TAIM Quality Standard for Metal Ceilings: Abridged version

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Refer to the THM (Metal Ceiling Handbook) for further information

Instructions for installation and application

1. General

Metal ceilings must be installed by qualified installers in possession of the required knowledge and expertise. The ceiling contractor shall appoint a responsible foreman who will ensure installation according to current standard construction methods.

The ceiling contractor has the duty and the responsibility of ensuring proper safety, so that during and after completion of the work of installation the hung ceiling cannot fall down.

The instructions for installation and application of the manufacturer must be obeyed. The ceiling contractor must ensure that there will be no danger of damage to property or injury to people who are in the room during and after installation of the metal ceiling. In cases of doubt the manufacturer must be consulted.

2. Static

Connections to the construction are to be chosen or designed in such a way that standard tolerances may be allowed for.
Allowance must be given to static considerations such as façade movement, building expansion and contraction and expansion joints.

The regulations according to EN 13964 and regulations in the country of use, e.g. DIN 18168 Part 1 and Part 2, are to be applied or a static check undertaken or a tested construction used.

3. Sub-construction

3.1 Planks- Tiles- Linear panels

3.1.1

Only construction parts approved by the manufacturer may be used. The sub-construction/ carrier must suit the system of panels installed and possess sufficient longitudinal and lateral stability.

3.1.2

For the installation of the sub-construction and the ceiling panels and edge-trim profiles the allowed tolerance in the levelling is ± 2 mm per 1.0 m length, with a maximum of 5 mm measured horizontally over 5.0 meter distance in any direction from a suspension point. Allowed bendings of the insert material are not included in the flatnaess tolerances and must additionally be observed.

3.1.3

To ensure the proper level of the ceiling during installation, first the edge-trim profiles must be fixed at the required level to the adjacent construction. In case of a floating installation the level of the ceiling must be ensured by measuring from proper datum points.

3.1.4

The linear alignment of panels, together with any elements and panel carriers, have to be exactly aligned (either by laser or mason 's string) on module. Special attention must be paid to the alignment of the modules when joining the carriers.

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3.1.5

The suspension of the carriers must provide stress-free and level conditions whilst at the same time being tight.

3.1.6

Metal Ceilings in general and long linear panels in particular necessitate precise installation and alignment of the sub-construction and carriers. It especially applies to linear ceilings where lateral connections between the carriers (secondary grid) are not customary.

4. Panels

4.1 Planks- Tiles- Linear panels

4.1.1

To avoid deviations in colour and gloss-level between different production runs of the painted material, it is advised that projects requiring larger quantities should be manufactured and supplied in one batch.

4.1.2

The production process of metal ceilings from roll-forming/ press-breaking to coating is generally "direction bound". To avoid optical colour deviations it is necessary to install all planks, tiles or linear panels in the same direction. The installation direction is determined either by markings on the ceiling elements or by an instruction on the packing by the ceiling manufacturer.

4.2 Linear panels

4.2.1

Due to the manufacturing process of thin-walled linear panels it is possible that deviations in the plane of the panel occur at the point where the panel lies on the edge-trim profile. These deviations can occur when cutting the panels in the factory as well as on site cutting, are imminent to the production- and manufacturing process, are unavoidable and current technology. Any special demands on the planeness of the panels must be specified beforehand.

4.2.2

Joints in perforated panels (without closed panel ends) must be made with black panel splices. A slight optical detrimental effect in the continuity of the perforated panels is unavoidable for technical reasons: perforated linear panels can not be executed with a blind border at the panel ends.

4.2.3

Resulting from the chosen direction of the panels in the linear ceiling the absolute squareness of the angle between linear panel and carrier must at any point be taken care of.

5. (Thermal) expansion of the sub-construction and ceiling panels

The installation of construction profiles, including the ceiling panels, has to allow for the thermal expansion and contraction of aluminium. The expansion co-efficient of aluminium is 0.024mm per 1.0 m profile-length for each 1°C temperature difference.

Ceiling elements from aluminium are normally produced at an ambient temperature of +18°C. The tolerances in length as indicated in the Quality Standard for Metal Linear Panels do not take into account the thermal expansion and contraction of the elements.

6. Fixtures

Additional fixtures and loads must be suspended separately. Any fixings to the ceiling system must be agreed upon with the ceiling manufacturer beforehand. Fixtures, in particular for chilled or fire resistant ceilings must be installed by qualified installers with proper experience in- and knowledge of the systems and any special requirements.

7. Non-standard applications

For non-standard applications, i.e. kitchens, exterior ceilings, high-humidity level rooms and clean room ceilings as well as applications with demands for fire resistance, acoustic performance and sporthall ceilings both the sub-construction and the quality of the ceiling panels must be agreed upon separately. The instructions for installation and application of the manufacturer must be complied with.

8. Instructions for transportation and storage

The transportation instructions of the manufacturer and the details concerning correct stacking and dry storage must be obeyed.

9. Care and maintenance

Works of care and maintenance must be in accordance with the manufacturer 's instructions.