



CEILING
LIGHTING
AMBIENCE

DUR-SOLO® ACTIVE

INSTALLATION MANUAL

GENERAL INFORMATION

GENERAL INFORMATION

This assembly manual addresses all metal ceilings manufactured by durlum. The different sections describe the related/relevant products.

durlum is a leading German manufacturer of metal ceilings and cladding elements, mainly made of galvanised sheet steel, aluminium and expanded metal.



The relevant products are described in the marketing and sales documents. They are both acoustically effective, and can also be used as design elements only.

Specifically, these products are:

- Acoustic ceilings
- Chilled ceilings
- CHARACTER products

durlum differentiates between a wide range of ceiling systems, for example S1. "S1" stands for system 1 clamping. In this system, there are different nomenclatures that allow a further subdivision of the systems.

All durlum systems are systems of modular design. This applies not only to the substructure but also the ceiling parts that are suspended, locked into place or placed on the substructure.

durlum metal ceilings comply with the standard EN 13964:2014 and are CE-certified.

Appropriate static certificates are available for special systems marketed by us and for which no general approvals are available, and appropriate designs compliant with EN 13964:2014 have been constructed.

GUIDELINES

These installation instructions have been structured in accordance with the requirement of EN 13964:2014 and describe a proper assembly.

The description does not exempt the user from examining the structural conditions, implementing the building code regulations and observing the information given in the building permit prior to starting assembly. They have priority, but could not be included here.

It is advisable always to draw up assembly diagrams/drawings, to establish the location where assembly is to begin and to establish the required suspension points for the relevant ceiling system prior to starting assembly.

STRUCTURAL PRECONDITIONS

Metal ceilings may usually be installed as soon as the building is swept clean, but at least when all wet work in the interior has been completed and the building has been closed.

Prior to starting assembly, the suspension points must be checked for their usability, and load introduction into the building must be guaranteed.

When using wall mounting points, such as brackets or wall anchors, the load-carrying capacity of the wall in question must be checked.

If ceiling elements rest on brackets, possible wall movements must be taken into account.

Only anchors for which a general building supervisory approval is available may be

used, and their minimum extraction force must be greater than 100kg. The anchors must be mounted as specified by the relevant anchors manufacturer. We recommend performing regular tensile stress tests, to verify that anchors have been set correctly.

durlum metal ceilings are dimensioned such that they carry their own weight of the system construction plus a surface load amounting to 40N/m². Higher loads must be taken into account or suspended separately in the construction, and the measures must be adapted to the situation at hand. Usually, built-in components and loads must be suspended separately.

For ceiling systems that do not allow any tolerance compensation within a module, suitable material expansions must be taken into account.

Building expansion joints and tolerances customary in building construction must be taken into account accordingly.

durlum metal ceilings must always be assembled by expert dry building companies who are capable of assessing the overall situation in the building, the metal ceiling, the cladding surface, as well as the structural conditions and are able to take suitable precautions for ensuring proper assembly.

If parts from different manufacturers are used to assemble the ceiling, the relevant mounting company must provide the certificates required by EN 13964:2014 and must obtain suitable certificates of conformity itself.

Liability for proper selection of the products and system conformity can only be assumed for the systems delivered by durlum.

To prevent the parts from becoming dirty, gloves must be worn during assembly. If the ceiling products are delivered laminated with a protective film, they must be protected from exposure to UV radiation [sunlight], the film must likewise be removed from the goods no later than 4 weeks after delivery, and the storage temperature must not exceed 30°, since otherwise the adhesive on the panel may become hardened, and the protective film can no longer be removed.

STORAGE

durlum metal ceilings are usually delivered on pallets. It is advisable to leave the metal panels on the pallets as long as possible. If the pallets need to be opened, the durlum metal panels should always be placed on their long side. They can then be carefully laid against the wall, but must not be stored in a horizontal position.

GENERAL INFORMATION

Storage must be carried out such that damage is excluded. During storage, durlum ceiling panels have to be protected from all weather influences. Panels to be stored at a constant temperature between 10°C and 40°C.

The assembly of the ceiling panels must not start until all dust-producing work has been completed [swept clean].

durlum products are certified according to ISO 9001 for development, production, sales and also for service. Nevertheless, it is recommended to always subject the metal ceilings immediately to an inspection and to report any complaints right away [usually immediately following delivery or within 3 days]. Visible damage must be noted on the delivery note.

STANDARDS AND REGULATIONS

The relevant regulations applicable at the installation site must be determined by the assembly company in question. The ceilings marketed by durlum conform to EN 13964:2014. This standard also governs fire behaviour.

APPLICATION

The application of durlum metal ceilings is restricted, unless agreed upon otherwise, to

interiors, so that, pursuant to EN 13964:2014, class of use A, corrosion protection class A, has been defined here as standard.

Should it become necessary to adjust the metal ceiling panels to the building by cutting, we recommend protecting the cutting edges from corrosion by means of a paint, to maintain the corrosion protection class A.

QUALITY STANDARD

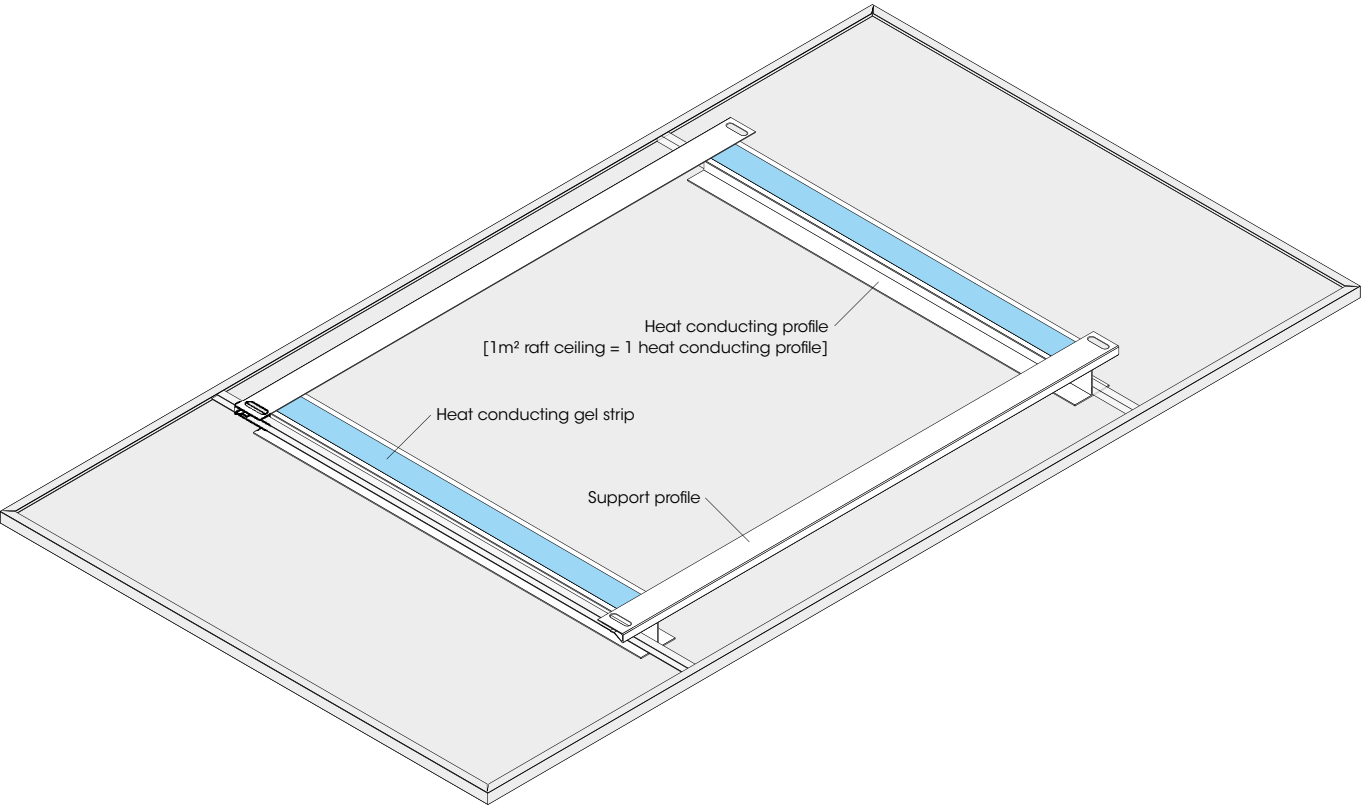
For material properties, dimensions, tolerances, colour deviations, the TAIM Directives [Technical Association of Industrial Metal Ceiling Manufacturers] applies.

MOUNTING SEQUENCE

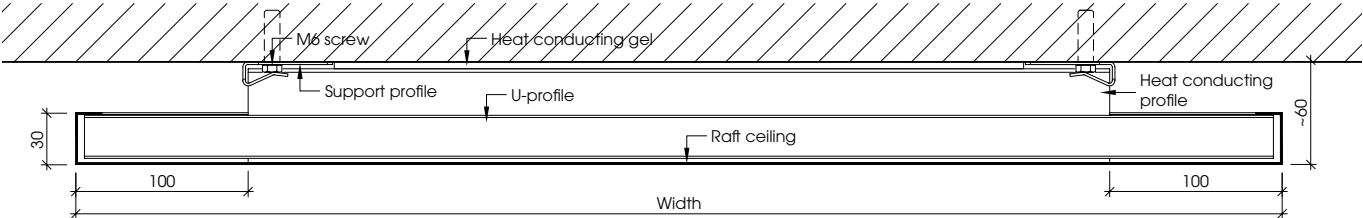
1. Prepare ceiling installation plan or adopt architect's plan.
2. Check ceiling installation plan versus structural conditions.
3. Prepare a bill of materials, including a suitable work plan and retrieval/order of the materials required.
4. Determine the required suspension points in accordance with the classes of use of EN 13964:2014. The corresponding suspension distances for the different systems can be taken from

the detailed descriptions of the individual ceiling systems.

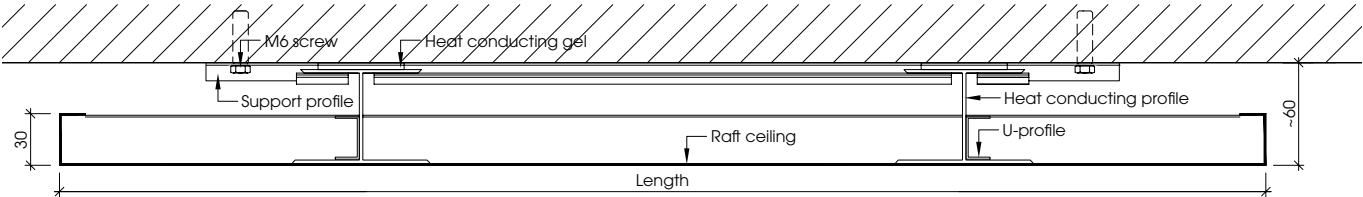
5. Establish which generally approved anchor is suitable. Check the raw ceiling and the walls. Mark the anchor mounting holes and drill them. Mount the anchors as specified by the anchor manufacturer and carry out extraction tests using the device recommended by the anchor manufacturer, if necessary.
6. Attach the designated fastening elements to the raw ceiling.
7. As a general rule, panels should be laid from the centre of the room to compensate for any tolerances in the room or the panels themselves. Always plan the layout in conjunction with the ceiling installation plan.



Cross-section



Longitudinal section



DUR-SOLO® ACTIVE INSTALLATION MANUAL

TO BE OBSERVED

- Use only officially approved dowels.
- The fastening base must be suitable in terms of statics. It must be able to reliably absorb the forces introduced into the construction.
- Installation or removal of these raft ceiling sails is always a task requiring 2 people.
- Do not coat the areas of the concrete ceiling that are in direct contact with the heat conducting gel strip with [dense] paint, e.g. silicone paint.

INSTALLATION OF SUPPORT PROFILES

1. Lining up the drilling pattern [**Illustration: Drilling plan**] in accordance with the ceiling plan on the concrete ceiling using a chalk line or laser. On request, durlum can provide a drilling template for a fee.
2. Mark out the drilling points.
3. Drill dowel holes using a drill with a depth limiter. **ATTENTION:** Clarify the permissible drilling depth with the site manager.
4. For fastening, use either M6 screws with DIN 9021 washers or M6 pins with nuts and washers.
5. Install the first support profile rigidly. Position the screws in the centre of the slotted holes.
6. Install the second support profile loosely [movable]. If screws are used, it is advisable to fit an additional nut under the screw head to make it easier to reach with a ratchet spanner. If pins with nuts are used, nuts compliant with DIN 6330 should be used.

INSTALLATION OF HEAT CONDUCTING STRIPS

1. Apply blue heat conducting gel strips [supplied loose] to the aluminium heat conducting profile. Place the ends of the gel strip approx. 50 mm in front of the ends of the aluminium profile and press on.

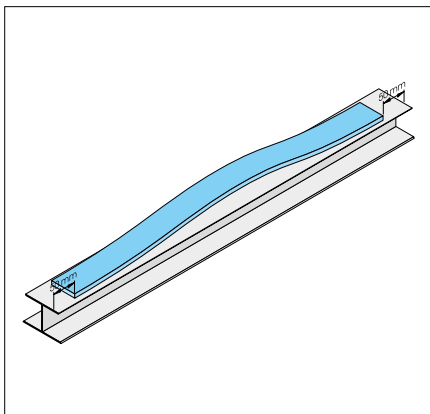
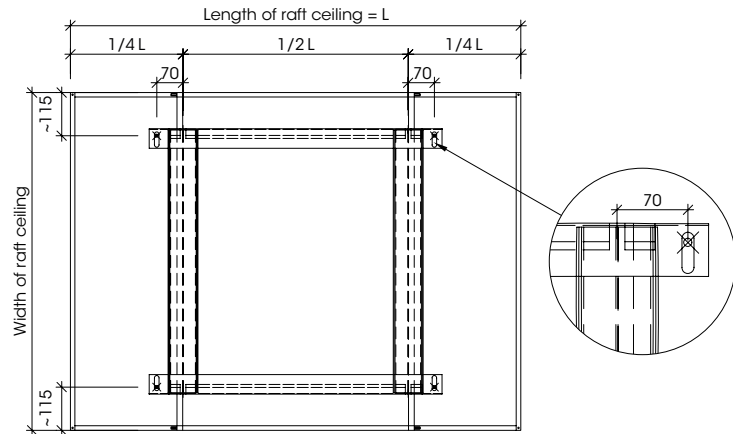
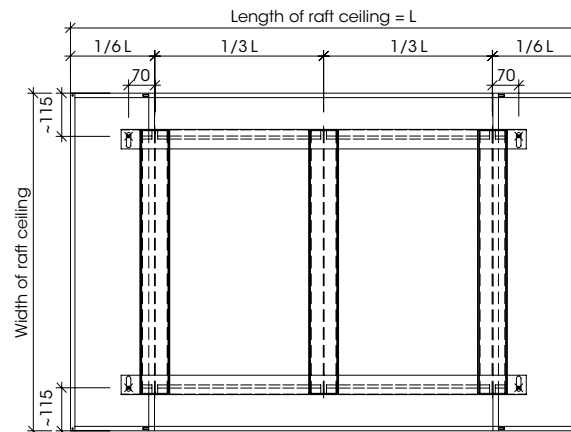


Illustration: Drilling plan

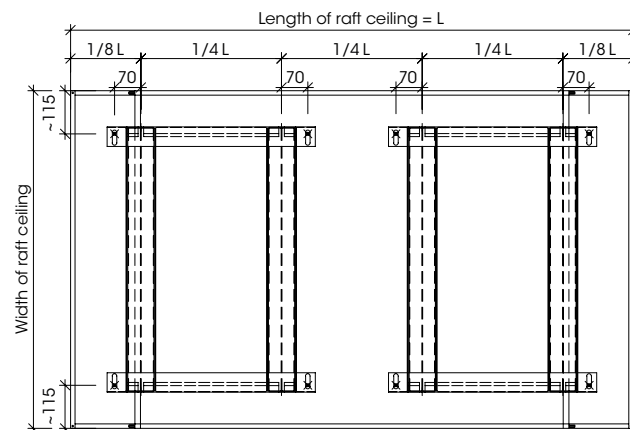
2x heat conducting strips



3x heat conducting strips

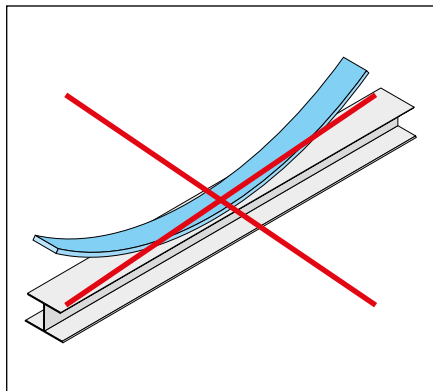


4x heat conducting strips



DUR-SOLO® ACTIVE INSTALLATION MANUAL

2. Starting from the centre, press the strip towards the ends. ATTENTION: Gel strips are elastic. Do not stretch during application.



INSTALLATION OF A RAFT CEILING

1. Wear clean cotton gloves.
2. With heat conducting gel applied, guide the raft ceiling and its heat conducting profiles into the first fixed rail.
3. Press the raft sections onto the ceiling and place the loosely screwed supporting profile over the remaining side of the heat conducting profile.
4. Tighten the screws [nuts].
5. Ensure that the heat-conducting gel is pressed down across the entire surface.

RAFT CEILING DISASSEMBLY

1. Wear clean cotton gloves.
2. Loosen the M6 screws on one support profile.

3. Withdraw the support profile from the heat conducting profiles.
4. Withdraw the heat conducting profiles from the firmly screwed supporting profile.
5. Set down the ceiling panel and store it protected to prevent damage.

CEILING
LIGHTING
AMBIENCE

durlum GmbH | An der Wiese 5 | D-79650 Schopfheim

T +49 (0) 76 22 | 39 05-0

E info@durlum.com

I durlum.com