LMD-E 210

Hook-On Ceiling
Ceiling panels – Hook-On Type
Standard installation

Illustration 1

1. LMD-E 210 metal ceiling panel
6. L-angle
8. Vernier hanger upper section
9. Vernier safety split pin
14. Hexagonal screw
15. Hexagonal nut
16. Washer
114. Vernier hanger lower section
431. Large-diameter fender washer
510. Aluminium carrier rail
511. Longitudinal connector
1. Safety instructions

- The removal/installation has to be carried out with the necessary carefulness so that neither oneself nor another person is endangered by the installation and so that every other kind of damage is avoided
- Necessary measures concerning the security on site, e.g. barriers and protective equipment, have to be taken
- The national regulations for operational safety have to be regarded
- The user is fully liable for the conformity of the system
- The metal ceiling may only be maintained by qualified persons with the necessary technical knowledge, training, instructions and qualifications
- Changes on the ceiling system or the use of foreign material cause variances of the technical characteristics of the metal ceilings and have to be agreed upon with the manufacturer
- The maintenance has to be carried out corresponding to this instruction. This document is without entitlement of completeness. Variances have to be clarified with the manufacturer
- Metal ceilings are, without a former clarification with the manufacturer, not adapted for the support of additional loads or for the fastening of partitions
- Cut panels/Custom-fit panels have to be positioned correctly at the dismantling because of their different lengths at the connection of partition walls or inclined walls. Furthermore, they have to be installed in the original position at the reassembly

2. Additional documents

Additional to this user guideline, the following documents can be consulted if required:

- DIN EN 13964
- TAIM – Instructions for installation and application (http://www.taim.info)
- Cleaning instruction for metal ceilings
3. General instructions

3.1. Useful life
If the metal ceiling system is used customarily, there is no use of a special maintenance. We recommend carrying out the operation according to our owner’s and maintenance manual. An inspection by means of a highly qualified person is recommended in an interval of 5 years. At this inspection, the top layer including the suspension, the substructure and the supporting components has to be checked regarding damages, soiling and functionality.

3.2. Climatic conditions
To secure the maximum useful life of the metal ceiling, appropriate conditions of 10 – 25 °C room temperature and 40 – 70 % relative air humidity (reference temperature 25 °C) have to be assured.

3.3. Storage information
Do not store the ceiling panels outdoor and protect them against moisture and insolation! Ceiling panels have to be stored holohedral, even and dry. Furthermore it has to be paid attention that no damages occur during the storage period. If a longer period of storage is planned, the manufacturer has to be previously asked. The following annotations concerning the protective foil have to be regarded.

3.4. Surface protection

3.4.1. Powder-coated ceiling panels
To protect the surface, powder-coated ceiling panels are packaged back-to-back. Adjacent visible sides are protected against scratches by means of foam or paperboard strips during the transport. These have to be removed before the installation of the panels.

3.4.2. Ceiling panels with protective foils
To protect surfaces which are not powder-coated, the surfaces are furnished with protective foils.

Steel sheet:
The protective foil can be removed from steel sheet after 4 – 5 months after the delivery of the ceiling panels.

Aluminium/stainless steel:
With aluminium/stainless steel ceiling panels with transparent foil (not UV resistant), the foil should be removed within 4 weeks after delivery. With aluminium/high-grade steel ceiling panels with non-transparent foil, for example white or black (UV resistant), the foil should be removed within 3 months after delivery. Due to the influence of strong UV radiation (for example in the area of the facades) these periods can be shorter.

Please notice that the expiration of this period may make it difficult to remove the foil properly and as a consequence of this, it may be possible that residues from the foil respectively adhesive will remain on the surface of the panels. In this case great cleaning effort has to be expected. For cleaning works the cleaning instructions have to be regarded.

Please consult the manufacturer for the removal of adhesive residues with detergents.
4. Removal of ceiling panels

Safety instructions:
- Use only stable ladders or scaffolds!
- 2 Persons are necessary for the removal of ceiling panels concerning a ceiling panel length exceeding 1500 mm.
- Unbalanced loads on the aluminium carrier rail caused by e.g. the removal of ceiling panels on only one side of the aluminium carrier rail, have to be avoided.

4.1. Removal of ceiling panels

4.1.1. Material

- Cotton gloves

4.1.2. Removal process

- Clean cotton gloves should be worn
- Lift the ceiling panel (Pos. No. 1)
- Move the ceiling panel (Pos. No. 1) to one short side until the panel’s notch abutes on the aluminium profile (Pos. No. 510)
- Lower the adjacent ceiling panel carefully
- Lower the ceiling panel (Pos. No. 1) completely
- Store the ceiling panel (Pos. No. 1) secure from damages

Illustration 2
4.2. Removal of metal ceiling panels adjacent to the wall/partition

4.2.1. Material

Cotton gloves

4.2.2. Removal process

- Clean cotton gloves should be worn
- Remove the hold-down sheets (Pos. No. 327) of custom-fit panels (Pos. No. 608), remove the ceiling panel (Pos. No. 1) in advance if necessary
- Move the custom-fit panel (Pos. No. 608) to the short side of the aluminium profile (Pos. No. 510) until the panel’s notch abutes on the aluminium profile
- Lower the custom-fit panel (Pos. No. 608) carefully on the short side of the perimeter trim
- Lower the custom-fit panel (Pos. No. 608) inclined and remove it completely from the substructure
- Store the custom-fit panel (Pos. No. 608) secure from damages

Illustration 3
5. Installation of ceiling panels

Safety instructions:
- Use only stable ladders or scaffolds!
- 2 Persons are necessary for the removal of ceiling panels concerning a ceiling panel length exceeding 1500 mm.
- Unbalanced loads on the aluminium carrier rail caused by e.g. the removal of ceiling panels on only one side of the aluminium carrier rail, have to be avoided.

5.1. Hook-on procedure of ceiling panels

5.1.1. Material

<table>
<thead>
<tr>
<th>Pos. No. 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling panel</td>
<td>Cotton gloves</td>
</tr>
</tbody>
</table>
5.1.2. Installation process

- Clean cotton gloves should be worn
- Remove the protective foil of the ceiling panels (Pos. No. 1) if applied
- Lift the ceiling panel (Pos. No. 1) with one side to the aluminium profile (Pos. No. 510)
- Insert the notch of the ceiling panel (Pos. No. 1) onto the gap of the aluminium profile (Pos. No. 510)
- Lift the opposite side of the ceiling panel (Pos. No. 1) up to the aluminium profile (Pos. No. 510)
- Align and lower the ceiling panel (Pos. No. 1) until the hook-on nosings of the ceiling panel (Pos. No. 1) are hooked into the aluminium profile (Pos. No. 510)
- Unbalanced loads on the aluminium profile (Pos. No. 510) caused by wrong arrangement of the ceiling panels (Pos. No. 1) have to be avoided
- Check the joint for rectangularity
- Pay attention to an even run of the longitudinal joint through the entire room

Illustration 4
5.2. Installation of metal ceiling panels adjacent to the wall/partition

5.2.1. Material

<table>
<thead>
<tr>
<th>Pos. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>608</td>
<td>Custom-fit panel</td>
</tr>
<tr>
<td></td>
<td>Cotton gloves</td>
</tr>
</tbody>
</table>

5.2.2. Installation process

- Clean cotton gloves should be worn
- Remove the protective foil of the custom-fit panel (Pos. No. 608) if applied
- Lift the custom-fit panel (Pos. No. 608) inclined over the perimeter trim
- Lift the custom-fit panel (Pos. No. 608) with the side of the hook-on edge to the aluminium profile (Pos. No. 510)
- Insert the notch of the custom-fit panel (Pos. No. 608) onto the gap of the aluminium profile (Pos. No. 510)
- Align and lower the custom-fit panel (Pos. No. 608) until the hook-on nosings of the custom-fit panel (Pos. No. 608) are hooked into the aluminium profile (Pos. No. 510)
- Depending on the option of the perimeter trim, it may be necessary to secure custom-fit panels by means of hold-down sheets (Pos. No. 327) from camber and unintended movement
- Unbalanced loads on the aluminium profile (Pos. No. 510) caused by wrong arrangement of the custom-fit panels (Pos. No. 608) have to be avoided
- Pay attention to an even run of the longitudinal joint through the entire room

Illustration 5
This recommendation shall serve as a guideline to the assembler. The application always has to be examined in individual cases due to the fact that no site-related inspection occurred. The details given therein represent the state-of-the-art and shall inform about our products and their field of application. They are given to the best of our knowledge. No responsibility is taken for the correctness of the information given in this guideline. The relevant standards especially DIN EN 13964 as well as the TAIM standards shall be considered. Subject to technical alteration in the course of progress. Drawings and Illustrations are illustrative. All rights reserved.

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