
- LMD-E 200
- LMD-E 213

We will be pleased to realise project-related solutions, adapted to the local circumstances. In the rigorous tests, different earthquake intensities and velocities were imitated in different axes. Lindner Seismic Ceiling Systems passed the requirement “Seismic Safety” according to the following accepted test standards. Thus, they offer highest safety in seismic areas:

<table>
<thead>
<tr>
<th>American Standard</th>
<th>AC 156 Seismic Certification by Shake-table Testing of Nonstructural Components</th>
</tr>
</thead>
</table>

Product testing for the proof of seismic safety.
SAFETY PROTECTION
EXPLOSION PROTECTION

Lindner Secure is a new product range that was developed in response to increasing demands for better security environments. With heightened risk of terrorist activity, political unrest and religious tensions across the globe, it is now necessary to assess any public structures where large crowds gather with regard to protection against bomb blasts. Regardless of the type of building – from airports, railway stations and stadiums, to shopping centres and government buildings.

Lindner Secure provides architects and designers with the tools and systems they need to create blast-enhanced environments without compromising on design excellence. Besides tested facades, partition walling and raised floors, tested metal ceilings are available. They guarantee optimum safety without having a negative effect on the visual appearance or the functionality and most of all without stirring up public fears or paranoia. Thanks to tethered metal ceiling panels, you can be sure that there is no risk of injury due to ceiling panels that might fall down – neither in the area of the explosion nor in adjacent areas that are affected by a pressure blast wave.

Your Benefits at a Glance

+ prevents that metal ceiling panels fall down
+ meeting security best practice without detracting from aesthetics or functionality
+ seamless integration into architectural schemes without stirring up public fears or paranoia
+ tested to the highest quality standards
+ widely customisable to suit the individual project’s requirements

The following systems are available as explosion-proof ceiling systems Lindner Secure:
LMD-B 100  page 18
LMD-E 213  page 40
LMD-E 312  page 52

<table>
<thead>
<tr>
<th>Blast Pressure</th>
<th>63 kPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulse Load</td>
<td>176 kPa.msec</td>
</tr>
</tbody>
</table>
SUSTAINABILITY

In 2007, Lindner co-founded the German Sustainable Building Council (DGNB) and has become one of the leading specialists for “Green Building”.

For us, implementing projects in a sustainable manner means acting in an environmentally, socially and economically responsible manner. We align our processes with the goal of continuously minimising energy and resource consumption and taking into account the impact that our constructions have on people and nature. When developing our high-quality technical products, we think in closed circuits, ensuring that no unnecessary waste is produced. We support the goals for your building project, help you obtain building certifications, and ensure a healthier environment for building occupants.

HEALTHY LIVING AND WORKING

We develop and produce adaptable and functional high-quality building solutions that support people-friendly architecture. This includes an individual, holistic concept considering the human comfort factors. Always bearing in mind acoustics, fire protection, ergonomics, as well as thermal and visual comfort.

FIT FOR THE FUTURE

“Nothing is as constant as change.” And that’s good. For more than 50 years, Lindner has evolved in an authentic manner and committed itself to compliance within legal frameworks and social contexts. We’ve listened to our customers and turned their visions into reality. Always placing customer needs first. We love the challenges and are always aimed at finding solutions that bring added value for both people and the environment. Drawing on established standards for sustainable construction, we create healthier living and working spaces. Whether long-term investment production or user-oriented models for a healthy working environment – the focus is always on human beings and their needs.

THE BASIS OF YOUR GREEN BUILDING

Selecting the right products for interior fit-out and building envelope has to be technical, functional, and economical. This way, building projects that are committed to sustainability can fulfil the ecological quality and target specifications. As a full-range supplier, we process all components of our building products. We are constantly developing our services and system products such as the Cradle to Cradle Certified™ products: LMD Metal Ceilings. They make a decisive contribution to the success of your building project – in particular when pursuing certification in accordance with LEED, DGNB, BNB and other standard certification systems.

CRADLE TO CRADLE®

Lindner products have always been developed and produced to be especially durable and resource-efficient. By following the Cradle to Cradle® principle, we are increasingly considering the entire life cycle of products. Our goal is to avoid waste from the very beginning, meaning that products are designed in a way that they can serve as raw materials for the next generation of the same product – a closed technical cycle.

As first manufacturer of metal ceilings worldwide, our LMD Ceiling Systems are certified according to Cradle to Cradle® as complete system including substructure. We achieved the Cradle to Cradle Certified™ Silver certificate.

LMD-B 100 from page 18
LMD-B 110 from page 22
LMD-DS 312 from page 28
LMD-DS 320 from page 32
LMD-E 200 from page 36
LMD-E 213 from page 40
LMD-E 214 from page 46
LMD-E 300 from page 50
LMD-E 312 from page 52
LMD-K 420 from page 64
LMD-L 601 from page 68
LMD-L 607 from page 70
LMD-L 608 from page 72
LMD-L LAOLA from page 74
ENVIRONMENTAL PRODUCT DECLARATIONS

Environmental product declarations answer all your questions about the ecological footprint of our system products, their reusability, recyclability, emissions, material properties, basic and bulk parts. They are a standardised data basis for architects, planners and auditors for use in tenders, life cycle assessments and building certification according to LEED, DGNB, BNB and BREEAM. Environmental product declarations give you comprehensive information about the environmental impact of Lindner Products.

You can obtain in-depth self-declarations in accordance with ISO 14021 as well as EPD verification in accordance with ISO 14025 and EN 15804 for our LMD Ceiling Systems.

REFLECTANCE

The degree of reflection is a very important component of lighting design. It is the percentage of incident luminous flux that is reflected on a surface. Bright surfaces have a high reflectance – dark surfaces have a low reflectance. Furthermore, perforations and inlays on the reverse side have an influence on light reflection. Given the same level of illuminance at work stations (area of usage), the number of luminaires can generally be reduced when using surfaces with high reflectance. Thus, energy can be saved.

Unperforated, powder-coated Lindner Metal Ceilings have the following degrees of reflection:

<table>
<thead>
<tr>
<th>COLOUR</th>
<th>STANDARD EXECUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAL 9016</td>
<td>approx. 82 %</td>
</tr>
<tr>
<td>9006 according to Lindner</td>
<td>approx. 47 %</td>
</tr>
</tbody>
</table>

GLOSS LEVEL

Besides the colour, the appearance of a metal ceiling is decisively influenced by the gloss level. Gloss is defined as the optical property of a surface to reflect light in a directional way. The gloss level indicates how matt or shiny a surface appears. To guarantee a uniform appearance, it is important that installations such as luminaires or ventilation valves are adapted to the surface of the metal ceiling.

According to ISO 2813, the gloss level is indicated in gloss units (GU) and measured according to pre-defined measurement geometries at an angle of 20°/60°/85°.

<table>
<thead>
<tr>
<th>COLOUR</th>
<th>STANDARD EXECUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAL 9016</td>
<td>approx. 18 GU, 60° measuring angle</td>
</tr>
<tr>
<td>9006 according to Lindner</td>
<td>approx. 57 GU, 60° measuring angle</td>
</tr>
</tbody>
</table>
CERTIFICATION/REGULATIONS

CE MARKING

The Regulation (EU) No 305/2011 (Construction Products Regulation) and the Regulation 756/2008 lays down harmonised rules for the marketing of construction products within the European Economic Area (EEA).

A declaration of performance has to be created by the manufacturer for all construction products that are covered by a harmonised standard or for construction products for which a European Technical Assessment (ETA) has been issued.

By means of the declaration of performance, the manufacturer is fully reliable for the conformity of the construction product and the declared main characteristics.

Lindner Metal Ceilings are covered by the harmonised standard EN 13964.


We are entitled to display the CE marking.

Construction products with CE marking may freely be traded across the European Union.

TAIM E.V.

Having emerged from the Technical Association of Industrial Metal Ceilings (TAIM) with its founding in 1988, TAIM e. V. has defined internationally recognised quality standards for metal ceilings which are continuously updated inline with technological developments.

The primary objective of TAIM e.V. is the promotion of quality and the positive aspects of metal ceiling systems above and beyond the minimum requirements of standards. TAIM sets out to achieve this through the supplementary development of technical standards for metal ceiling systems, especially those that are not covered in current standards or are incomplete.

The central quality tool of TAIM is the specially developed TAIM company certification which is the prerequisite for a TAIM e.V. membership. Only certified TAIM members are allowed to carry the TAIM logo. The comprehensive quality criteria of the company certification have to be completed annually by all members. This guarantees that products of all members ensure a consistently high level of quality.

For 30 years we have been member of TAIM e.V.

Comprehensive regulations and data sheets can be found at www.taim.info.
**BIM – BUILDING TOGETHER MORE EFFECTIVELY THROUGH DIGITISATION**

Building Information Modelling (BIM) is a method of constructing and operating buildings using software tools for improving project effectiveness, quality, transparency and flexibility. A virtual representation of the building is at the heart of this method. Here, all data from the planning and execution phase as well as the facility management are collected. Lindner has a wide range of parametric BIM objects for free download which can be implemented directly into a building model.

+ integral planning across all disciplines via a growing digital building model
+ BIM objects available for Lindner System Products at www.Lindner-Group.com/BIM
+ 3D visualisation and modelling
+ high degree of transparency through BIM-based working on site and model-based invoicing

**OPTIMUM RELIABILITY OF RESULTS THANKS TO BIM**

The common database of everyone involved in the project provides a graphical overview of all building trades and the responsibility of the individual services for the whole. Continuous updating of the BIM data allows direct control of quality, costs and deadlines. With the BIM method, the new building is already completely digitalised, enabling all important decisions to be taken during the planning phase and errors to be identified and eliminated at an early stage. The networking of all building data means each planning change can also be digitally simulated in the execution phase, checked for feasibility and re-entered into the construction process.

LMD-B 100 \(\text{from page 18}\)
LMD-E 200 \(\text{from page 36}\)
LMD-L 601 \(\text{from page 68}\)
LMD-L LAOLA \(\text{from page 74}\)

**OSLO AIRPORT, NORWAY**

At the extension of the main terminal, Lindner was awarded the contract for the planning of five free-form sales pavilions and for the development of a customised ceiling system for an area of approximately 18,000 m², consisting of about 1,500 different and diamond-shaped panel types. The central area saw the fitting of further 9,000 m² LMD Expanded Metal and LMD Hook-On Ceilings. Besides several ceiling systems, the Hollow Floor System FLOOR and more® power comfort was installed with an integrated heating and cooling system.

Pavilions, Oslo Airport, Norway
Rendering: © Design-to-Production GmbH
ADDITIONAL EQUIPMENT
LMD Metal Ceilings can be furnished with different additional equipment: Being equipped with integrated luminaires and system luminaires, they provide for best illumination in your rooms – to improve the room acoustics, acoustic inlays and absorbers are available.

+ integrated luminaires in metal ceilings
+ system luminaires for metal ceilings
+ acoustic inlays to improve the room acoustics
+ absorbers for areas with increased acoustic requirements
INTEGRATED LUMINAIRES IN METAL CEILINGS

<table>
<thead>
<tr>
<th>IS 17 Integrated Luminaire for general areas</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>The lighting fixture is frameless and flush-mounted into the metal ceiling element. It is delivered as a high-quality, compact combined module. The colour of the luminaire does not deviate from that of the ceiling panel. Light distribution is via a satined acrylic PMMA cover.</td>
<td>220 - 240 V/50 - 60 Hz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IS 20 Integrated Luminaire for display work stations</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>The lighting fixture is frameless and flush-mounted into the metal ceiling element. It is delivered as a high-quality, compact combined module and the colour matches the ceiling panel. Light is distributed by means of a specular louvre with integrated foil for additional glare-control.</td>
<td>220 - 240 V/50 - 60 Hz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IS 22 Integrated Luminaire for display work stations</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>The lighting fixture is frameless and flush-mounted into the metal ceiling element. It is delivered as a high-quality, compact combined module and the colour matches the ceiling panel. Light is distributed via a special microprismatic cover made of PMMA.</td>
<td>220 - 240 V/50 - 60 Hz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IS 450 Integrated Luminaire for office and general areas</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Square recessed luminaire, frameless and flush-mounted into the metal ceiling element, suitable for concealed, asymmetric rail-construction ceiling systems. Light is distributed via an opal acrylic cover or a special optional microprismatic cover for glare-control.</td>
<td>220 - 240 V/50 - 60 Hz</td>
</tr>
</tbody>
</table>
INTEGRATED LUMINAIRES AND SYSTEM LUMINAIRES

PERFECT COORDINATION.

The Lighting and Ceiling Systems are perfectly matched with our Integrated Luminaires in Metal Ceilings and System Luminaires for Metal Ceilings. We can offer lighting solutions that are perfectly adjusted to the room concept, the lighting requirement and the Ceiling System.

+ perfectly synchronised
+ „one-stop supplier“
+ reduced interfaces
+ high technical and visual quality

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Protection Rating</th>
<th>Ballast</th>
<th>Cover</th>
<th>Installation</th>
<th>Colour</th>
<th>Light Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP20</td>
<td>switchable, optional: DALI dimmer</td>
<td>opal</td>
<td>fitted at the factory</td>
<td>matches the ceiling element</td>
<td>4,000K optional: 3,000K</td>
</tr>
<tr>
<td>IP20</td>
<td>switchable, optional: DALI dimmer</td>
<td>specular louvre</td>
<td>fitted at the factory</td>
<td>matches the ceiling element</td>
<td>4,000K optional: 3,000K</td>
</tr>
<tr>
<td>IP20</td>
<td>switchable, optional: DALI dimmer</td>
<td>microprismatic</td>
<td>fitted at the factory</td>
<td>matches the ceiling element</td>
<td>4,000K optional: 3,000K</td>
</tr>
<tr>
<td>IP20</td>
<td>switchable, optional: DALI dimmer</td>
<td>opal, optional: microprismatic</td>
<td>fitted at the factory</td>
<td>matches the ceiling element</td>
<td>4,000K optional: 3,000K</td>
</tr>
</tbody>
</table>
### SYSTEM LUMINAIRES FOR METAL CEILINGS

<table>
<thead>
<tr>
<th><strong>Model</strong></th>
<th><strong>Description</strong></th>
<th><strong>Voltage</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BLK 70</strong></td>
<td><strong>Light Channel</strong>&lt;br&gt;Linear Light Channel suitable for integration between Lindner Metal Ceiling Elements. The hook-on system is adjusted to the ceiling type. Light is distributed via an opal or microprismatic cover.</td>
<td>220 - 240 V/50 - 60</td>
</tr>
<tr>
<td><strong>BREL 100</strong></td>
<td><strong>Post Cap Replacement Luminaires</strong>&lt;br&gt;Linear System Luminaire, which is installed instead of a post cap. Light is distributed via a microprismatic or opal cover.</td>
<td>220 - 240 V/50 - 60 Hz</td>
</tr>
<tr>
<td><strong>DPL</strong></td>
<td><strong>Integrated Luminaire for Post Cap Ceilings</strong>&lt;br&gt;Linear System Luminaire, suitable for integration into post cap ceilings. Manufactured on a project-specific basis and matched to the ceiling system with the appropriate fixing edge. Light is distributed via a uniform, illuminated prismatic disc.</td>
<td>220 - 240 V/50 - 60 Hz</td>
</tr>
<tr>
<td><strong>FR 625</strong></td>
<td><strong>Integrated Luminaire</strong>&lt;br&gt;Square System Luminaire, suitable for areas with increased protection class requirements. It can be integrated in ceilings with visible T-rails or clip-in panel ceilings.</td>
<td>230 - 240 V/50 - 60 Hz</td>
</tr>
<tr>
<td><strong>LK 100 PSR-m</strong></td>
<td><strong>Specular Louvre Luminaires for System Ceilings</strong>&lt;br&gt;Linear System Luminaires, suitable for integration into system ceilings. The specially developed, highly reflective specular louvre guarantees an optimal working environment.</td>
<td>220 - 240 V/50 - 60 Hz</td>
</tr>
<tr>
<td><strong>QZI</strong></td>
<td><strong>Integrated Luminaire with Cell Louvres</strong>&lt;br&gt;Linear System Luminaire, can be flexibly used for all areas with glare-control requirements. Light distribution is via an innovative cell louvre, made of aluminium.</td>
<td>220 - 240 V/50 - 60 Hz</td>
</tr>
<tr>
<td><strong>Q 625</strong></td>
<td><strong>Integrated Luminaire</strong>&lt;br&gt;Our Square Luminaire is suitable for coffered ceilings with visible t-profiles or concealed clip-in systems. Light distribution is via a homogeneously illuminated opal acrylic cover or by a microprismatic plate for glare-control.</td>
<td>220 - 240 V/50 - 60 Hz</td>
</tr>
<tr>
<td><strong>RS 03</strong></td>
<td><strong>Integrated Luminaire for Metal Ceilings</strong>&lt;br&gt;Our System Luminaire with modern lens technology provides a perfect match between functional lens technology and high-quality architectural aesthetics. Thanks to the pre-assembled magnet holder on the ceiling cut-out, the luminaire is easy to insert.</td>
<td>220 - 240 V/50 - 60 Hz</td>
</tr>
<tr>
<td><strong>LShine</strong></td>
<td><strong>Baffle Luminaire</strong>&lt;br&gt;Our System Luminaire is the ideal Lighting Solution for Lindner Baffle Ceiling Systems. It is delivered as an integrated complete module consisting of luminaire and baffle ceiling. Besides the linear version, the luminaire can be produced for curved Lindner Baffle Ceiling Systems.</td>
<td>220 - 240 V/50 - 60 Hz</td>
</tr>
<tr>
<td>Protection Rating</td>
<td>Ballast</td>
<td>Cover</td>
</tr>
<tr>
<td>------------------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>IP20</td>
<td>switchable, optional: DALI dimmer</td>
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LMD-Absorbers are most suitable for large rooms containing little sound absorbing surface and material. These absorbers are particularly useful for retrofitting as well as in Expanded Metal Ceilings fitted with sprinklers and smoke extractors as they can be installed without restricting the performance of these safety devices within the ceiling void.

+ LMD-Absorber Type 1
+ LMD-Absorber Type 5
ACOUSTIC INLAYS

Insula mineral wool inlays are used to improve room acoustics. Depending on the perforation and the acoustic inlay, a sound absorption up to $\alpha_w = 1.00$ can be achieved. They consist of mineral wool in different thicknesses and gross densities that is shrink-wrapped in acoustic transparent black foil. Thus, fibre fly is reduced and mineral wool inlays are harmless for health.

+ Insula A2
+ Insula I
+ Insula Basic

<table>
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<tr>
<th>ACOUSTIC INLAYS</th>
<th>FIRE PROTECTION</th>
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