

TAIM Quality Standard for Metal Ceilings: Abridged version

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

Quality standards for metal ceilings and Long-span metal planks

1. Objectives

With the edition of this standard TAIM pursues the objective of redefining the technological developments and unifying the quality standard (thus defining the liability of the individual members of TAIM).

2. Applicability

The standard applies to industrially manufactured, visible rectangular ceiling elements made of steel sheet without inserts.

3. Material

Galvanized steel sheet according to respective DIN standard. Zinc coating min. 2.5 µm per side.

4. Tolerances

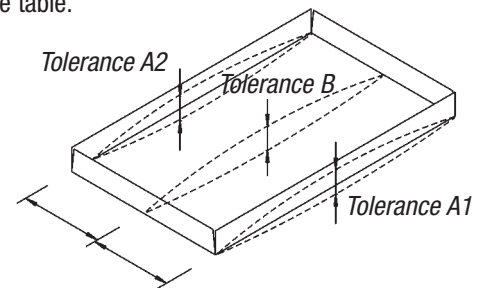
4.1 Panel dimensions

for length (longer edge)	+ 0 - 0.4 mm/m
for length smaller than 1.0 m	+ 0 - 0.5 mm
for width	+ 0 - 0.4 mm

4.2 Deflection

At centre of long edge (A), at centre of panel face (B).

Specifications for perforated panels, hole diameter max. 4 mm, free cross section max. 25 %. Additional inserts can increase the deflection. A1 and A2 may deviate by not more than 50% from the value indicated in the table.



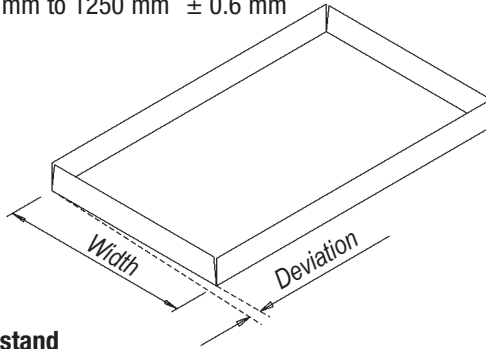
l = length in mm	0 < l ≤ 1.000		1.000 < l ≤ 2.000		2.000 < l ≤ 3.000	
b = width in mm	A1/A2	B	A1/A2	B	A1/A2	B
0 ≤ b ≤ 400	- 0,5 + 0,5	- 0,2 + 3,0	- 0,5 + 1,5	- 0,2 + 4,0	- 0,5 + 3,0	- 0,2 + 6,0
400 < b ≤ 500	- 0,5 + 0,5	0 + 4,0	- 0,5 + 1,5	0 + 5,0	- 0,5 + 3,5	0 + 7,0
500 < b ≤ 625	- 0,5 + 0,5	0 + 6,0	- 0,5 + 1,5	0 + 7,0	- 0,5 + 4,0	0 + 9,0
625 < b ≤ 1.250	- 0,5 + 0,5	0 + 10,0	- 0,5 + 1,5	0 + 13,0	To be agreed	

Constrictions at the centre of the panel depend on tolerances between A and B and can affect the straightness of the edge. Negative values mean upwards buckling.



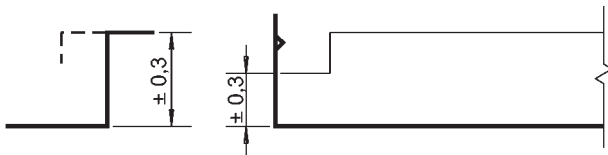
4.3 Angularity

of the long edge in relation to the short
widths up to 625 mm ± 0.5 mm
widths from 625 mm to 1250 mm ± 0.6 mm



4.4 Height of upstand

± 0.3 mm to support or upstand depending on design measured on the panel



Deviations from 90° angle of the vertical upstand are immanent to production process and system-inherent. Indication of tolerance is not necessary. Indication of tolerance for the recess is only valid for clamp constructions.

4.5 Perforation

Choice of visible perforation pattern depends on architectural and acoustical requirements. See specifications of the manufacturer for designations of the various patterns. The unperforated border depends on the perforation pattern and may be different at the long and short edge. Indication of the perforation diameter applies only to material without surface coating. When determining the free sectional area the unperforated areas are not considered.

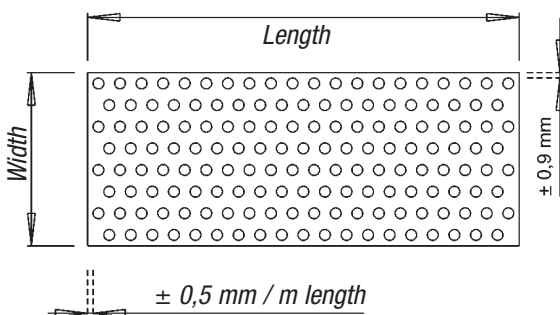
4.5.1 Deviation in width

of unperforated border on long edges ± 0.9 mm

4.5.2 Deviation in length

from unperforated border on

short edges ± 0.5 mm/m length of element
for lengths ≤ 1.0 m ± 0.5 mm



5. Surface finishes

5.1 Measurement of colour differences

Any computerized measuring device operating according to the Cielab method may be used. ISO 7724-2 and ISO 7724-3 must be complied with.

5.2 Binding colour samples

The samples must meet the following criteria:

- min. size DIN-A5
 - unperforated
 - coating thickness according to respective production process.
- It is advisable to keep samples of the main colours of each batch.

5.3 Desired coating thickness

It must be ensured that base material is uniformly covered. The coating thickness depends on the manufacturing process used.

5.4 Gloss rate

Measuring method according to ISO 2813. Normally, the angle of incidence is 60°.

Tolerances:

dull-bright	0 < 30 (E)	± 4 deviation E
semi-matt	30 < 70 (E)	± 5 deviation E
high gloss	70 \leq 100 (E)	± 6 deviation E

Greater gloss differences must be accepted in case of additional deliveries after extended periods of time.

The same applies if, by change of technical conditions (e. g. new environmental laws), a finish cannot be matched.

5.5 Allowable tolerances in shade of colour

5.5.1

For whites mainly used, the difference in ΔE value may not exceed 1.0 within one delivery. On materials out of several deliveries this value may add up to tolerances greater than $\Delta E = 1.0$.

Greater colour differences must be accepted in case of additional deliveries after extended periods of time.

The same applies if, by change of technical conditions (e. g. new environmental laws), a finish cannot be matched.

5.5.2

For non-white colours the ΔE differences may be greater than 1.0; here colour differences are harder to visually ascertain. Tolerances are to be agreed upon from case to case.

5.5.3

Criteria quoted above for whites and non-white colours also apply to colour differences of deliveries and samples mutually declared binding.

5.5.4

These provisions do not apply for deliveries of other supplier or other construction units.

5.6 Mechanical properties / resistance

Basically varnish coatings are according to EN 13964 Table 7 Class A and B. Special requirements exceeding the above criteria must be agreed upon separately. The possible load of the top coating is up to 400 g/m².