



LOOP[®] TYPE 2

MOUNTING INSTRUCTIONS

GENERAL INFORMATION

GENERAL NOTES

This assembly handbook refers to all LOOP® special ceilings manufactured by durlum.

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

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 standard EN 13964:2007 and are CE certified. durlum lighting complies with EN 60598-1. For special systems marketed by us and for which no general approvals are available, there are suitable static certificates available, and suitable designs compliant with EN 13964 have been constructed. If necessary, individual approvals are required.

GUIDELINES

These installation instructions have been structured in accordance with the requirement of EN 13964:2007 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 dowels for which a general building supervisory approval is available may be used, and their minimum extraction force must be greater than 100kg. The dowels must be mounted as specified by the relevant dowel manufacturer. We recommend performing regular tensile stress tests, to verify that dowels 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 are, as a matter of principle, to be assembled by professional dry construction companies who are capable of assessing the overall conditions

of the building, the metal ceiling and cladding, and can take the necessary precautions for correct, safe static mounting.

If parts from different manufacturers are used to assemble the ceiling, the relevant mounting company must provide the certificates required by EN 13964:2007 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 supplied with a protective foil, they must be protected against UV irradiation [sunlight], also, the foil must be removed no later than 4 weeks after delivery of the goods, the storage temperature must not exceed 30° as hardening of the adhesive to the panels is then unavoidable and prevents the foil from being stripped.

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 have to be opened, the durlum metal panel should always be positioned on the long side, it can then be placed carefully against the wall, do not store flat.

Storage must be carried out such that damage is excluded.

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. Nonetheless, it is recommended as a matter of principle to inspect the delivered metal ceilings immediately and to report complaints immediately [as a rule immediately after delivery or within 3 days]. Visible damages are to be recorded on the consignment 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 comply with EN 13964. This standard also regulates the classification of fire protection. The durlum luminaires comply with EN 60598-1.

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APPLICATION

The application of durlum metal ceilings is restricted, unless agreed upon otherwise, to interiors, so that, pursuant to EN 13964, class of use 1, 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 them, we recommend protecting the cutting edges from corrosion by means of paint in order to maintain the corrosion protection class A.

The use of durlum lighting is restricted to interiors. The lighting complies with protection type IP 20, protection class 1 in accordance with EN 60598-1.

QUALITY STANDARD

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

MOUNTING SEQUENCE

1. Prepare a ceiling-lighting layout plan or use that provided by the architect.
2. Check the ceiling-lighting layout plan with conditions on site.
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. 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 dowel is suitable. Check the raw ceiling and the walls. Mark the dowel mounting holes and drill them. Mount the dowels as specified by the dowel manufacturer and carry out extraction tests using the device recommended by the dowel manufacturer, if necessary.
6. Follow the same procedure when mounting the perimeter trim, mounting interval approx. 400-625mm, check transmission of force into wall.

7. Shorten intended fastening elements, such as the M12 threaded rod to the intended length or order the correct length and mount it on the raw ceiling.
8. As a rule, arrangement of the panels should be from the centre of the room to compensate and halve the tolerances of the room/panels. The precise arrangement must always be done on the basis of the ceiling lighting layout plan.
9. As a rule, durlum metal ceilings are provided with cross grids [primary profile].
10. Use the layout plan to determine in which direction the cross reinforcement profiles are laid, either in parallel to the façade [usually] or vertically to the façade. The cross-supporting profiles should be mounted via a wall anchor or anchor span to prevent shifting in axial direction.

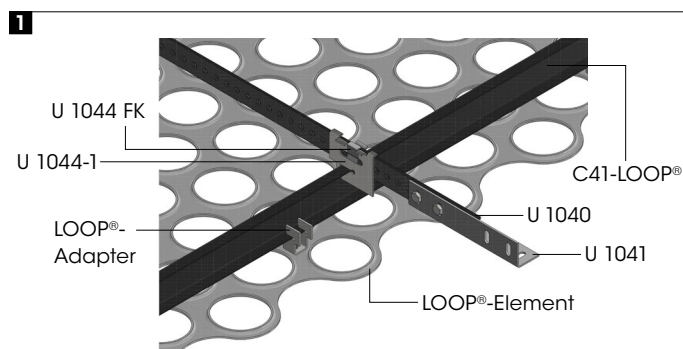
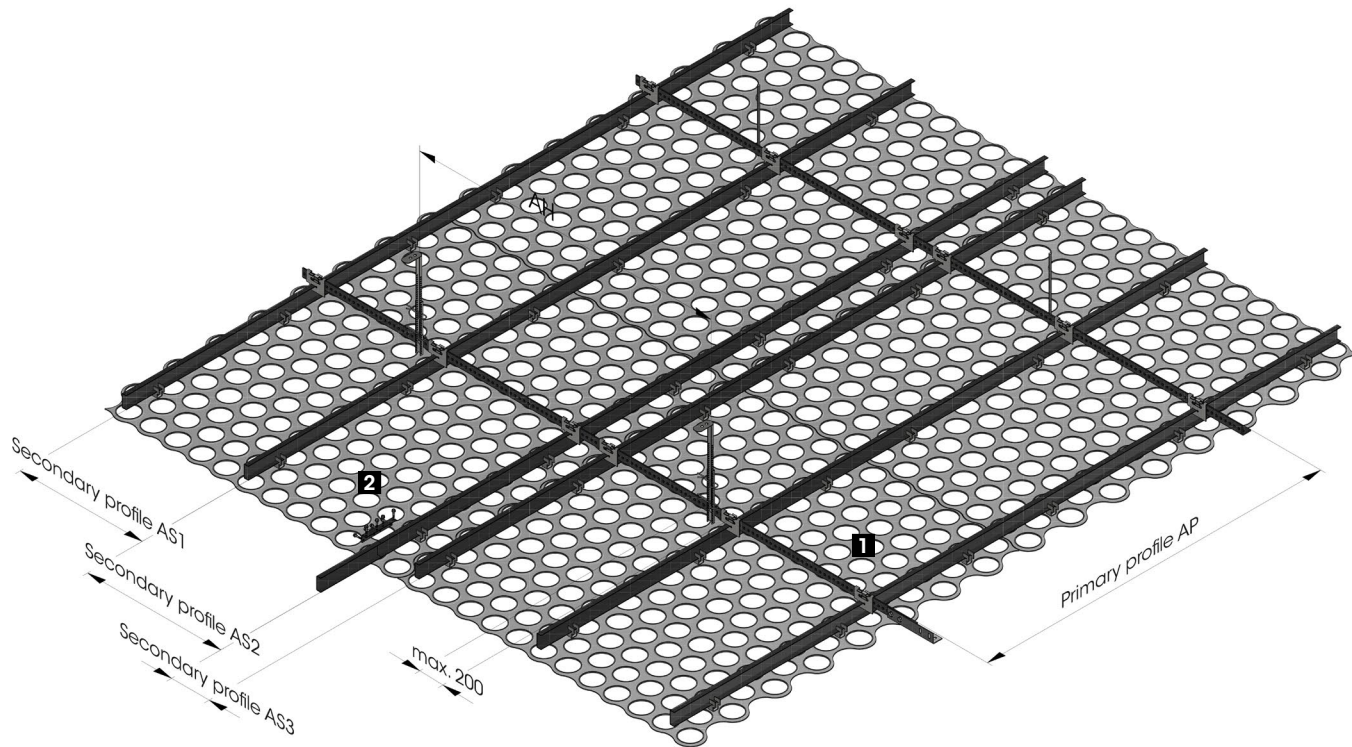
The respective primary profiles are mounted at a right angle to the secondary profiles. To this end, the system-specific connecting elements are used, see system descriptions.

The position of the primary profiles is established in the reflected ceiling plan.

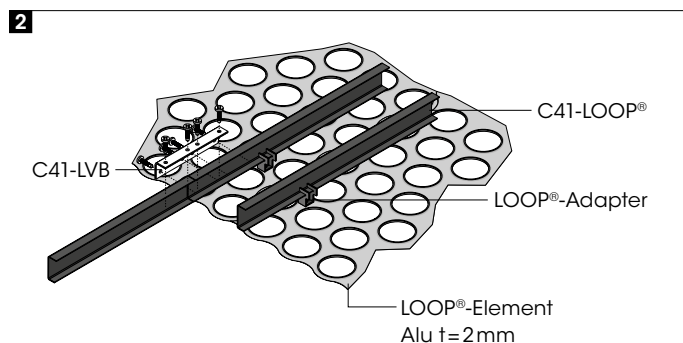
11. Always ensure that the joins are aligned.
12. If the panels are placed on a perimeter trim, we recommend our F-bracket as bracket or as stepped F-bracket. The bracket secures the panel and protects it against lifting. The ceiling panel is cut with electric sheet shears [i.e. Treco shears] and adapted to the prevailing room dimensions.

When calculating the minimum support area [10mm], the dimensions of possible wall movement should be taken into account.
13. Attachments or other loads are to be mounted separately. For logical reasons these parts are integrated during the mounting process.
14. After completion and preliminary acceptance of the ceiling, the joint line should be readjusted. Soiled ceiling panels should be cleaned to give a perfect result for assembly.

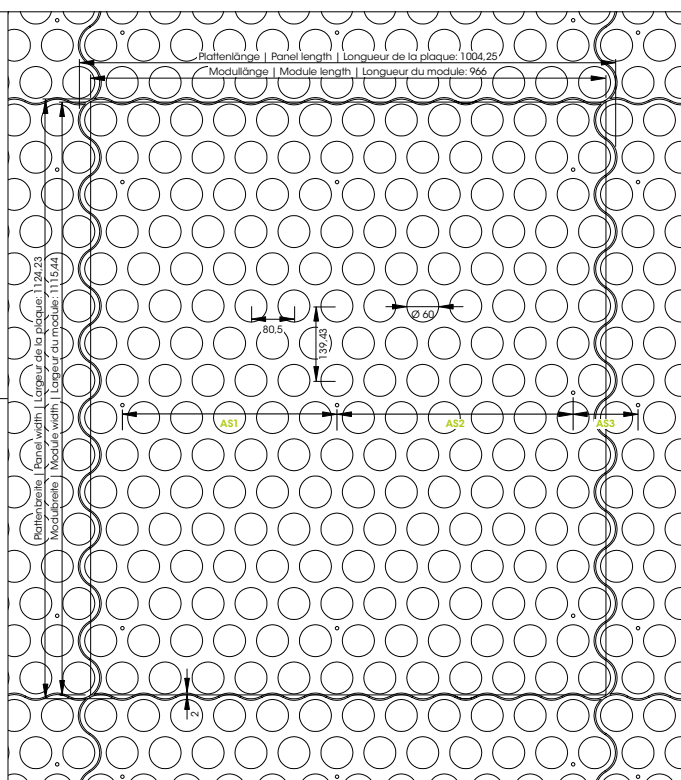
LOOP® TYPE 2 MOUNTING INSTRUCTIONS



L-shaped primary carrier with connector and adapter for C-profile



C-profile with adapter for mounting ceiling element



MOUNTING INSTRUCTIONS LOOP® TYPE 2

ABBREVIATIONS

AH: Distance of the suspension hangers in axial direction of the primary profile
AP: Distance of the primary profiles
AS: Distance of the secondary profiles

DISTANCE OF THE SUSPENSIONS, ETC.

The following recommendation for the distances of the primary profiles and the suspension points refers only to the standard ceilings in the indoor applications without additional loads.

Distance of the primary profiles AP according to EN 13964:

- Class 1: <1 000 mm
- Class 2: <1 200 mm

Distance of the secondary profiles AS according to EN 13964:

Depending on the index perforation of the LOOP® element

Standard Module:

Secondary profile AS1 = 402,37 mm
Secondary profile AS2 = 442,88 mm
Secondary profile AS3 = 120,75 mm

Customised Module

Secondary profile AS1, AS2 and AS3 distances will be multiples of the module length in 80,5 mm steps

Distance of the AH suspensions points:

The distance of the suspension points AH is determined by the corresponding panel length. The L-shaped primary carrier serves mainly for the cross bracing.

The maximum force applied to the suspension point may be 200 N. The corresponding suspension parts and dowels must be considered.

If it is not possible to specify in advance where the secondary profiles will run, select the following distances of the suspension points AH:

- Class 1: <1 000 mm
- Class 2: <1 200 mm

Load-carrying capacity of the suspension points [tensile loads]:

- Maximum load per Nonius suspension: 200 N
- Maximum load per M6 threaded rod: 500 N
- Other loads must be verified statically.

Class of use according to EN 13964:

Class of use A according to table 7

PLEASE NOTE

- 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 building.

ASSEMBLY SUB-CONSTRUCTION

Assembly wall connection

The general distance for mounting the perimeter trim is max. 500 mm. This general distance is less, depending on additional loads, the type of wall and special requirements.

1. Level and outline the given ceiling height.
2. Outline the upper edge of the perimeter trim.
3. Mark the drill hole.
4. Drill a hole for the dowel.
5. Secure the perimeter trim with a dowel.
6. Cleanly mitre cut the edges of the perimeter trim profiles.

Mounting of primary profile [U 1040]

7. Outline the axis grid for the primary and secondary profiles.
8. Define the suspension points.
 - 8.1. The suspension hangers of the primary profile should be mounted as close as possible to the crossing point of the primary and secondary profiles. The maximum distance between the suspension hanger and the secondary profile is 200 mm.
 - 8.2. Module adapters [cross connectors] may not be mounted at the joint of the primary profiles.
 - 8.3. Keep at least 400 mm distance to the joint of the primary profiles.
 - 8.4. The maximum distance of a suspension point from the wall is 500 mm.
9. Drill a hole for the dowel.
10. Mount the upper part of vernier scale U 1300 or threaded rod M6 with dowel according to manufacturer's instructions.
11. Cut the L-shaped primary carrier U 1040 to the required length.
12. Fasten the lower part of vernier scale U 1370 at the suspension points with self-securing screw connection M6.
13. Place L-shaped primary carrier U 1040 horizontally, vertically and aligned for the given ceiling height.
14. Fasten the lower part of vernier scale U 1370 on the upper parts of vernier scale with two safety pins of vernier scale U 1372. When using the threaded rod suspension, the threaded rod is guided through the horizontal shank of the L-shaped primary carrier and rigidly fastened with the self-securing M6 screw connection.
15. U 1041 connector of the L-shaped primary carrier is connected to the joint of the L-shaped primary carrier using a

self-securing M6 screw connection. Arrange the longitudinal connections of the profiles in an offset manner.

16. When adjusting the height, observe the permissible height tolerances according to EN 13964, readjust if necessary.
17. The primary profiles must be connected to the wall at one point at least with the wall bracket U 1042 to preclude any shift in the axial direction.

Mounting of secondary profile [C41-LOOP®]

18. Outline the defined axial grid for the secondary profiles on the L-shaped primary carriers.
19. Cut C-profile C41-LOOP® to the required length.
20. Slide U1044-01 [top] and LOOP® adapters [bottom] to C-profiles.
21. Align C-profile and mount to the L-shaped primary carriers U 1040 with screw, nut and washer using the U1044-04 adapter for L-shaped primary carriers.
22. Centre connector C41-LVB above the joint of the C-profiles C41-LOOP® and secure with drilling screws. Required connections should be positioned offset.

MOUNTING OF CEILING PANELS

1. Wear clean cotton gloves.
2. Remove protective foil from ceiling panels, if applicable.
3. Secure LOOP® element to LOOP® adapters with countersunk screws.
4. Check joint for flatness and uniform width and align the elements by sliding. The joints of the LOOP® ceiling are aligned horizontally by pushing or pulling the adjacent element.
5. Adapt the elements in the border region to the building using a jigsaw or flex, deburr, and protect against corrosion. At least 3 or 4 suspension points per element are necessary. The projection section must not exceed 300 mm. Otherwise, you need to drill and countersink.
6. Mount and align the fitting elements as described in section 4.

MOUNTING OF LUMINAIRES

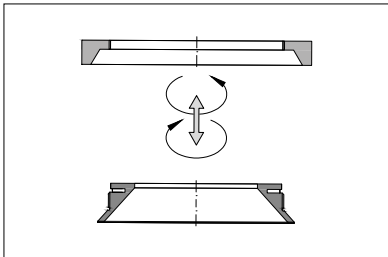
Note: Installation and electrical connection of the luminaire must be performed by an authorised skilled electrician [e.g. electric installer] in accordance with VDE 0100, taking into account the technical information and the legal regulations in force in your country.

Safe operation of the luminaire is only guaranteed if these instructions are observed. This is why the Installation manual should be kept in a safe place. The manufacturer cannot assume any liability whatsoever

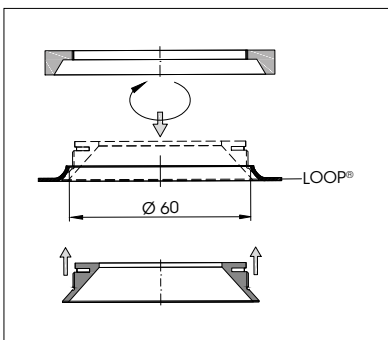
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if the instructions given below are not followed or the luminaire is used improperly.

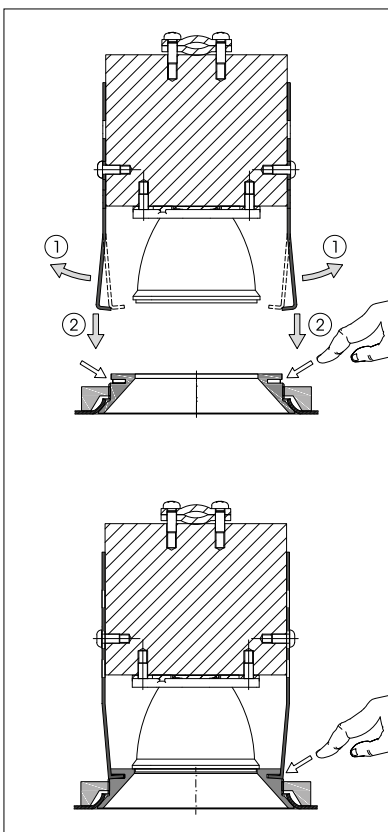
1. Unscrew the round PUNTEO®-J60 mounting adapter.



2. Guide the screw component through the LOOP element and screw it on the opposite side using the nut.



3. Now clip the PUNTEO®-J60 luminaire with the two lateral Clip springs into the upper part.



4. If necessary, create a cutout with a diameter of 80mm in the ceiling on site.
5. Mount ballasts/drivers in the ceiling void, possibly on U 1040.
6. Perform electrical connection of the driver.
7. Prior to acceptance, align the elements precisely, if they have been moved by other trades.

Note:

The luminaire must not be coated with a heat-insulating material.



The components are fitted with electronic components, which can become damaged in case of electrostatic discharge. When handling the components, ensure good earthing of the environment.



DISASSEMBLY OF CEILING PANELS

1. Wear clean cotton gloves.
2. Loosen countersunk screws and secure LOOP® elements by hand. Lower element downwards.
3. Put ceiling panel down and store protected against damage.

DECKE LICHT RAUM

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